

RS/6000



Diagnostic Information for Micro Channel Bus Systems

Version 4.3.1

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About this Book

The diagnostic information in this book is common to all system units. Any information or diagnostic procedure that is specific to a certain system unit or device is in the service guide for that system unit or device.

Audience Description

This book is used for problem isolation and service procedures by a service representative specifically trained on the system unit being serviced.

How This Book is Organized

Combines operating instructions for hardware diagnostic programs with Maintenance Analysis Procedures (MAPS), corresponding Service Request Numbers (SRNs) and three-digit display codes. The SRNs are, in turn, keyed to failing function codes (FFCs) and corresponding part numbers for specific machine types.

How to Use This Book

This book has a version number in the title. Always use the book version that is equal to or greater than the first two digits of your diagnostics version level. For example, if your diskette or CD-ROM version is 2.2 or 2.25, use version 2.2 or higher of this diagnostics and service guide.

If you are analyzing a system problem, start with the "Start of Call MAP" in Chapter 2.

The SRN list in Chapter 22, "Diagnostic Numbers and Codes" on page 22-1 directs you to the correct failing function code in Chapter 23, "Failing Function Codes (FFCs)" on page 23-1. A cross reference by name, (adapter, device, etc.) to Failing Function Code can be found in Chapter 24, "FRU Cross-References" on page 24-1.

If you are checking the system after installation, refer to Chapter 25.

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ISO 9000

ISO 9000 registered quality systems were used in the development and manufacturing of this product.

Related Publications

The following books are used to isolate a problem in the system.

- The *Problem Solving Guide and Reference* should be the first book used by the customer when a problem occurs during normal operation of the system. This book is used to isolate problems with the operating system, the application program, improper operator procedures, and hardware failures.

If the problem is a hardware failure, the *Problem Solving Guide and Reference* sends the user to the "Hardware Problem Determination Procedure" in the installation and service guide for the system unit.

The *Problem Solving Guide and Reference* is common to all system units.

- *Adapters, Devices, and Cable Information* contains information about common device, adapter and cabling of the system unit.
- *Site and Hardware Planning Information* is a planning and site preparation guide.
- *The AIX Version 4.3.0 Installation Guide*, contains the instructions for installing the operating system.
- The *5080 Graphics System Installation, Operation, and Problem Determination* manual, contains the information needed to attach a system unit to a 5085, 5086 graphics processor or a 5088 communication controller. The systems are installed and checked out separately, then attached together and checked for proper operation.
- The installation and service guide for the system units or devices contains the installation instructions and the service procedures that are specific to that device or system unit. The service guide contains the following:
 - Reference information such as data flow, cable diagrams, and specifications
 - System unit or device specific Maintenance Analysis Procedures (MAPs) such as the power MAP
 - Removal and replacement procedures
 - The system unit or device installation procedures
 - Parts diagrams and parts lists.

CSU/CE Feature Installation

Attention: The following information is to indicate which features on various systems/models are intended to be installed by the customer and which features are to be installed by a Customer Engineer/Customer Service Representative (CE/CSR) as part of a Miscellaneous Equipment Specification (MES). This information is for systems/models available as of 04/98.

Notes:

1. 7013 J30 was announced as CSU. US practice has been for CE install.
2. The acronym CSU means Customer Set-Up.

Machine Type	Model	System CSU	Features/Options	
			CE Install	Customer Install
7006	(ALL)	YES	ALL FEATURES	NONE
7007	(ALL)	YES	ALL FEATURES	NONE
7008	(ALL)	YES	ALL FEATURES	NONE
7009	(ALL)	YES	ALL FEATURES	NONE
7010	(ALL)	YES	ALL FEATURES	NONE
7011	(ALL)	YES	ALL FEATURES	NONE
7012	(ALL)	YES	ALL FEATURES	NONE
7013	(ALL) ¹	NO	ALL FEATURES	NONE
7015	(ALL)	NO	ALL FEATURES	NONE
7017	S70	NO	ALL FEATURES	NONE
7024	(ALL)	YES	FC 6309	ALL OTHER FEATURES
7025	(ALL)	YES	FC 2856, 6309, 6549	ALL OTHER FEATURES
7026	(ALL)	NO	ALL OTHER FEATURES	FC 2901,2911, 2913 3071, 3072, 3083
7027	(ALL)	NO	ALL OTHER FEATURES	FC 2616, 3080,3083 3084, 3090, 6142 6147, 3133, 3134 3137, 3138, 6153 6294, 6295
7043	(ALL)	YES	FC 2856 & 6309	ALL OTHER FEATURES
7236	(ALL)	NO	ALL FEATURES	NONE
7248	(ALL)	YES	FC 2856	ALL OTHER FEATURES
7317	(ALL)	NO	ALL FEATURES	NONE
7318	(ALL)	NO	ALL FEATURES	NONE
7319	(ALL)	NO	ALL FEATURES	NONE

Chapter 1. Maintenance Analysis Procedures (MAPs)

Using the Maintenance Analysis Procedures

The maintenance analysis procedures (MAPs) provide the service representative a step-by-step procedure to analyze a problem with the system hardware. Hardware procedures are intended for use by a service representative trained on the system unit being serviced.

Some of the devices that are supported by the diagnostic programs also have their own maintenance documentation. You may want to use the maintenance documentation for that device before running the diagnostics for the system. Sometimes the maintenance package for an attached device will allow the customer to continue operating the system while that device is being diagnosed. You can use the diagnostic programs to check the adapter to which that device is attached.

All problem analysis should begin with the Chapter 2, "Start of Call MAP" on page 2-1.

These MAPs may direct you to other MAPs or to other service information.

Be prepared to record code numbers and other data while using these MAPs.

Service Hints

This section provides additional information about subjects not easily addressed in MAPs.

System Halts with

221 in the Operator Panel Display.

When loaded in normal mode and with NVRAM invalid (possibly caused by battery disconnection), the system will halt with 221 in the operator panel display. Clear this condition by loading the system in service mode from either disk or diskette. This procedure may not work on older versions of read only storage (ROS) and the AIX operating system. Contact your support person for further problem determination.

System Halts with

292 in the Operator Panel Display.

Refer to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1 "Step 0050-2" on page 6-2.

Operator Panel Display Codes

225, 235, 245 and 255

A 7012 may halt with 225, 235, 245 or 255 in the operator panel display if the disk data is corrupted. Format the disk using the diagnostic diskettes, then reinstall the system.

Service Request Numbers (SRNs) 101-245 and 101-255

SRNs 101-245 and 101-255 can occur on a 7012 if the disk data is corrupted and diagnostics are being run from disk. Format the disk using the diagnostic diskettes, and then reinstall the system.

Service Request Number (SRN) 834-990

This SRN may appear in the form of a console warning message or in the mailbox (for system group users). The SRN will also be recorded in the system error log. The warning may occur after a system hardware configuration change, such as adding or moving an adapter, or when version 3.2 or greater of the AIX operating system has been installed.

The AIX operating system initial program load (IPL) procedure has determined that a 64-port controller adapter having a certain engineering change (EC) level may cause undetected data loss due to a bus address conflict with another on the I/O bus. When this conflict is detected by the system, the 64-port controller adapter will not be configured during the system IPL. The 64-port controller adapter field replaceable unit (FRU) numbers are: 00G1168, 31F4078, 59F2968, and 53F3372.

Corrective Action

When SRN 834-990 occurs due to a hardware configuration change, replace 64-port controller adapters that match the FRU numbers listed in the previous paragraph. Consult RETAIN for detailed information and to obtain the proper engineering change announcement (ECA) number to order. Until the correct 64-port controller adapters can be obtained, reconfigure the hardware as was prior to the change.

If the AIX operating system version 3.1.5 or lower is installed, SRN 834-990 will not be posted in the mail or error log. The following symptoms may appear during IPL:

- Operator panel display numbers 888-103-208-299 (first the flashing 888, then the succeeding numbers each time the Reset button is pressed)
- A steady operator panel display number 727
- Unrecognizable HFT screen display
- System hangs with no operator panel display or display on the screen, or keyboard is locked.

If any of these symptoms appear, remove the 64-port controller adapters perform another IPL. If these symptoms appear again, the problem is *not* an address conflict with the 64-port controller adapters. If the above symptoms do not appear, refer to RETAIN to obtain the correct ECA numbers for ordering the 64-port controller adapters.

Service Request Number (SRN) 850-920

This SRN may appear in a console warning message or may appear in the mail box for system group users and be recorded in the system error log. The warning may occur after Token-Ring, color or grayscale graphics accelerator micro channel adapters have been added to the system or have had slot locations change or when the AIX operating system version 3.x.x or greater has been installed.

The AIX operating system IPL procedure has determined that the slot location of certain Token-Ring adapters relative to the slot location of graphic accelerator adapters presents

a risk of undetected data loss under rare circumstances. This problem may occur with the following Token-Ring adapters: 74F4134, 53F6046, 53F6064, and 39F7824.

Note: The following corrective actions apply only to the preceding list of Token-Ring adapters. All of the following configurations show adapters arranged in lowest-to-highest numerical card slots. Consult RETAIN for the proper ECA number to order replacement parts.

Corrective actions for systems with one graphics accelerator adapter are

1. Reconfigure the slot positions of the Token-Ring adapters (TR) and graphics accelerator adapter (GA) to agree with one of the following configurations:
 - TR-GA
 - GA-TR
 - TR-GA-TR
 - TR-TR-GA
2. If three Token-Ring adapters are in use, reconfigure the slots as follows:
TR-TR-GA-TR.
3. If four token-ring adapters are in use, replace one or more of the Token-Ring adapters with new ones, and reconfigure the remaining adapters as in steps 1 or 2.

Corrective actions for systems with two graphics accelerator adapters are:

1. Group the graphics accelerator adapters in adjacent slots.
2. If one Token-Ring adapter is in use, reconfigure the slots as follows: TR-GA-GA.
3. If two Token-Ring adapters are in use, reconfigure the slots as follows:
TR-GA-GA-TR. If this system unit is a 7012, replace one Token-Ring adapter with a new one, and reconfigure the remaining adapters as in step 2 above.
4. If three Token-Ring adapters are in use, replace one Token-Ring adapter with a new one, and reconfigure the remaining adapters as in step 3 above.
5. If four Token-Ring adapters are in use, replace two token-ring adapters new ones, and reconfigure the remaining adapters as in step 3.

Service Request Numbers (SRNs) 866-130, 866-131, 866-191, 866-211

These SRNs indicate a SCSI bus error, possibly due to a tripped positive temperature coefficient (PTC) resistor in the SCSI controller circuitry, or to the attachment of differential devices or terminators to the single-ended SCSI bus, or to missing or incorrect single-ended terminators. Refer to the article later in this section that addresses PTC tripping in SCSI-2 single-ended controllers.

Service Request Number (SRN) 869-210

This SRN may appear in a console warning message or may appear in the mail box for system group users and be recorded in the system error log. The warning may occur after SCSI micro channel adapters have been added to the system, non-IBM adapters have been added to the system, or when version 3.x.x or greater of the AIX operating system has been installed.

The AIX operating system IPL procedure has determined that the EC level and quantity of SCSI micro channel adapters in the system present a risk of undetected loss under extremely heavy micro channel loading conditions. Heavy loading conditions can occur when a combination of at least three SCSI adapters and other burst mode micro channel devices are present, and one or more of the SCSI adapters has a part number (*not* FRU Number) from the following list: 70F9735, 70F9794, 71F0114, 71F0232, or 71F1172.

Note: The FRU number 30F8834 is common to the above part numbers.

Long-term corrective actions are:

- Replace all SCSI adapters that match the part numbers listed in the preceding paragraph.
- Consult RETAIN for the proper ECA number to order.

Interim corrective actions are:

- Reconfigure the system using only two SCSI adapters until all the old adapters have been replaced.
- If there are three SCSI adapters, determine the other type of adapters installed in the system. If more than one of the following adapter types is installed, reconfigure the system using only two SCSI adapters until all affected SCSI adapters can be replaced. If only one of the adapters in the following is installed, the system is safe to operate as configured until all affected adapters can be replaced.
 - 4-port multiprotocol adapter
 - Ethernet adapter
 - Token-Ring adapter
 - Color or mono graphics adapter
 - 3D graphics adapter
 - System/370 host interface adapter
 - 5085 interface adapter
 - 5086 interface adapter
 - Any non-IBM adapter

SRN and Failing Function Code (FFC) discrepancies

SRNs listed in this book may not list the same FFCs and FRUs as reported on-screen diagnostics. If the FRUs listed in this book do not solve the problem, check if any other FRUs are listed by on-screen diagnostics, and if so, try them.

Using Concurrent Mode Diagnostics

Note: Concurrent mode diagnostics should only be used when circumstances prevent standalone diagnostics from being used. Standalone diagnostics perform better problem isolation than concurrent mode diagnostics, and some devices may not be supported by concurrent mode diagnostics.

Certain devices can be tested by the diagnostic programs while the AIX operating system is running. However, the diagnostic programs must have exclusive use of the device to be tested. For example, if a communications adapter is used by a network program, diagnostics will display a message that the device is busy and cannot be tested until freed. To free the device you wish to test, consult a system support person.

To run diagnostics in concurrent mode, take the following steps:

1. Log on as root or superuser (the person responsible for the system must do this).
2. Enter the **diag -a** command to check the system for missing resources. Follow any instructions that may be displayed. If no instructions display it means that no missing resources were detected. Proceed to the next substep to run concurrent diagnostics.
3. Enter the **diag** command.
4. Wait for DIAGNOSTIC OPERATING INSTRUCTIONS to be displayed.

Warning: If concurrent mode diagnostics are being executed against a device, no attempt should be made to switch to another window; to do so will cause unpredictable results. If it is necessary to switch to another window, diagnostics should first be exited by using the F3 key.

5. When testing is complete, use the F3 key to return to DIAGNOSTIC OPERATING INSTRUCTIONS. Then press F3 again to return to the AIX operating system prompt. If you changed the state of any device prior to testing, be sure to return that device to its original state.
6. Press the Ctrl-D key sequence to log off from root or superuser.

Using the Diskette Package

Consider the following when using version 2.0 or later of the diagnostic package:

- Beginning with version 2.0 of the diagnostics diskettes, the diskettes are labeled with the devices and functions they contain. The following disk must be inserted in the given order before the DIAGNOSTIC OPERATING INSTRUCTIONS will be displayed:
 - a. Boot Diskette
 - b. Configuration Diskette
 - c. Graphics Diskette (optional if system does not contain a graphics adapter)
 - d. Console Definition Diskette
- There are two different boot diskettes, one for use only in systems containing 8MB of memory, and one for use in systems containing a minimum of 16MB of memory. Only one diskette may be loaded.
- There are several different graphics diskettes for testing and configuring graphics adapters. Use only the graphics diskette(s) for the type of graphics adapter(s) installed in the system. For each type of graphics adapter installed in a system, you must insert the graphics diskette which supports that adapter in order to test it.

The diskette containing the graphics adapter that will be used as the console for running diagnostics should be inserted first. If there are other graphics adapter types installed in the system, insert the diskette supporting the adapters immediately following the first graphics diskette.
- If a device installed in a system is not supported by one of the diskettes shipped with the system, check for the existence of a supplemental diagnostic diskette shipped with the device.
- After the DIAGNOSTIC OPERATING INSTRUCTIONS are displayed, follow the display instructions to test the device or to run a service aid.

Drawer/Deskside Unit Documentation

Various SRNs direct the service person to drawer/deskside unit documentation. Consider the following installation and service guides:

- *9333 Model 010 and 011 High-Performance Disk-Drive Subsystem Installation Service Guide*, order number SY33-0161.
- *9333 Model 500 and 501 High-Performance Disk-Drive Subsystem Installation Service Guide*, order number SY33-0168.
- *9334 Models 010 and 011 SCSI Expansion Units Installation and Service Guide*, order number SY33-0165.
- *9334 Models 500 and 501 SCSI Expansion Units Installation and Service Guide*, order number SY33-0167.

Chapter 2. Start of Call MAP

Purpose of This MAP

This MAP is the starting point for all service calls. It directs you to other MAPs and service information.

Please read and understand the following notes before using the “Start of Call MAP.”

Note:

1. Review diagnostic instructions found in Chapter 27, “Using the Standalone and Online Diagnostics” on page 27-1
2. Use the Service Hints service aid in “Service Hints” on page 1-1 for possible updated diagnostic and repair information.
3. A system unit should not be turned off without first executing a shutdown procedure. If you are unfamiliar with the shutdown procedure, obtain help from the system administrator or a person familiar with the system. When executing diagnostics from a disk drive or network be sure to exit diagnostics so that a shutdown is performed before powering-off the system.
4. Do not perform any actions, such as removing the diskette, operating the mouse, or keying information on the keyboard, until directed by the instructions.
5. When a MAP instructs you to exchange a FRU, use the service guide for the system unit, drawer, or device. Be sure to observe the *danger*, *caution*, and *warning* notices in that book.
6. See the operator manual for your type tty terminal to find the key sequences you need to respond to the diagnostic programs.
7. If a console display is not defined, c31 is displayed. Follow the displayed instructions to select a console display. If you do not have a console display, set the keymode switch to Normal then back to Service to indicate to the diagnostics that there is no console display. The console display can be any direct-attached display or a terminal attached to the S1 port.
8. If additional information is needed about an adapter or device, refer to *Adapters, Devices, and Cable Information*.
9. There will be steps in the following MAPs that instruct you to turn the system unit's power off and replace a failing FRU. If the system unit only has a power on/off switch or button and no main switch, unplug the power cord before executing any replacement procedure.
10. If the action listed for a specific symptom does not lead to a problem resolution, refer to MAP 0020.
11. When an 7012 G Series, 7013 J Series, and 7015/R30 system unit, known to be working correctly has its power turned on in the Service position, either the Maintenance Menu or the Diagnostic Operating Instructions screen is displayed, depending on the setting of the AutoService IPL flag. Some steps of the following MAPs ask to verify if the Diagnostic Operating Instructions screen is displayed. In these cases after powering-on the system in the Service position, the Maintenance

Menu is displayed, select "System Boot" and indicate the boot device, then verify if the Diagnostic Operating Instructions screen has been displayed.

12. If the operator panel on a 7012/G series, 7013/J series, or 7015/R30, is displaying part of an SRN or a solid number, check the system console for a complete SRN.

Use the following table to determine your starting point.

Symptom	Action
You do not have a symptom.	Go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 in this manual
All other symptoms	Go to "Fast Path MAP Table of Contents" in this manual.

Fast Path MAP Table of Contents

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Fast Path Table

Symptoms	What You Should Do
Service Actions	
You have parts to exchange or a corrective action to perform.	<ol style="list-style-type: none"> 1. Go to Removal and Replacement Procedures in the System Service Guide. 2. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1 Repair checkout.
You need to verify that a part exchange or corrective action corrected the problem.	Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1 Repair Checkout.
You need to verify correct system operation.	Go to Chapter 20, "MAP 0420: System Checkout" on page 20-1 System Checkout.
SRNs	
An SRN is displayed when running diagnostics.	<ol style="list-style-type: none"> 1. Record SRN and location code. 2. Look up the SRN in the SRN List and do the action listed.
You have an SRN.	<p>Look up the SRN in the SRN List and do the action listed.</p> <p>Note: Customer provided SRNs should be verified. This can be done by using the Display Previous Service Aid or by running the diagnostics again.</p>
Flashing 269 Displayed In The Operator Panel Display On An SMP System	
The system unit stops with a flashing 269 displayed in the operator panel display.	Go to MAP 1540 in the service guide.

Symptoms	What You Should Do
Flashing 888 Displayed In Operator Panel Display	
<p>The system stops with a flashing 888 in the operator panel display.</p> <p>888 103 and 888 105 are diagnostic messages which contain an SRN and in most cases a location code.</p> <p>888 102 is a system crash message which indicates some type of check in the processor or memory area. The check could be caused by hardware or software.</p> <p>Crash Codes 20x and 53x normally indicate a hardware problem. Most of the other codes indicate a software problem.</p> <p>A dump is written to the dump device whenever a dump occurs. It can be analyzed to determine if the problem is software or hardware. The hardware should be tested whenever a crash occurs. Note: Processor and memory tests are done during BIST and POST. Only problems that prevent the system from booting are reported during BIST and POST. All other problems are logged and analyzed when the Base System Diagnostic is run.</p> <p>Crashes are logged in the AIX Error Log. The Base System Diagnostic must be loaded from a disk or LAN and run in the Problem Determination Mode to analyze the error.</p>	<p>Refer to “Reading Flashing 888 Numbers on a Three-Digit Operator Panel Display” on page 22-12 or “Reading a Flashing 888 Message on an Multi-Line Operator Panel Display” on page 22-18.</p> <p>If the second three digits are 103 or 105 then:</p> <ol style="list-style-type: none"> 1. Record the SRN and the location code. 2. Look up the SRN in the SRN table and do the action listed. <p>If the second three digits are 102 and the system is NOT an SMP system then:</p> <ol style="list-style-type: none"> 1. Turn the system unit's power off. 2. Turn the system unit's power on and boot from a disk or LAN in the Service Mode. Note: If 888-102-xxx still occurs, go to Chapter 3, “MAP 0020: Problem Determination Procedure” on page 3-1. 3. Run the Base System Diagnostic in Problem Determination Mode. 4. If an SRN is displayed at any time, record the SRN and location code. 5. Look up the SRN in the SRN List and do the action listed. 6. If no SRN is displayed refer to Chapter 3, “MAP 0020: Problem Determination Procedure” on page 3-1 Step 1. 7. If after reviewing MAP 0020 you have the same problem, it may be software related. Have the customer get a “Dump to Software Support” analysis. The procedure for doing a dump is documented in the <i>Problem Solving Guide and Reference</i>. <p>If the second three digits are 102 and the system is an SMP system then:</p> <ol style="list-style-type: none"> 1. If the flashing 888 did NOT occur during boot, perform the above steps for a 102 for non-SMP systems. 2. If the flashing 888 did occur during boot, then proceed. 3. Turn the system unit's power off. 4. Enable the BUMP Console flag and disable the Autoservice IPL flag. 5. Turn the system unit's power on. 6. When the Maintenance Menu displays, display the BUMP Error Log. 7. If an SRN is logged, record it and do the listed action. Note: SRNs will be preceded by an 888 103. 8. If no SRN is logged, look up the error code in the system service guide and suspect the FRUs listed. 9. If nothing is logged, perform the above steps for a 102 for non-SMP systems.

Symptoms	What You Should Do
System Stops with a Solid Number Displayed in the Operator Panel Display	
<p>The system stops with a number displayed in the operator panel display.</p> <p>Note: Most values do not remain in the display very long. Some values such 242, 243, 252, 253, 834, 835, 836, 837, 868, or 869 on any system may remain displayed for several minutes. A value of 165 on an SMP system may display for about 30 minutes or longer. Other numbers depend on the number of SCSI devices and tty ports that are attached.</p>	<p>Find the number in the chart below, then do the action listed.</p> <p>c03 Wrong diskette inserted. c05 Diskette read error. c07 Insert next diagnostic diskette. c31 Select a console. 165 If 165 is displayed for more than 30 minutes on an SMP system, check the BUMP console for activity. If there is no activity on the BUMP console (wait at least 30 minutes) then record SRN 101-165 and do the action listed in the SRN list. Continue to wait if there is activity on the BUMP console. 200 Place the key mode switch in the service Position, then: 1. Record SRN 101-200. 2. Look up the SRN in the SRN listing and do the action listed.</p> <p>260 ——— If the system unit is not an SMP go to MAP 0020: Problem Determination Procedure and do problem deter- mination. If the system unit is an SMP system unit, go to MAP 1540 in the service guide. 261 ——— 262 ———</p> <p>For numbers other than those listed above, do the following:</p> <ol style="list-style-type: none"> 1. Record SRN 101-xxx where xxx is the number displayed. 2. Look up the SRN in the SRN List and do the action listed. If the operator panel display contains a non-alpha numeric pattern or the 101-xxx SRN is not listed in "Service Request Number List" on page 22-30 use SRN 101-FFF.
System Stops with 6-Digit Error Code Displayed on the Op Panel or BUMP console on a SMP System	
<p>The system stops with a 6-digit error code displayed on the op panel or BUMP console when booting.</p>	<ol style="list-style-type: none"> 1. Record the 6-digit error code. 2. If HIT RETURN TO CONTINUE is displayed on the BUMP console then hit RETURN. 3. Continue to hit RETURN until the MAINTENANCE MENU is displayed. If you can not get to the MAINTENANCE MENU go to step 6. 4. Display the BUMP error log. 5. If an SRN is logged, record it and do the listed action. Note: An SRN will be preceded by a 888 103. 6. If no SRN is logged, look up the error code in the system service guide and suspect the FRUs listed.

Symptoms	What You Should Do
SMP System Stops with 'Machine Checkstop' on the BUMP Console and the Operator Panel is Blank	
SMP system stops with 'Machine Checkstop' on the BUMP console and the Operator panel is blank.	Contact your support person.
System Stops with Alternating Numbers Displayed in the Operator Panel Display	
<p>The system stops with numbers between 221 and 299 alternating in the operator panel display.</p> <p>This symptom indicates that the system cannot find a valid boot record. The system will continue, attempting to boot unless a fatal error is detected. The only fatal errors are: not enough memory, faulty processor, and machine checks.</p>	<ol style="list-style-type: none"> 1. Suspect corrupted software on the load device. 2. Try running diagnostics from an alternate device. 3. If are you able to load from an alternate load device, run diagnostics on the primary load device and adapter. If the diagnostics do not report a problem, suspect a corrupted boot record on the primary load device. 4. If you are unable to load from an alternate load device, go to the Minimum Configuration MAP 1540 in the system service guide.
System Automatically Reboots	
<p>The system automatically reboots.</p> <p>This symptom indicates that checkstops are occurring, a power supply problem, or a power source problem. If checkstops are occurring they should be logged in the error log.</p>	<ol style="list-style-type: none"> 1. Turn the system unit's power off. 2. Turn the system unit's power on and boot from a removable media, disk, or LAN in the Service Mode. 3. Run the Base System or the System Planar diagnostic in Problem Determination Mode. 4. Run System Checkout or select the All Resources option from the Resource Selection menu to test all resources. 5. If an SRN is displayed at anytime, record the SRN and location code. 6. Look up the SRN in the SRN List and do the action listed. 7. If an SRN is not displayed, suspect a power supply or power source problem. 8. If you are unable to load diagnostics, go to MAP 1540.
Async Communication Problems	
You suspect an Async communication problem.	<ol style="list-style-type: none"> 1. Run the Advanced Async diagnostics on the ports you are having problems with. If an SRN is displayed, look up the SRN and do the listed action. 2. If you suspect a problem with the Async Concentrator, Remote Async Node, etc. refer to the service documentation for these devices and perform any tests or checks listed.
Block Multiplexer Channel Adapter Problems	
You suspect a Block Multiplexer Channel Adapter problem.	Go to the "Block Multiplexer Channel Adapter" on page 27-17.

Symptoms	What You Should Do
CD-ROM Problems	
<p>You suspect a CD-ROM drive problem.</p>	<ol style="list-style-type: none"> 1. Refer to the CD-ROM documentation and do any listed problem determination procedures. 2. Run the Advanced CD-ROM diagnostics in the Problem Determination Mode from a disk or LAN. If an SRN is displayed, look up the SRN and do the action listed. 3. Refer to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1. 4. Use the SCSI Bus Service Aid to exercise and test the SCSI Bus. 5. Refer to the <i>Adapters, Device and Cable Information</i> manual for additional information and problem determination procedures. <p>Note: The CD-ROM problem determination is normally in the CD-ROM Drive Operator Guide or the system operator guide.</p>
Dials and Lighted Programmable Function Keyboard	
<p>You suspect a Dials or LPFK problem.</p>	<p>Run the dials or LPFK diagnostics. If a SRN is displayed, look up the SRN and do the action listed.</p> <p>Note: If the 6094 Dials or the 6094 Lighted Programmable Function Keyboard (LPFK) are attached to serial port S1 or S2, consider the following:</p> <ul style="list-style-type: none"> • Dials and LPFK must be configured using the Dials and LPFK Service Aid before they will appear on any menu or can be tested with the diskette or CD-ROM diagnostic package. • Dials and LPFK may not appear in the New Resource Menu when running diagnostics from disk. • Dials and LPFK must be configured, using AIX documentation or the Dials and LPFK Service Aid, before they will appear on any menu or can be tested with diagnostics loaded from disk or a server.
Disk Problems	
<p>You suspect a disk drive problem.</p> <p>Disk problems are logged in the error log and are analyzed when the disk diagnostics are loaded from a disk or LAN and run in problem determination mode. Problems are reported if the number of errors are above defined thresholds.</p> <p>If diagnostics are booted from a disk, then diagnostics can only be run on those drives that are not part of the root volume group; however, an error log analysis will be run if these drives are selected. To run disk diagnostic tests on disks that are part of the root volume group, diagnostics must be booted from alternate media.</p>	<ol style="list-style-type: none"> 1. Run the disk drive diagnostics from alternate media. If an SRN is displayed, look up the SRN and do the action listed. 2. Boot from a disk or LAN in the Service Mode and run the disk drive diagnostics in Problem Determination Mode. If a SRN is displayed, look up the SRN and do the action listed. 3. Use the Certify Disk Service Aid to verify that the disk can be read. 4. Refer to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1. 5. Use the SCSI Bus Service Aid to exercise and test the SCSI Bus. 6. Refer to the <i>Adapters, Device and Cable Information</i> manual for additional information and Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 of this manual for problem determination procedures.

Symptoms	What You Should Do
Diskette Problems	
You suspect a diskette drive problem.	<ol style="list-style-type: none"> 1. Run the diskette drive diagnostics. If an SRN is displayed, look up the SRN and do the listed action. 2. Use the Diskette Media Service Aid to test the diskette media. 3. Use the Backup/Restore Media Service Aid to exercise and test the drive and media.
Display Problems	
You suspect a graphics display problem.	<ol style="list-style-type: none"> 1. Go to the Problem Determination Procedures for the display. 2. Run diagnostics on the adapter that the display is attached to. If an SRN is displayed, look up the SRN and do the action listed. 3. Use the Display Test Patterns to test or adjust the display. 4. Refer to the <i>Adapters, Device and Cable Information</i> manual for additional information and Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 of this manual for problem determination procedures.
Ethernet Problems	
You suspect an Ethernet Adapter or network problem.	<ol style="list-style-type: none"> 1. Run the Advanced Ethernet diagnostics in the Problem Determination Mode from disk. If an SRN is displayed, look up the SRN in the SRN List and do the action listed. 2. Use the Local Area Network Service Aids along with the Ethernet Service Aids to exercise and test the network. 3. Use the ping command to exercise and test the network. 4. Refer to the <i>Adapters, Device and Cable Information</i> manual for additional information and Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 of this manual for problem determination procedures.
Enterprise System Connection (ESCON) Adapter Problems	
You suspect a ESCON Adapter problem.	Go to the ESCON section of Chapter 27, "Using the Standalone and Online Diagnostics" on page 27-1.
FDDI Problems	
You suspect a FDDI Adapter or network problem.	<ol style="list-style-type: none"> 1. Run the Advanced FDDI diagnostics in the Problem Determination Mode from disk. If an SRN is displayed, look up the SRN in the SRN List and do the action listed. 2. Use the Local Area Network Service Aid to exercise and test the network. 3. Go to the FDDI section of Chapter 27, "Using the Standalone and Online Diagnostics" on page 27-1.
High-Availability SCSI	
You suspect a High-Availability SCSI problem.	Go to the SCSI section in Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1.

Symptoms	What You Should Do
Keyboard, Mouse, or Tablet	
You suspect a keyboard, mouse, or tablet problem.	Run the device diagnostics. If an SRN is displayed, look up the SRN and do the action listed.
Operator Panel Problems	
You suspect an operator panel problem.	Run the Base System diagnostics. If an SRN is displayed, look up the SRN in the SRN List and do the action listed.
Printer and TTY Problems	
You suspect a tty terminal or printer problem.	<ol style="list-style-type: none"> 1. Go to the Problem Determination Procedures for the printer or terminal. 2. Check the port that the device is attached to by running diagnostics on the port. If an SRN is displayed, look up the SRN in the SRN List and do the action listed. 3. Use the Testing the Line Printer procedure in Chapter 26, "General System Information" on page 26-1, to test the connection to the printer.
Processor and Memory Problems	
<p>You suspect a processor or memory problem.</p> <p>Processor and memory tests are only done during BIST and POST. Only problems that prevent the system from booting are reported during BIST and POST. All other problems are logged and are analyzed when the Base System Diagnostic is run.</p> <p>System Crashes are logged in the AIX Error Log. The Base System Diagnostic must be run in Problem Determination Mode to analyze the error.</p>	<ol style="list-style-type: none"> 1. Turn the system unit's power off. 2. Turn the system unit's power on and boot from a disk or LAN in Service Mode. 3. Run either the Base System Diagnostic or the Memory and System Planar Diagnostics in Problem Determination Mode. 4. If an SRN is displayed at anytime, record the SRN and location code. 5. Look up the SRN in the SRN List and do the action listed.
Power Problems	
You cannot turn the system unit's power on.	Go to Power MAP 1520 in the service documentation.
Power Light does not come on or stay on.	Go to Power MAP 1520 in the service documentation.
SCSI Adapter Problems	
<p>You suspect a SCSI Adapter problem.</p> <p>The SCSI Adapter Diagnostics can only be run on a SCSI Adapter that was not used for booting; however, the POST does test SCSI Adapters before attempting to use it to boot. If the system was able to boot while using the suspected faulty SCSI Adapter, the adapter is most likely good.</p> <p>Also, SCSI Adapter problems are logged in the error log and are analyzed when the disk diagnostics are loaded from a disk or LAN and run in problem determination mode. Problems are reported if the number of errors are above a defined threshold.</p>	<ol style="list-style-type: none"> 1. If supported use the SCSI Subsystem diagnostic diskettes to test the SCSI adapter; otherwise try to run the adapter diagnostics from an IPL source attached to a different SCSI adapter. If an SRN is displayed, look up the SRN in the SRN list and do the listed action. 2. Boot from a disk or LAN in the Service Mode and run the adapter diagnostics in Problem Determination Mode. If an SRN is displayed, look up the SRN in the SRN List and do the listed action. 3. Refer to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1.

Symptoms	What You Should Do
SCSI Bus Problems	
You suspect a SCSI bus problem.	<ol style="list-style-type: none"> 1. Refer to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1. 2. Use the SCSI Bus Service Aid to exercise and test the SCSI Bus.
Tape Problems	
You suspect a tape drive problem.	<ol style="list-style-type: none"> 1. Refer to the tape drive documentation and clean the tape drive. 2. Refer to the tape drive documentation and do any listed problem determination procedures. 3. Run the Advanced Tape diagnostics in Problem Determination Mode from a disk or LAN. If an SRN is displayed, look up the SRN in the SRN List and do the action listed. 4. Use the Backup/Restore Media Service Aid to exercise and test the drive and media. 5. Refer to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1. 6. Use the SCSI Bus Service Aid to exercise and test the SCSI Bus. 7. Refer to the <i>Adapters, Device and Cable Information</i> manual for additional information and problem determination procedures. <p>Note: Tape Drive Cleaning and Problem Determination is normally either in the Tape Drive Operator Guide or the System Operator Guide.</p>
Token-Ring Problems	
You suspect a Token-Ring Adapter or network problem.	<ol style="list-style-type: none"> 1. Run the Advanced Token-Ring diagnostics in Problem Determination Mode from a disk. If an SRN is displayed, look up the SRN in the SRN List and do the action listed. 2. Use the Local Area Network Service Aid to exercise and test the network. 3. Use the ping command to exercise and test the network. 4. Refer to the <i>Adapters, Device and Cable Information</i> manual for additional information and problem determination procedures.
Other Adapter Problems	
You suspect a problem on another adapter that is not listed above.	<ol style="list-style-type: none"> 1. Run the Advanced diagnostics in Problem Determination Mode from a disk or LAN on the adapter you suspect. If an SRN is displayed, look up the SRN in the SRN List and do the listed action. 2. Refer to the <i>Adapters, Device and Cable Information</i> manual for additional information and problem determination procedures.

Symptoms	What You Should Do
System Messages	
A System Message is displayed.	<ol style="list-style-type: none"> 1. Some messages give instructions on how to resolve the problem. If the message describes the cause of the problem, attempt to correct it. If you are not given enough information to correct the problem, refer to the Message Index to determine the nature and scope of the message. 2. Look for another symptom to use.
Boot Problems	
You suspect a boot problem on a non-SMP system.	All symptoms that can prevent the system from booting should be listed previously. Find the symptom and use it.
You suspect a boot problem on a SMP system.	All symptoms that can prevent the system from booting should be listed previously. Find the symptom and use it; however, if you are unable to resolve the problem, refer to the "Using System Guard" chapter in the system unit service guide. Ensure that all flags and parameters are properly set.
Intermittent Problems	
You suspect an intermittent problem.	Go to Chapter 5, "MAP 0040: Intermittent Problem Isolation" on page 5-1.
Miscellaneous Problems	
You suspect a cable problem.	Refer to the <i>Adapters, Device and Cable Information</i> manual for additional information and problem determination procedures.
You Cannot Find the Symptom in this Table	
All other problems.	Go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1.
RAID Problems	
You suspect a problem with a RAID.	Refer to the reference guide for the RAID.
Missing Resources	
Missing Resources	<p>Use the 'Display or Change Configuration or Vital Product Data (VPD) Service Aid' to verify that the resource was configured.</p> <p>If an installed resource does not appear, check that it is installed correctly. If you do not find a problem go to MAP 0020.</p>

Symptoms	What You Should Do
System Hangs or Loops	
The system always hangs in the same application.	<p>Suspect the application.</p> <p>To check the system:</p> <ol style="list-style-type: none"> 1. Turn the system unit's power off. 2. Turn the system unit's power on and boot from a disk or LAN in Service Mode. 3. Run the Base System or the System Planar diagnostics in Problem Determination Mode. 4. Run System Checkout or select the All Resources option from the Resource Selection menu to test all resources. 5. If an SRN is displayed at anytime, record the SRN and its location code. 6. Look up the SRN in the SRN List and do the action listed.
The system hangs in different applications.	<ol style="list-style-type: none"> 1. Turn the system unit's power off. 2. Turn the system unit's power on and boot from a disk or LAN in Service Mode. 3. Run the Base System or the System Planar diagnostics in Problem Determination Mode. 4. Run System Checkout or select the All Resources option from the Resource Selection menu to test all resources. 5. If a SRN is displayed at anytime record the SRN and its location code. 6. Look up the SRN in the SRN List and do the action listed.
The system hangs when running diagnostics.	<p>Record SRN 110-xxx, where:</p> <ol style="list-style-type: none"> 1. xxx is the first three digits of the menu number displayed in the upper-right corner of the diagnostic menu screen. 2. If no menu number is displayed, use the "FRU Name Cross-Reference List" in "FRU Name Cross-Reference List" on page 24-2 to obtain the failing function code (FFC) for the device. 3. Use the FFC code of the device for xxx. 4. Find the SRN in the "Service Request Number List" on page 22-30; then do the action listed.

Chapter 3. MAP 0020: Problem Determination Procedure

Purpose of This MAP

Use this MAP to get a service request number (SRN) if you were not provided with one by the customer or when directed by the MAPs.

Be prepared to record code numbers and use those numbers in the course of analyzing a problem. Go to "Step 0020-1."

Step 0020-1

Note: If this system is connected to another system, refer to Chapter 27, "Using the Standalone and Online Diagnostics" on page 27-1 for possible pertinent information before proceeding further. If you have not done so already, read the section "Diagnostic Version 4.x.x Considerations" in Chapter 27, "Using the Standalone and Online Diagnostics" on page 27-1 before proceeding.

Visually check the system for obvious problems such as unplugged power cables or external devices powered off.

Did you find an obvious problem?

NO Go to "Step 0020-2."
YES Fix the problem; then go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0020-2

The AIX operating system contains the diagnostic programs. Other operating systems may not contain diagnostic programs.

Note: If you are not sure whether or not the AIX operating system is being used, assume that it is.

Is the AIX operating system used on this system?

NO Go to "Step 0020-14" on page 3-11.
YES Go to "Step 0020-3" on page 3-2.

Step 0020-3

Notes:

- If possible, run diagnostics from disk or from a server over a network. Diagnostics that are run from a disk or from a server take less time to run and perform additional functions.
- If you are not able to run diagnostics from disk or a server, go to “Step 0020-14” on page 3-11.
- Unless the system (client) is set up to IPL from a server over a network, the server cannot be used to load diagnostics on the system (client).
- If you wish to run concurrent mode diagnostics, follow the service hint procedure “Using Concurrent Mode Diagnostics” on page 1-5; then go to “Step 0020-7” on page 3-6.

Take the following action:

1. If the operating system is running, shut it down.
2. Set the system unit power switch to Off.
3. Set the key mode switch to the Service position.
4. Set the power switches of the attached devices to On.
5. Set the key power switch to On.
6. If the Maintenance Menu is displayed, select **System Boot**, then select **Boot from List** and continue with this step.
7. If c31 displays in the operator panel display, follow the displayed instructions to select the console display. If you cannot select a console display, go to “Step 0020-20” on page 3-15; otherwise, continue to the next substep.

Note: If you do not have a console display, go to Chapter 10, “MAP 0220: Checking a System with No Console Display” on page 10-1.

8. Wait until one of the following conditions occurs; then go to the next substep:
 - The power-on light does not come on or comes on but does not stay on.
 - The same numbers are displayed in the operator panel display for longer than three minutes.

Note: If the diagnostics are being loaded from a server over a network, some numbers may be displayed for longer than three minutes.

 - The number 269 is flashing in the operator panel display.
 - The number 888 is flashing in the operator panel display.
 - The operator panel display is blank.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.
 - Characters other than 888 are flashing in the operator panel display.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
9. Find your symptom in the following table; then follow the instructions given in the Action column.

Symptom	Action
The system stops with the DIAGNOSTIC OPERATING INSTRUCTIONS displayed, and there is no obvious console display problem (for example, distortion or blurring).	Go to "Step 0020-7" on page 3-6.
The power-on light does not come on, or comes on but does not stay on. Note: The power to some systems units will not turn on if the key mode switch is in the Secure position. Ensure that the key mode switch is in the Service position. If it is not, place the key mode switch in the Service position, and start over at the beginning of this substep.	Go to the power MAP in the service guide or installation and service guide for your system unit, drawer, or enclosure.
The system stops with a <i>steady</i> (not flashing) number displayed in the operator panel display, and the power light is on.	Go to "Step 0020-4" on page 3-4.
The system stops with 269 flashing in the operator panel display.	Go to MAP 1540 in the service guide.
The system stops with 888 flashing in the operator panel display.	Go to "Step 0020-5" on page 3-5.
The system stops with a 6-digit error code displayed when booting on a SMP system.	<ol style="list-style-type: none"> 1. Record the 6-digit error code. 2. If HIT RETURN TO CONTINUE is displayed on the BUMP console then hit RETURN. 3. Continue to hit RETURN until the MAINTENANCE MENU is displayed. If you can not get to the MAINTENANCE MENU go to step 6. 4. Display the BUMP error log. 5. If an SRN is logged, record it and do the listed action. <p>Note: SRNs will be preceded by an 888 103.</p> <ol style="list-style-type: none"> 6. If no SRN is logged, look up the error code in the system service guide and suspect the FRUs listed.
The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.	Go to "Step 0020-13" on page 3-10.
The operator panel display is blank and the normal system login screen is displayed.	Be sure the key mode switch is set to the Service position. If the key mode switch is not in the Service position, repeat this step. If the key mode switch is in the Service position, record and report SRN 111-102; then go to "Step 0020-15" on page 3-12.
The system stops with a blank operator panel display, and the DIAGNOSTIC OPERATING INSTRUCTIONS are not displayed correctly.	Go to "Step 0020-6" on page 3-6.
The system stops with characters other than 888 flashing in the operator panel display.	Record SRN 111-105, and then go to "Step 0020-15" on page 3-12.

Step 0020-4

The following steps analyze a *steady* (not flashing) number displayed in the operator panel display while attempting to load the diagnostics.

<i>Table 3-1.</i>	
Operator Panel Display Number	Action
165	If 165 is displayed for more than 10 minutes on an SMP system, check the BUMP console for activity. If there is no activity on the BUMP console (wait at least 10 minutes) then record SRN 101-165 and do the action listed in the SRN list. Continue to wait if there is activity on the BUMP console.
200	Be sure the key mode switch is set to the Service position. If the key mode switch is not in the Service position, go to "Step 0020-3" on page 3-2. If the key mode switch is in the Service position, record SRN 101-200; then go to "Step 0020-15" on page 3-12.
871	Go to Chapter 21, "MAP 0430: System Hangs with 871 in the Operator Panel Display" on page 21-1 in this manual.
c07	Insert the next diagnostic diskette and go to "Step 0020-14" on page 3-11, substep 6.
c31	Follow the displayed instructions to select a console display; then return to the Step that brought you here. (either "Step 0020-3" on page 3-2 or "Step 0020-14" on page 3-11) Note: If you cannot select a console display, go to "Step 0020-20" on page 3-15; otherwise, continue to the next substep.
c03	The wrong diskette was inserted. Insert the proper diskette, and go to "Step 0020-14" on page 3-11, substep 6.
c05	An error occurred while reading the diskette. Remove and insert the diskette again. If c05 is displayed again, obtain a replacement diskette. If c05 does not appear again, go to "Step 0020-14" on page 3-11, substep 6.
260, 261 or 262	If the system unit is not an SMP go to "Step 0020-22" on page 3-16. If the system unit is an SMP, go to MAP 1540 in the service guide.
Any other number	Record SRN 101-xxx (where xxx is the number displayed in the operator panel display). Find the SRN in the "Service Request Number List" on page 22-30 then perform the action listed. Note: If the operator panel display contains a non-alphanumeric pattern or the three digits appearing in the operator panel display (completeing a 101 SRN) is not specifically listed in the "Service Request Number List" on page 22-30, use SRN 101-FFF.

Step 0020-5

A flashing 888 in the operator panel display indicates that a crash message or a diagnostic message is ready to be read.

1. Use the instructions under “Reading Flashing 888 Numbers” in Chapter 22, “Diagnostic Numbers and Codes” on page 22-1 of this manual to read the message. After you read the complete message, identify and record the following, and then return here.
 - Message type
 - Crash code (if displayed)
 - Diagnostic message
 - Location code

Notes:

- If you identified an SRN, proceed to substep 2; otherwise, go to “Step 0020-14” on page 3-11.
 - If an incomplete diagnostic message is displayed, run diagnostics from removable media. Suspect corrupted disk data.
2. Locate the SRN in the data recorded.
 3. Find that SRN in the “Service Request Number List” in Chapter 22, “Diagnostic Numbers and Codes” on page 22-1 of this manual.
 4. Perform the action listed.

Step 0020-6

The following step analyzes a console display problem.

Find your type of console display in the following table; then, follow the instructions given in the Action column.

Type of Console Display	Action
5081 display	Go to the 5081 documentation and continue problem determination. If you do not find the problem, go to "Step 0020-17" on page 3-13.
6091 display	Go to the 6091 documentation and continue problem determination. If you do not find the problem, go to "Step 0020-17" on page 3-13.
7008 system display	Go to the 7008 documentation and continue problem determination. If you do not find the problem, go to "Step 0020-17" on page 3-13.
8508 display	Go to the 8508 documentation and continue problem determination. If you do not find the problem, go to "Step 0020-17" on page 3-13.
8517 display	Go to the 8517 documentation and continue problem determination. If you do not find the problem, go to "Step 0020-17" on page 3-13.
tty-type terminal	Be sure the tty terminal attributes are set correctly. See "Running the Diagnostic Programs from a TTY Terminal" in Chapter 27, "Using the Standalone and Online Diagnostics" on page 27-1 of this manual. If you did not find a problem with the attributes, go to the documentation for this type of tty terminal, and continue problem determination. If you do not find the problem, go to "Step 0020-19" on page 3-15.
Graphics display not listed above	Go to the documentation for this type of graphics display, and continue problem determination. If you do not find the problem, or there is no documentation, go to "Step 0020-17" on page 3-13.

Step 0020-7

The diagnostic controller loaded correctly.

Press the Enter key.

Is the FUNCTION SELECTION menu displayed?

NO Go to "Step 0020-8" on page 3-7.

YES Go to "Step 0020-9" on page 3-7.

Step 0020-8

There is a problem with the keyboard.

Find the type of keyboard you are using in the following table; then follow the instructions given in the Action column.

Keyboard Type	Action
Type 101 keyboard (U.S.). Identify by the size of the Enter key. The Enter key is in only one horizontal row of keys.	Record SRN 111-921; then go to "Step 0020-12" on page 3-10.
Type 102 keyboard (W.T.). Identify by the size of the Enter key. The Enter key extends into two horizontal rows.	Record SRN 111-922; then go to "Step 0020-12" on page 3-10.
Kanji-type keyboard. (Identify by the Japanese characters.)	Record SRN 111-923; then go to "Step 0020-12" on page 3-10.
tty terminal keyboard	Go to the documentation for this type of tty terminal and continue problem determination.

Step 0020-9

1. Select the Advanced Diagnostics Routines option.

Note: If the terminal type has not been defined, you will be prompted to define the terminal type. If you are using diagnostic version 4.1 or later the DEFINE TERMINAL menu will appear after selecting the Advanced Diagnostic Routines option. If you are using an earlier version of the diagnostics a note appearing on the FUNCTION SELECTION menu will inform you to initialize the terminal setting. You will not be allowed to proceed until this is done.

2. When the DIAGNOSTIC MODE SELECTION menu displays, select the Problem Determination option.
3. Find your system response in the following table; then follow the instructions in the Action column.

System Response	Action
The ADVANCED DIAGNOSTIC SELECTION menu is displayed.	Go to "Step 0020-10" on page 3-8.

System Response	Action
<p>The MISSING RESOURCE menu or the NEW RESOURCE menu is displayed.</p>	<p>Follow the displayed instructions until either the ADVANCED DIAGNOSTIC SELECTION menu or an SRN is displayed.</p> <p>Note: Run any supplemental media which may have been supplied with the adapter or device, and then return to substep 1 of “Step 0020-9.”</p> <p>If you are running diagnostics from diskettes, be sure that all adapters and SCSI devices are listed on the NEW RESOURCE menu.</p> <p>Note: Resources attached to serial and parallel ports may not appear in the NEW RESOURCE menu.</p> <p>If the ADVANCED DIAGNOSTIC SELECTION menu is displayed, go to “Step 0020-10” on page 3-8.</p> <p>If an SRN is displayed, record it, and go to “Step 0020-12” on page 3-10.</p>
<p>The diagnostics begin testing a resource.</p> <p>Note: If the Problem Determination Option was selected from the DIAGNOSTIC MODE SELECTION menu, and if a recent error has been logged in the error the diagnostics will automatically begin testing the resource.</p>	<p>Follow the displayed instructions.</p> <p>If the No Trouble Found screen is displayed, press Enter.</p> <p>If another resource is tested, repeat this step.</p> <p>If the ADVANCED DIAGNOSTIC SELECTION menu is displayed, go to “Step 0020-10” on page 3-8.</p> <p>If an SRN is displayed, record it, and go to “Step 0020-12” on page 3-10.</p>
<p>The system did not respond to selecting the Advanced Diagnostics Option.</p>	<p>Go to “Step 0020-8.”</p>
<p>The system stops with a steady (not flashing) number displayed in the operator panel display, and the power light is on.</p>	<p>Go to “Step 0020-4” on page 3-4.</p>
<p>The system stops with 888 flashing in the operator panel display.</p>	<p>Go to “Step 0020-5” on page 3-5.</p>
<p>The system stops with characters other than 888 flashing in the operator display.</p>	<p>Record SRN 111-105 and then go to “Step 0020-15” on page 3-12.</p>
<p>The system stops with the message “The system will now continue the boot process. Please wait...”</p>	<p>Go to Map 1540 in either the service guide or the installation and service guide for this system unit, drawer or enclosure.</p>
<p>The system stops with the message “Processing supplemental diagnostic diskette media” is displayed continuously on the system unit's console.</p>	<p>Go to Map 1540 in the system unit's service guide.</p>

Step 0020-10

Select and run the diagnostic tests on the resources you are having problems with. Find the response in the following table and take the action for it.

Note: If you are using the diskette package and the device you want to test doesn't appear on the test list, find this symptom in the following table, and take the action listed.

Diagnostic Response	Action
An SRN is displayed.	Record the SRN, the FRU names, and the location code for the FRUs; then go to "Step 0020-12" on page 3-10.
The system stops for five minutes or more with a steady (not flashing) number displayed in the operator panel display.	Go to "Step 0020-4" on page 3-4.
The TESTING COMPLETE menu and the No trouble was found message are displayed and you have not tested all of the resources.	Press Enter and continue testing other resources.
The TESTING COMPLETE menu and the No trouble was found message are displayed and you <i>have</i> tested all of the resources.	Go to "Step 0020-16" on page 3-13.
The system halted while testing a resource, and the system has only 8MB of memory.	Load diagnostics again, and test this resource first. If the system halts again, find the other diagnostic response in this table for a system halt while testing a resource.
The system halted while testing a resource.	Record SRN 110-xxx, where xxx is the first three digits of the menu number displayed in the upper-right corner of the diagnostic menu screen. If no menu number is displayed, use the "FRU Name Cross-Reference List" in Chapter 23, "Failing Function Codes (FFCs)" on page 23-1 to obtain the failing function code (FFC) for the device. Use the FFC code of the device for xxx. Find the SRN in the "Service Request Number List" in Chapter 22, "Diagnostic Numbers and Codes" on page 22-1; then do the action listed.
An installed device does not appear in the test list of the disk based diagnostic programs	Ensure that the diagnostic support for the device was installed on the disk. The Display Configuration service aid can be used to determine whether diagnostic support is installed for the device.
A device does not appear in the test list.	Record SRN 110-101. Find the SRN in the "Service Request Number List" in Chapter 22, "Diagnostic Numbers and Codes" on page 22-1; then do the listed action. Note: Ensure that the diagnostic diskette containing the diagnostics for that device has been read before doing the action listed. Supplemental diskettes may be required if service aids are run from CD-ROM or diskette.
The system stops with 888 flashing in the operator panel display.	Go to "Step 0020-11" on page 3-10.

Note: If Dials or LPFK are attached to serial port S1 or S2, diagnostics cannot be run on them from diskette until they are configured using the Dials and LPK Configuration Service Aid. If Dials or LPFK are attached to serial port S1 or S2, and diagnostics are being run from disk or server, Dials or LPFK will only appear on the selection screen if they have been configured by the user. Use the Dials and LPFK Configuration Service Aid on these devices.

Step 0020-11

A flashing 888 in the operator panel display indicates that a crash message or a diagnostic message is ready to be read.

1. Use the instructions in the "Reading Flashing 888 Numbers" procedure in Chapter 22, "Diagnostic Numbers and Codes" on page 22-1 of this manual to read the message. Record the message number, the crash message, and the diagnostic message.
2. If you identified an SRN, proceed to substep 3; otherwise, go to substep 5.
3. Record the SRN from the diagnostic message.
4. Go to "Step 0020-12."
5. Go to MAP 1540 in either the service or the installation and service guide for this system unit, drawer, or enclosure.

Step 0020-12

Take the following actions:

1. Find the SRN in the "Service Request Number List" in Chapter 22, "Diagnostic Numbers and Codes" on page 22-1 of this manual.

Note: If the SRN is not listed in Chapter 22, "Diagnostic Numbers and Codes" on page 22-1, look for it in the following:

- Any supplemental service manual for the device
 - The diagnostic problem report screen for additional information
 - The Service Hints service aid in Chapter 1, "Maintenance Analysis Procedures (MAPs)" on page 1-1
 - The CERADME file (by using the Service Hints service aid).
2. Perform the action listed.

Step 0020-13

The system stopped with two or more numbers between 221 and 296 alternating in the operator panel display. This indicates the diagnostic programs could not load from disk or server, and that the load program is looking for the diagnostic programs on the diskette or some other load device.

Are you trying to load either disk based or server based diagnostics?

- NO** Record SRN 111-101; then go to "Step 0020-15" on page 3-12.
YES Go to "Step 0020-14" on page 3-11.

Step 0020-14

The following steps analyze a failure to load the diagnostic programs from disk or a server. The steps are also used when the diagnostic programs are not available on disk or through a server.

Note: If you are in this step because of a failure to load diagnostics from a SCSI device, use the *SCSI Subsystem* diagnostic diskettes if supported on this system. If you cannot use the *SCSI Subsystem* diskettes try using either the diagnostic CD-ROM or the regular diagnostic diskette package.

1. Be sure the application programs and the operating system are stopped.
2. Set the system unit power switch to Off.
3. Set the key mode switch to the Service position.
4. Locate the diagnostic diskettes or the CD-ROM diagnostic disc that was shipped with the system unit. If you are using diskettes, insert the first diagnostic diskette into the diskette drive; otherwise, insert the diagnostic CD-ROM disc into the caddy, and then insert the caddy into the CD-ROM drive.

Note: If the system does not have a diskette drive or CD-ROM drive with diagnostic disc, continue to the next substep.

5. Set the system unit power switch to On.
6. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
7. Wait until one of the following conditions occurs; then go to the next substep:
 - The system stops with c02, c07 or c31 displayed in the operator panel display.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.
 - A number is displayed in the operator panel display for longer than three minutes.
 - The number 269 is flashing in the operator panel display.
 - The number 888 is flashing in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS display.
8. Find your symptom in the following table; then follow the instructions given in the Action column.

Symptom	Action
The system stops with c07 displayed in the operator panel display.	Insert the next diagnostic diskette into the diskette drive; then wait for one of the other symptoms in this table to occur.
The system stops with c31 displayed in the operator panel display.	Follow the displayed instructions to select a console display; then wait for one of the other symptoms in this table to occur. If you cannot select a console display, go to "Step 0020-20" on page 3-15. If you do not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.

Symptom	Action
The system stops with c02 displayed in the operator panel display.	Start over at the beginning of this step, and use the 16MB Diagnostic Boot diskette.
The system stops with 538 displayed in the operator panel display, and you used the 16MB Diagnostic Boot diskette to load diagnostics.	Start over at the beginning of this step, and use the 8MB Diagnostic Boot diskette.
The system stops with 260, 261 or 262 displayed in the operator panel display.	If the system unit is not an SMP and the system unit has either a diskette drive or CD-ROM drive with diagnostic disc, record SRN 111-101, and then go to "Step 0020-15" on page 3-12; otherwise, go to MAP 1540 in the service guide for this system unit. If the system unit is an SMP, go to MAP 1540 in the service guide.
The system stops with the DIAGNOSTIC OPERATING INSTRUCTIONS displayed, and there is no obvious console display problem (for example, distortion or blurring).	Go to "Step 0020-7" on page 3-6.
The system stops with a steady (not flashing) number displayed in the operator panel display, and the power-on light is on.	Go to "Step 0020-4" on page 3-4.
The system stops with a flashing 269 displayed in the operator panel display.	Go to MAP 1540 in the service guide.
The system stops with 888 flashing in the operator panel display.	Go to "Step 0020-21" on page 3-15.
The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.	Record SRN 111-101; then go to "Step 0020-15" on page 3-12.
The system stops with a blank operator panel display, and the DIAGNOSTIC OPERATING INSTRUCTIONS are not displayed correctly.	Go to "Step 0020-6" on page 3-6.
The system stops with a blank operator panel display, and instructions are displayed on the console.	Follow the instructions, and wait for one of the other symptoms in this table to occur.
The power-on light does not come on, or comes on but does not stay on.	Go to the power MAP in the service guide or installation and service guide for your system unit, drawer, or enclosure.

Step 0020-15

Take the following actions:

1. Find the SRN in the "Service Request Number List" in Chapter 22, "Diagnostic Numbers and Codes" on page 22-1.
2. Look at the Description and Action column, and go to the MAP listed.

Step 0020-16

The diagnostics did not find a problem. The problem may be caused by software or an intermittent hardware problem. If you think you have an intermittent hardware problem, go to Chapter 5, "MAP 0040: Intermittent Problem Isolation" on page 5-1. If the failure is related to an external resource, use the problem determination procedures, if available, for that external resource. If a problem occurs when running diagnostics from disk but not when running from other diagnostic media, suspect software. Check for the presence of supplemental diagnostic material such as diskettes or documentation.

Note: Use the appropriate service (TAC) and action code, using the *QSAR Preparation Guide*, order number Z229-0455.

Step 0020-17

Perform the following actions and then answer the question.

1. Set the system unit power switch to Off.
2. Place the key mode switch in the secure position.
3. Set the power switch to the On position.
4. Wait for five minutes or until 200 displays in the operator panel display.

Is the number 200 displayed in the operator panel display?

NO Record SRN 111-106; then go to "Step 0020-15" on page 3-12.
YES Go to "Step 0020-18."

Step 0020-18

Find your type display adapter in the table below; then complete the listed action.

Display Adapter Type	Action
Color graphics display adapter (Type 1-1)	Record SRN 111-874; then go to "Step 0020-15" on page 3-12.
Grayscale graphics display adapter (Type 1-2)	Record SRN 111-872; then go to "Step 0020-15" on page 3-12.
High-performance 8-bit 3D color graphics processor (Type 1-3)	Record SRN 111-128; then go to "Step 0020-15" on page 3-12.
High-performance 24-bit 3D color graphics processor (Type 1-3)	Record SRN 111-128; then go to "Step 0020-15" on page 3-12.
Graphics subsystem adapter (Type 1-4)	Record SRN 111-871; then go to "Step 0020-15" on page 3-12.
7008 system display	Record SRN 111-725; then go to "Step 0020-15" on page 3-12.
7235 Graphics subsystem Adapter (Type 1-4)	Record SRN 111-871; then go to "Step 0020-15" on page 3-12.
POWER Gt4 subsystem adapter (8-bit)(Type 1-5)	Record SRN 111-878; then go to "Step 0020-15" on page 3-12.

Display Adapter Type	Action
POWER Gt4 subsystem adapter (24-bit)(Type 1-5)	Record SRN 111-878; then go to "Step 0020-15" on page 3-12.
POWER Gt4x subsystem adapter (8-bit)(Type 1-5)	Record SRN 111-878; then go to "Step 0020-15" on page 3-12.
POWER Gt4x subsystem adapter (24-bit)(Type 1-5)	Record SRN 111-878; then go to "Step 0020-15" on page 3-12.
POWER Gt4xi subsystem adapter (8-bit)(Type 1-5)	Record SRN 111-C52; then go to "Step 0020-15" on page 3-12.
POWER Gt4xi subsystem adapter (24-bit)(Type 1-5)	Record SRN 111-C52; then go to "Step 0020-15" on page 3-12.
POWER Gt4i processor card (Type 1-5)	Record SRN 111-C49; then go to "Step 0020-15" on page 3-12.
POWER Gt4xi processor card (Type 1-5)	Record SRN 111-C50; then go to "Step 0020-15" on page 3-12.
POWER Gt1 graphics adapter (7008, 7011/220/230)	Record SRN 111-880; then go to "Step 0020-15" on page 3-12.
POWER Gt1x graphics adapter (7008, 7011/220/230)	Record SRN 111-898; then go to "Step 0020-15" on page 3-12.
POWER Gt3 subsystem adapter (Type 1-6)	Record SRN 111-877; then go to "Step 0020-15" on page 3-12.
POWER Gt4e subsystem adapter (Type 1-8)	Record SRN 111-B59; then go to "Step 0020-15" on page 3-12.
POWER Gt3i subsystem adapter (Type 1-9)	Record SRN 111-B58; then go to "Step 0020-15" on page 3-12.
POWER GXT100/GXT150	Record SRN 111-942; then go to "Step 0020-15" on page 3-12.
POWER GXT155L	Record SRN 111-942; then go to "Step 0020-15" on page 3-12.
POWER GXT150M	Record SRN 111-710; then go to "Step 0020-15" on page 3-12.
POWER GXT1000 graphics adapter (Type 1-A)	Record SRN 111-908; then go to "Step 0020-15" on page 3-12.
Unknown type graphics adapter.	Record SRN 111-725; then go to "Step 0020-15" on page 3-12.

Step 0020-19

Record SRN 111-259; then go to “Step 0020-15” on page 3-12.

Step 0020-20

When the c31 halt was present, were the instructions to select a console display readable with no obvious problems with the display?

NO Go to “Step 0020-6” on page 3-6.
YES Go to “Step 0020-8” on page 3-7.

Step 0020-21

A flashing 888 in the operator panel display indicates that a crash message or a diagnostic message is ready to be read.

1. Use the instructions under “Reading Flashing 888 Numbers” in Chapter 22, “Diagnostic Numbers and Codes” on page 22-1 of this manual to read the message. After you read the complete message, identify and record the following, and then return here.

Note: If you identified an SRN, proceed to substep 2; otherwise, go to substep 5.

- Message number
- Crash code (if displayed)
- Diagnostic message

Note: If an incomplete diagnostic message is displayed, run diagnostics from an alternate diagnostic source.

- Translated location code

2. Locate the SRN in the data recorded.
3. Find that SRN in the “Service Request Number List” in Chapter 22, “Diagnostic Numbers and Codes” on page 22-1 of this manual.
4. Perform the action listed, and then stop; you have finished “Step 0020-21.”
5. Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.

Step 0020-22

The following table analyses a steady (not flashing) number displayed in the operator panel display while attempting to load diagnostics:

Three-Digit Display Number	Action
260	If the display console is attached to a graphics adapter, go to "Step 0020-23"; otherwise, press the 1 key on the tty terminal keyboard, and then go to "Step 0020-23."
261	If the console is a tty terminal, press the 1 key on the tty terminal keyboard, and then go to "Step 0020-23"; otherwise, go to "Step 0020-18" on page 3-13.
262	A keyboard was not detected. If a keyboard is attached to the system's keyboard port, record SRN 101-262, and then go to "Step 0020-15" on page 3-12; otherwise, press the 1 key on the tty terminal keyboard, and then go to "Step 0020-23."

Step 0020-23

Find your symptom in the table below; then complete the listed action.

Symptom	Action
Information is not displayed or is displayed incorrectly on the console. For example, the information is distorted, blurred, or not otherwise readable.	Go to "Step 0020-6" on page 3-6.
An SRN is displayed on the console.	Record the SRN. Find the SRN in the "Service Request Number List" in Chapter 22, "Diagnostic Numbers and Codes" on page 22-1. Then perform the action listed.
The MAIN MENU or the SELECT LANGUAGE MENU is displayed on the console.	Go to "Step 0020-14" on page 3-11.
An SRN or the MAIN MENU is not displayed on the console display.	Go to MAP 1560 in the service guide for this system unit.

Chapter 4. MAP 0030: Additional Problem Determination

Purpose of This MAP

This MAP is used for problems that still occur after all FRUs indicated by the SRN have been exchanged. Go to "Step 0030-1."

Adapters and controllers are logic interfaces with devices, local area networks (LANs), and other networks. These logic interfaces may be located on micro channel adapters, the standard I/O planar, or on the system planar.

Step 0030-1

Determine if one of the exchanged FRUs is external to the system unit.

Does one of the FRUs that you exchanged have its own problem determination procedures?

NO Go to "Step 0030-3" on page 4-2.
YES Go to "Step 0030-2."

Step 0030-2

Some externally attached devices and some of the drawers in a rack-type system unit have their own problem determination procedures. When they have separate problem determination procedures, they should be used first.

Check the documentation for the external device.

Are the problem determination procedures available?

NO Go to "Step 0030-3" on page 4-2.
YES Go to the problem determination procedures for the external device, and follow them. If they do not fix the problem, return to this MAP, and go to "Step 0030-3" on page 4-2.

Step 0030-3

Look at the SRN source code for your SRN and take the action listed in the following table for your source code.

SRN Source Code	Action
A, E, H, J, K	Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
B	Go to "Step 0030-10" on page 4-7.
C	Go to "Step 0030-9" on page 4-4.
D, F	Go to "Step 0030-4."
G	Use the Service Hints service aid for possible information about this problem. If the service aid does not help, call your support person.

Step 0030-4

The SRN can be reported on the screen or by the operator panel display.

Was the SRN reported by the operator panel display?

- NO** Go to "Step 0030-5."
YES Go to "Step 0030-9" on page 4-4.
-

Step 0030-5

The diagnostic programs are part of the AIX operating system. After the AIX operating system is installed using the **installp** command, the diagnostics can be loaded from disk or server.

Are you able to load the diagnostic programs from disk or server?

- NO** Go to "Step 0030-9" on page 4-4.
YES Go to "Step 0030-6" on page 4-3.

Step 0030-6

System checkout sometimes detects a problem that is not detected by the other diagnostics.

Have you run system checkout using the advanced diagnostics?

- NO** Go to "Step 0030-7."
YES Go to "Step 0030-9" on page 4-4.
-

Step 0030-7

Run system checkout using the advanced diagnostics.

Did you get an SRN?

- NO** Go to "Step 0030-9" on page 4-4.
YES Go to "Step 0030-8."
-

Step 0030-8

Look at the new SRN.

Did you get a different SRN than when you started?

- NO** Go to "Step 0030-9" on page 4-4.
YES Look at the Description and Action column, and then go to the MAP or service information listed.

Step 0030-9

1. Find the failing resource in the table that follows on the next three pages.
2. Perform the first action for the resource.
3. If you exchange a FRU or change a switch setting, test the resource again by running the diagnostic programs.
4. If the action does not correct the problem, perform the next action until all actions have been tried. If an action says to exchange a FRU that you have already exchanged, go to the next action. If an action corrects the problem, go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
5. If you perform all of the actions and do not correct the problem, use the Service Hints service aid in Chapter 1 for applicable information updates. If the service aid does not help, call your support person.

<i>Table 4-1 (Page 1 of 3).</i>	
Failing Resource	Repair Actions
Disk drive Tape drive Diskette drive CD-ROM drive Keyboard Tablet Dials LPFK Mouse	Go to "Step 0030-11" on page 4-7.
SCSI I/O controller	Go to "Step 0030-12" on page 4-8.
8-port async adapters 16-port async adapters	<ol style="list-style-type: none"> 1. If the adapter is plugged into a planar via a riser card, check or exchange the riser card. 2. Exchange the planar into which the adapter is plugged.
64-port async controller or 16-port async concentrator	<p>Check or exchange the following:</p> <ol style="list-style-type: none"> 1. Check the power to the 16-port concentrator. To check the power, unplug the external power cable from the outlet; then plug it in again while watching the status light. The status light should blink as the concentrator runs the power-on tests. If the status light does not blink, check or exchange the external power cable, the transformer, or the 16-port concentrator. 2. Exchange the 64-port controller or the 16-port concentrator. 3. Check or exchange the cable between the controller and the concentrator. 4. If the 64-port controller is one of the FRUs called out by the SRN, exchange the planar into which the controller is plugged.

Table 4-1 (Page 2 of 3).

Failing Resource	Repair Actions
128-port async controller or 16-port remote async node	<p>Check or exchange the following:</p> <ol style="list-style-type: none"> 1. Check the power to the 16-port remote async node. To check the power, observe the remote async node front panel; the status indicators and two-digit display should be illuminated. If they are not illuminated, check or exchange the external power cable, power supply or 16-port remote async node. 2. Exchange the 128-port controller or the 16-port remote async node. 3. Check or exchange the controller line cabling to which the 16-port remote async node is attached. 4. If the 128-port controller is one of the FRUs called out by the SRN, exchange the planar into which the controller is plugged.
Other I/O and communication adapters	<p>Determine whether the adapter contains any attached FRUs such as fuses, DRAMs, and cross-over cables.</p> <p>Note: To check for other FRUs, find the resource in Chapter 24, "FRU Cross-References" on page 24-1; then go to the failing function code listed.</p> <ol style="list-style-type: none"> 1. Check or exchange any attached FRU on the resource. 2. If the adapter is plugged into a planar via a riser card, check or exchange the riser card. 3. Exchange the planar into which the adapter is plugged.
Display adapter that has only one card	<p>Exchange the planar into which the adapter is plugged. If the adapter is plugged into a planar via a riser card, exchange the riser card first.</p>
Color graphics base card (MGE2)	<p>Exchange the following:</p> <ol style="list-style-type: none"> 1. Color graphics video card (MRV2) 2. The planar or system planar the base card is plugged into.
Color graphics video card (MRV2)	<p>Exchange the following:</p> <ol style="list-style-type: none"> 1. 8-bit color graphics card (MDE1) or the 24-bit color graphics card (MEV2) 2. If present, 24-bit Z-buffer option (MZB1) 3. Color graphics base card (MGE2) 4. Crossover cables between the base card and video card.

Table 4-1 (Page 3 of 3).

Failing Resource	Repair Actions
8-bit color graphics card (MDE1) 24-bit color graphics card (MEV2) 24-bit Z-buffer option (MZB1)	Exchange the following: <ol style="list-style-type: none"> 1. 8-bit color graphics card (MDE1) or the 24-bit color graphics card (MEV2). 2. If present, 24-bit Z-buffer option (MZB1). 3. Color graphics video card (MRV2).
The device is a SCSI device and there is more than one device attached to this SCSI controller.	Determine and record the addresses of all of the devices attached to this SCSI controller (both internal and external). Go to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1.
Standard I/O planar	Perform the following: <ol style="list-style-type: none"> 1. Test the fuse, if present, on the standard I/O planar; replace if faulty. 2. Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
System planar	Check or exchange the following: <ol style="list-style-type: none"> 1. Any fuses on the system planar 2. The CPU card (if applicable). 3. Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer or enclosure.
I/O planar or combination planar	Perform the following: <ol style="list-style-type: none"> 1. Test the fuse, if present, on the standard I/O planar; replace if faulty. 2. Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
Other FRUs	Check the Service Hints service aid for applicable information updates. If the Service Hints service aid does not help, call your support person.

Step 0030-10

Check the system for loose cards, cables, and obvious problems. If you do not find a problem, check the Service Hints service aid in Chapter 1, "Maintenance Analysis Procedures (MAPs)" on page 1-1 for applicable information updates. If the Service Hints service aid does not help, call your support person.

Step 0030-11

The SRN identified a device as the failing resource and the previous MAPs have not corrected the problem. Use the following information to isolate the problem.

Consider each of the following actions; then do each action that applies to your resource. Do the actions in the order listed.

Note: The FRU Name Cross-Reference List in Chapter 24, "FRU Cross-References" on page 24-1 can be used to find the FFC for adapters or devices. Once the FFC is obtained, use the Failing Function Code list in Chapter 23, "Failing Function Codes (FFCs)" on page 23-1 to determine the physical location of an adapter.

Considerations	Repair Actions
The adapter or controller for the device has a fuse on it. (Check the description column for the adapter or controller in the "Failing Function Code List" in Chapter 23, "Failing Function Codes (FFCs)" on page 23-1.)	Check the fuse. If you exchange the fuse, test the resource again.
The device is a SCSI device, and there is more than one device attached to this SCSI controller.	Determine and record the addresses of all the devices (both internal and external) attached to this SCSI controller. Go to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1. If addresses are changed, test the device again.
The device is a SCSI device, and there is more than one device attached to this SCSI controller. You have already checked the addresses.	Use the SCSI Bus service aid described in Chapter 28, "Introduction to Tasks and Service Aids" on page 28-1 of this manual to isolate the problem to a cable, the device, or the terminator. If you are unable to fix the problem, check the Service Hints service aid for applicable information updates. If the Service Hints service aid does not help, call your support person.
Determine the adapter or controller to which the failing device is attached.	Exchange the adapter or controller for the failing device.
The device or the enclosure that the device is located in is attached to the adapter or controller by a single cable.	If there is a terminator or other device on the cable, check or exchange it also.
The resource is a mouse, keyboard, tablet, or standard I/O planar.	Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.

Step 0030-12

The SRN identified a SCSI controller as the failing resource and the previous MAPs have not corrected the problem. Use the following information to isolate the problem.

Note: 1. For detailed information regarding SCSI controller fuse or PTC problems, refer to Service Hints in Chapter 1, "Maintenance Analysis Procedures (MAPs)" on page 1-1.

2. The FRU Name Cross-Reference List in Chapter 24, "FRU Cross-References" on page 24-1 can be used to find the FFC for adapters or devices. Once the FFC is obtained, use the Failing Function Code list in Chapter 23, "Failing Function Codes (FFCs)" on page 23-1 to determine the physical location of an adapter.

Consider each of the following actions; then do each action that applies to your resource. Do the actions in the order listed.

Considerations	Repair Actions
The SCSI controller has a fuse on the card.	Check the fuse. If you exchange the fuse, test the resource again.
The SCSI controller has a card-mounted thermal fuse which does not reset.	A device attached to the SCSI bus or a defective cable may be causing the thermal fuse to open. Remove all devices on the external SCSI bus, one at a time, until the failure no longer occurs. If all devices have been removed and the failure still occurs, suspect the cable.
Only one device is attached to the SCSI controller	Exchange the device. Test the resource again.
There is only one cable between the SCSI controller and a device, and that device is called as one of the FRUs.	Check or exchange the SCSI controller cable. Also check or exchange the terminator. Test the resource again.
There is more than one device attached to this SCSI controller. You have already checked the addresses.	Use the SCSI Bus service aid described in Chapter 28, "Introduction to Tasks and Service Aids" on page 28-1 of this book to isolate the problem to a cable, the device, or the terminator. Note: If you cannot use the SCSI Bus service aid, proceed to the next applicable action.
You have tried the above actions.	Go to MAP 1540 in either the service guide or installation and service guide for this system unit, drawer, or enclosure.

Chapter 5. MAP 0040: Intermittent Problem Isolation

Purpose of This MAP

This MAP provides a structured way of analyzing intermittent problems, it is divided into two tables, the hardware symptoms and the software symptoms.

Since intermittent problems can be caused by software or hardware, you should consider all of the symptoms that may apply to your problem.

How to Use This MAP

This MAP contains information about causes of intermittent symptoms. In the table on the following pages, look at the symptoms that relate to the problem you are checking, and read the list of things to check.

When you exchange a FRU, go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1 to check out the system.

Hardware Symptoms

Symptom of Hardware Problem	Things to Check For
Any hardware log entry in the error log.	Use the Hardware Error Report service aid to view the error log, and check for: <ul style="list-style-type: none">• Multiple errors on devices attached to one SCSI bus.• Multiple errors on diskette drives; they are driven from the standard I/O planar.• Multiple errors on devices attached to one async adapter.• Multiple errors on internally installed devices only. Contact your service support structure for assistance with error report interpretation.
Hardware-caused system crashes	<ul style="list-style-type: none">• The connections on the CPU planar or CPU card• Memory cards and SIMMs for correct connections• Connections to the I/O planar or system planar• The environment for a too high or low operating temperature.

Symptom of Hardware Problem	Things to Check For
System unit powers Off a few seconds after powering On.	<ul style="list-style-type: none"> • Whether or not the problem occurs immediately after applying power. • Fan speed. Some of the fans contain a speed-sensing circuit. If one of these fans does not turn at full speed, the power supply powers the system unit Off. • Correct voltage at the outlet into which the system unit is plugged. • Loose power cables and fan connectors, both internal and external.
System unit powers Off after running for more than a few seconds.	<ul style="list-style-type: none"> • Excessive temperature in the power supply area; the system power supply contains a temperature sensor. • Properly installed heat baffles. The system has heat baffles installed to control the air flow over the memory cards. • Loose cable connectors on the power distribution cables. • Fans turning at full speed after the system power has been on for more than a few seconds.
Only internally installed devices are failing.	<p>Check the following items that are common to more than one device:</p> <ul style="list-style-type: none"> • Ground connections on all of the disk drives and other types of drives installed. • Loose connections on the power cables to the planars, drives, fans, and battery. • System unit cooling. Is the input air within limits? Are all the fans running at full speed? Are any of the vent areas blocked? • Signal cables to the diskette drives, the power supply, and the operator panel. • SCSI device signal cables for loose connectors and terminators. • Terminators for any 857MB disk drives must be removed. See <i>Adapters, Devices, and Cable Information</i> for drive information. • Loose SCSI device address jumpers. • Possible contamination of any device that has a cleaning procedure. See the operator guide for cleaning instructions. • Excessive static electricity. • Correct voltage at the system unit power outlet

Symptom of Hardware Problem	Things to Check For
Only externally attached devices are failing.	<p>Check the following items that are common to more than one device:</p> <ul style="list-style-type: none"> • Check for loose connectors and terminators on SCSI to device signal cables. • Terminators must be removed from any 857MB disk drives that are installed in a device. Refer to <i>Adapters, Devices, and Cable Information</i> for drive information. • Check for loose jumpers on devices that use jumpers to set the SCSI address. • Check any device that has a cleaning procedure for contamination. Refer to the operator guide for cleaning instructions. • Check for excessive static electricity. • Check the device power outlet for proper voltage. • Check the error log entries for the adapter driving the failing devices. • Check the temperature of the devices. Are the cooling vents blocked? Are fans running? • Check for other devices near the failing device that may be radiating noise (displays, printers, and such).

Software Symptoms

Symptom of Software Problem	Things to Check For
Any symptom you suspect is related to software.	<p>Use the symptom index in Chapter 2 of the <i>Problem Solving Guide and Reference</i> to analyze software problems.</p> <p>Be sure to check RETAIN for known problems with your type of system unit or software.</p>
Hardware-caused system crashes.	<p>Check the following hardware items:</p> <ul style="list-style-type: none"> • Check the connections on CPU planar or CPU card. • Check the memory cards and SIMMs for correct connections. • Check the connections to the I/O planar or system planar. • Check the environment for too high or low operating temperature. • Is a display, keyboard, mouse, or tablet connector loose? • Are the display operator controls (brightness, contrast, volume) set correctly?

Symptom of Software Problem	Things to Check For
Software-caused system crashes.	<p>Check the following software items:</p> <ul style="list-style-type: none"> • Is the problem only with one application program? • Is the problem only with one device? • Does the problem occur on a recently installed program? • Was the program recently patched or modified in any way? • Is the problem associated with any communication lines? • Check for static discharge occurring at the time of the failure.

Chapter 6. MAP 0050: SCSI Problems Isolation Procedure

Purpose of This MAP

This MAP is intended to be used as a pointer. Use it after determining whether the SCSI adapter in question is single-ended or differential-ended. This MAP also gives the procedure for the testing of PTC and fuses on SCSI adapters.

Step 0050-1

If you have an SRN indicating a defective SCSI adapter, find the adapter in the following table and do the action listed. Otherwise, go to step 2.

Description	Action
SCSI-1 Single-Ended High Performance I/O Controller (Type 4-1)	Go to "Step 0050-5" on page 6-4
SCSI-2 Single-Ended High Performance I/O Controller (Type 4-4) and SCSI-1 Integrated Controller (Found on models 7012/340 through 375, 7013/550L, 570 through 59H, and 7015/R10 through R24)	Go to "Step 0050-6" on page 6-6
SCSI-2 Differential High Performance I/O Controller (Type 4-4)	Go to "SCSI-2 Differential Controller PTC Failure Isolation" on page 6-12
SCSI-2 Fast/Wide Adapter (Type 4-7)	Go to Chapter 7, "MAP 0051: SCSI-2 Fast/Wide Adapter/A Problem Isolation Procedure" on page 7-1.
SCSI-2 Differential Fast/Wide Adapter Problems (Type 4-6)	Go to Chapter 8, "MAP 0052: SCSI-2 and SCSI-2 Enhanced Differential Fast/Wide Adapter/A Problem Isolation Procedure" on page 8-1.
Enhanced SCSI-2 Differential Fast/Wide Adapter Problems (Type 4-C)	Go to Chapter 8, "MAP 0052: SCSI-2 and SCSI-2 Enhanced Differential Fast/Wide Adapter/A Problem Isolation Procedure" on page 8-1.
Integrated SCSI Fast/Wide Controller (Found on models 7012/380 through 39H and 7030/3AT/3BT/3CT)	Go to Chapter 7, "MAP 0051: SCSI-2 Fast/Wide Adapter/A Problem Isolation Procedure" on page 7-1.

Step 0050-2

System Hangs on LED 292

If your system hangs on LED 292 follow this procedure, otherwise, continue to "Step 0050-3" on page 6-3

The LED 292 appears during the SCSI, SSA, Serial, or other bootable adapter's POST. At this time the IPL ROS test routine starts the POST test sequence on each SCSI, SSA, Serial or bootable adapter and/or integrated controller in the system. If there is a configuration problem that prevents the adapter from completing its POST, or if there is another problem with an adapter or with the system I/O planar, the IPL process will not proceed and the system will hang with the LED 292 display. The following procedure will help you determine the source of the problem.

Note: The procedure is written for SCSI problems, but can be used to help determine SSA, Serial, or other bootable adapter problems.

1. Disconnect the SCSI bus from one adapter at a time by removing the SCSI cable attached to the adapter. Power on the system, if the IPL is successful, the failure is on the bus. Probable causes are loose or damaged cables, loose or defective terminators, defective devices, or a differential device on a single-ended bus.
 - If the adapter/controller is SCSI-1, SCSI-2, or SCSI-2 Fast, you must attach the appropriate terminator to the adapter's connector after removing the cable. Refer to the "Terminator Tables" on page 6-8 for the appropriate part numbers.
 - If the adapter/controller is SCSI-2 Fast/Wide (SE, DE, or Enhanced DE) there is no need to attach a terminator to the connector after removing the SCSI cable, unless the adapter is being used in a HA configuration.
2. If the 292 hang does not go away and you have disconnected all of the SCSI cables, suspect a bad adapter or I/O planar component. Remove all installed adapters one at a time, rebooting after each adapter has been removed. If a faulty component is found, then replace the component and go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1. If the problem still persists, suspect a system I/O planar problem and contact your service support structure for assistance.
 - If you have multiple SCSI adapters, you will notice that the LED 292 display will flash briefly in the interval between testing each adapter. By counting the number of times the 292 display flashes, you can determine which adapter is causing the problem. If a faulty adapter card is found, then replace the card and go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
 - If your system has the SCSI-2 F/W adapters installed, there will be a small orange LED on the top of the adapter card that will stay lit from the time that the system unit's power has been turned on until after the POST has completed. If your system has several of these adapters, and some do not have the LED lit while others do have the LED lit, suspect the adapter with the LED lit in the lowest card slot as being bad. If a faulty component is found, then replace the component and go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

- Once you have removed the failing adapter, your system still will not successfully IPL until the hardfiles containing the rootvg are reattached. You will, however, pass the LED 292 phase, hanging instead at 223 - 229. At this time you can reattach the SCSI cables and the system should then IPL.
 - If a faulty component is found, then replace the component and go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
-

Step 0050-3

If the system error log contains SCSI errors but diagnostics does not detect any problem do the following:

1. Verify that all SCSI devices on the SCSI bus have a unique address.
 2. Verify that all cables are connected securely and that there is proper termination at both ends of the SCSI bus.
 3. Verify that the cabling configuration does not exceed the maximum cable length for the adapter in use. Refer to *Adapters, Devices and Cabling Information for Micro Channel Bus Systems* for more details on SCSI cabling.
 4. Verify that the adapters and devices which you are working with are at the appropriate microcode levels for the customer situation. Contact your service support if you need assistance with microcode issues.
 5. If there are multiple SCSI adapters on the SCSI bus, verify that the customer is using the appropriate software (such as HACMP, or HA-NFS) to support such an arrangement. If the proper software is not in use, some SCSI errors should be expected when multiple adapters attempt to access the same SCSI device. Also, each adapter should have a unique address. Go to the next step for further problem determination.
-

Step 0050-4

If you have a high-availability configuration, or if more than one system is attached to the same SCSI bus, do the following:

1. Verify that the adapters and devices have unique SCSI addresses. The default SCSI adapter address is always 7. If you have more than one adapter on the bus you will need to change the address of at least one adapter. This can be done by using SMIT (SMIT Devices, SCSI Adapter, Change/Show characteristics of an adapter). You must make the changes to the database only, then reboot the system in order for the change to take effect.
Note: Diagnostics defaults to using ID 7 (it is recommended that this ID not be used in HA configurations).
2. If RAID devices such as the 7135 or 7137 are attached, be sure to run the proper diagnostics for the device. If problems occur, contact your service support structure for assistance. Improper execution of the diagnostics on these devices can result in misleading SRNs.
3. Diagnostics can not be run against OEM devices; to do so will result in misleading SRNs.
4. Verify that all cables are connected securely and that there is proper termination at both ends of the SCSI bus.

5. Verify that the cabling configuration does not exceed the maximum cable length for the adapter in use. Refer to *Adapters, Devices and Cabling Information for Micro Channel Bus Systems* for more details on SCSI cabling issues.
6. Verify that adapter and devices are at the appropriate microcode levels for the customer situation. Contact your service support structure if you need assistance with microcode issues.

Step 0050-5

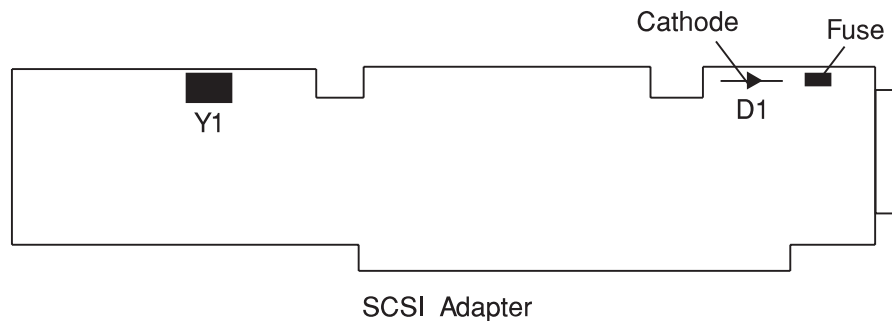
SCSI-1 Adapter Fuse Blowing

Before replacing a suspected defective SCSI-1 adapter, check the fuse mounted on the adapter. This fuse protects the internal and external SCSI buses. The fuse can be blown by a cable, terminator or any device attached to the SCSI bus, but *not* by a defective SCSI-1 adapter. Do not replace the SCSI-1 adapter because of a blown fuse.

Isolate the blown-fuse problem with the following procedure:

Important: Ensure that system power and all externally attached device power is turned Off. All testing will be accomplished with the power Off.

1. With the SCSI-1 adapter still installed in the system unit, remove and check the fuse using a digital Ohmmeter. If blown, install a new fuse, and continue.
2. Locate diode D1 and oscillator Y1, and complete the following substeps:
 - Connect the positive (+) Ohmmeter lead to the cathode of D1 (the end nearest the fuse).
 - Connect the negative (-) Ohmmeter lead to the can of Y1.



3. If both terminators are installed on the ends of the SCSI bus, resistance indicate between 12 and 28 Ohms.
- If resistance is between 12 and 28 Ohms, there is no apparent cause for blown fuse.
 - If resistance is greater than 28 Ohms, one of the bus-end terminators is missing and should be replaced; a missing terminator will cause SCSI problems.
 - If the resistance is less than 12 Ohms, troubleshoot the system by disconnecting cables, terminators, and devices attached to the SCSI bus until the cause of the low resistance is found.

Note: Missing terminators will affect the resistance reading. A disconnected external terminator will produce a resistance reading between 28 and 37 Ohms; if both terminators are disconnected, the resistance reading should be greater than 1K Ohms.

Note: With only the external terminator attached, resistance readings could vary from 28 Ohms to 1.8K Ohms, this is due to the different resistance characteristics of FPT terminators.

Generally, FPT-18 terminators have the highest resistance, followed by F terminators; non-FPT terminators have the least resistance.

Probable Blown Fuse Causes:

- More than two terminators on the bus.
- A shorted terminator or cable.
- Intermittent fuse blowing may be due to a shorted cable or improperly seated cable connector. Replace the fuse, reseal the connector, and flex the cable in an attempt to duplicate the fuse failure.
- A shorted SCSI device.
- An internal terminator installed on a SCSI device.
- Hot-plugging SCSI cables *will* blow the fuse.

Step 0050-6

PTC Tripping (SCSI-2 SE Controller, Integrated SCSI on 7012/340 thru 375, 7013/550L, 570 thru 59H, 7015/R10 thru R24)

Before replacing a suspected defective SCSI-2 single-ended controller, I/O planar with integrated SCSI or SCSI riser card, check the positive temperature coefficient (PTC) resistor mounted on the controller, I/O planar or SCSI bus extension card (riser card).

Note: The term *controller* as used in this section, refers to SCSI adapter circuitry, whether as a standalone adapter (SCSI-2), integrated with the I/O planar (7013/580), or split between the I/O planar and the SCSI riser card (7012/340/350).

The PTC protects the internal and external SCSI busses. The PTC can be tripped by a cable, terminator or any device attached to the SCSI bus, but *not* by a defective SCSI controller. Do not replace the SCSI controller because of a tripped PTC.

A SCSI bus short between terminator power and ground increases current flow through the PTC. The increased current flow generates heat and causes the PTC resistance to increase, thereby limiting the short circuit current. The PTC automatically returns to a low resistance state (resets) within five minutes after the short is removed from the SCSI bus, and the system is powered Off.

Symptoms of a Tripped PTC

During system operation a tripped PTC will cause all devices on the SCSI bus to be inaccessible; if the tripped PTC is on the system SCSI bus, a system hang may result. For the SCSI single-ended controller follow this procedure if diagnostic testing indicates SRN's 866-130, 866-131, 866-191 or 866-211. If the PTC trips during system power-up, a hang at LED code 223 or 233 (normal mode) or LED code 243 or 253 (service mode) will result.

Although PTC tripping may appear to be a controller problem, *defective controller circuitry cannot trip the PTC.*

Probable Causes of a Tripped PTC:

- Attaching differential devices or terminators to the single-ended bus. Differential IBM devices, cables, terminators and adapters are marked Differential SCSI at or near their connectors. The single-ended SCSI bus will not operate until the differential device or terminator is removed.
- More than two terminators on the SCSI bus, including inadvertent installation of an internal terminator on a SCSI device.

Note: For high availability configurations, the presence of a card edge terminator on a SCSI controller which is also connected to passthrough terminator cable, FRU 51G8568, results in more than two terminators on the SCSI bus. Remove the card edge terminator, and install the two-piece P3 jumper on the left row of pins (B side) so that the A and B jumper pin rows are disconnected (refer to the SCSI-2 single-ended Type 4-4 controller section of *Adapters, Devices, and Cable Information*).

- A shorted terminator or SCSI device is on the SCSI bus.
- A shorted cable or improperly seated cable connector is often signified by intermittent shorts and PTC resets. Reseat the connector, and flex the cable in an attempt to

duplicate the PTC failure. If cable flexing causes the PTC to trip, replace the cable. Note that the PTC will not reset within five minutes if the system power remains On.

- A bent pin on the SCSI-2 controller-to-external device cable connector.
- Hot-plugging SCSI cables. Connecting a new device to the SCSI bus while power is on may cause a one-time PTC trip event. Once the device is connected the short is gone. If you suspect this scenario, power down the system for five minutes, and re-IPL the system.

Attention: Hot-Plugging may also cause data integrity exposures or damage to CMOS SCSI controller devices.

PTC Problem Isolation

If the preceding probable causes do not solve the tripped PTC problem, isolate the probable cause with the following procedures:

Important: Ensure that the system power and all externally attached device power is turned Off. Perform all testing with power Off. Measure resistance with a digital voltmeter (DVM); analog meters may not have sufficient accuracy. Test point locations are illustrated on following pages.

With the SCSI-2 controller still installed in the system unit, verify that the PTC is cool (wait for five minutes). Verify that both terminators are installed, locate test points, and measure the resistance.

Note: Test points and measured resistances vary, depending on the type of controller; refer to the table of resistances (categorized as: high, good, or low) and to location diagrams on following pages.

- **Good Resistance Range:** A normally functioning SCSI bus, with a terminator on each end (note that the 7012/340 through 375 have a built-in terminator on the SCSI riser card, and that the 7013/550L, 570 through 59H and 7015/R10 through R24 have a built-in terminator on the I/O planar) should provide a "good" reading, and there is no apparent cause for PTC tripping. Either the problem does not exist anymore or the PTC was not involved.
- **High Resistance Range:** One or more terminators are either the incorrect part number, are defective or are missing. Refer to SCSI Terminator tables beginning on 6-8 for correct part numbers. Generally, FPT-18 terminators have the highest resistance, followed by FPT-3 terminators, and then by non-FPT terminators which have the least resistance. Install any missing terminators, and recheck the resistance. If the resistance is still in the high range, replace one terminator at a time, checking for a reading of good resistance after each replacement.

Notes:

1. For integrated SCSI circuits, the internal terminator is on the SCSI riser card or I/O planar, and these larger components may have to be replaced if they were a terminator.
 2. For internal SCSI cables, the terminator is usually permanently attached.
- **Low Resistance Range:** Troubleshoot the system by disconnecting cables, terminators and devices (including internal disk drives) attached to the SCSI bus until the cause of the low resistance is evidenced by a resistance reading of good.

<i>Table 6-1.</i>			
SCSI-2 Single-Ended Controller Type	Resistance Ranges(Ohms)		
	Low	Good	High
SCSI-2 Controller (Type 4-4)	0-16	16-38	38+
SCSI-2 Controller (Type 4-4) with 9334/010 subsystem	0-15	15-25	25+
7012/340 through 375	0-12	12-28	28+
7013/550L, 570 through 59H	0-12	12-30	30+
7015/R10 through R24	0-12	12-30	30+

Terminator Tables

<i>Table 6-2. Card Edge (Internal)</i>			
FRU Part Number	Terminator Type	Connector Type	Comments
70F9900	Non-FPT	Card-Edge 50-Pin	4-1 only
00G0972	FPT-3	Card-Edge 50-Pin	4-1, 4-4

<i>Table 6-3. Card (External)</i>			
FRU Part Number	Terminator Type	Connector Type	Comments
15F6743	Non-FPT	60-Pin	4-1 only
00G2223	FPT-3	50-Pin High-Density	4-4, SCSI-1 and SCSI-2 Internal Controller
43G0378	FPT-18	50-Pin High-Density	4-4, SCSI-1 and SCSI-2 Internal Controller
51G7737	FPT-18+	50-Pin High-Density	4-4, SCSI-1 and SCSI-2 Internal Controller
52G4259	FPT-18C	50-Pin High-Density	4-4, SCSI-1 and SCSI-2 Internal Controller

<i>Table 6-4. Cable (Single-Ended)</i>			
FRU Part Number	Terminator Type	Connector Type	Comments
70F9671	Non-FPT	50-Pin Low-Density	8-bit
00G0968	FPT-3	50-Pin Low-Density	8-bit
43G0467	FPT-18	50-Pin Low-Density	8-bit
51G7736	FPT-18+	50-Pin Low-Density	8-bit
52G4260	FPT-18C	50-Pin Low-Density	8-bit
92F0432	Boulay	68-Pin High-Density	16-bit

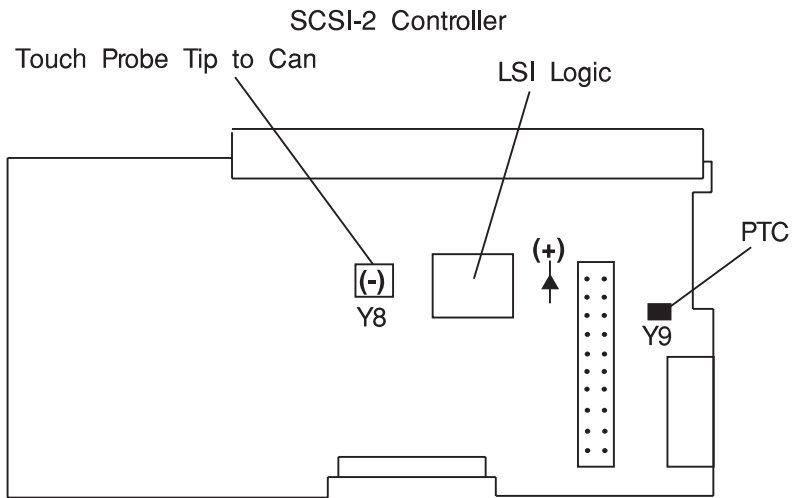
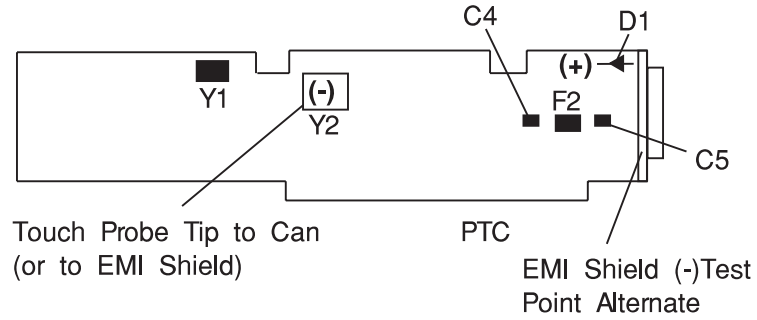
<i>Table 6-5. Cable (Differential)</i>		
FRU Part Number	Connector Type	Comments
79X3795	50-Pin Low-Density	8-bit
87G1356	50-Pin Low-Density	8-bit
52G7350	50-Pin High-Density	8-bit
61G8324	68-Pin High-Density	16-bit

SCSI Test Point Locations

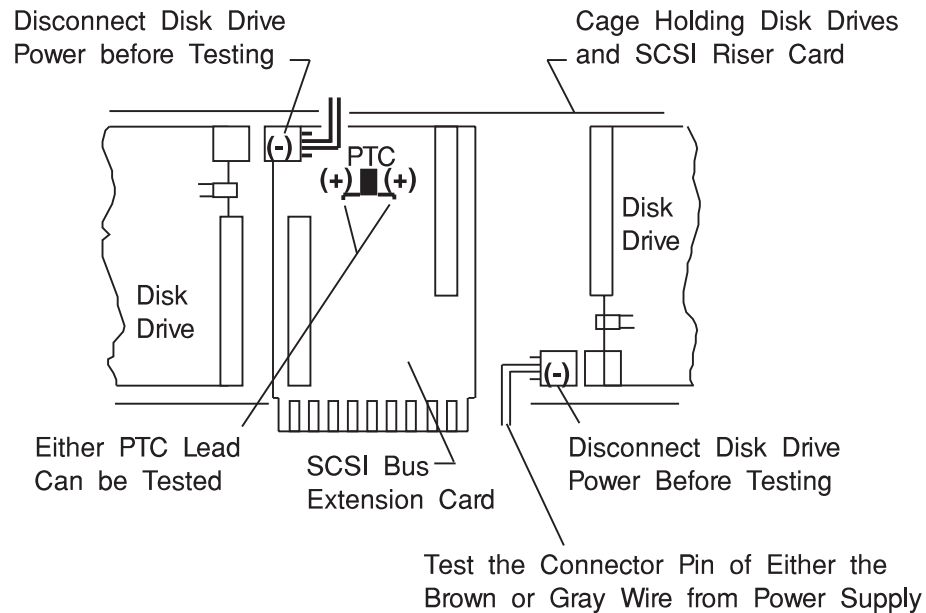
The following illustrations show SCSI bus resistance test point locations for various SCSI controller circuitry. The test points are labeled (+) and (-). For oscillators Y2 and Y8, touch the probe tip to the oscillator can.

Notes:

1. Some controllers may have a surface mount oscillator Y2 which requires that the EMI shield be used as the (-) test point.
2. For the 7015/R24 use the PTC labeled Y2 for (+) and oscillator Y1 for (-) test points.



7013/570 through 59H I/O Planar,
7015/R10, R20 I/O Planar



7012/340 Through 375 and
7013/550 L (Integrated SCSI)

Integrated SCSI Fuse Blowing (7012/340 through 375, 7013/550L)

Before replacing an I/O slot planar because of suspected internal SCSI circuitry, check the fuse mounted on the SCSI bus extension card. This fuse can be blown by a cable, *terminator* or any device attached to the SCSI bus, but *not* a defective internal SCSI circuitry. Do *not* not replace the I/O slot planar because of a blown fuse unless it has been determined that the planar has shorted.

Isolate the blown-fuse problem with the following procedure:

Important: Ensure that system power and all externally attached device power is turned Off. All testing will be accomplished with power Off.

1. Remove the disk drive cage assembly for easier access to fuse F1 on the SCSI bus extension card (the riser card between the two SCSI disk drives).
2. Remove and check fuse F1 using a digital Ohmmeter. If blown, install a new fuse, and continue.
3. Reinstall the disk drive cage assembly into the system, but do *not* connect the disk drive power connectors P3 or P4 (male connectors with female pins).
4. Using either power connector P3 or P4, complete the following procedure:
 - Connect the positive (+) Ohmmeter lead to either end of fuse F1.
 - Connect the negative (-) Ohmmeter lead to either of the two middle pins of the power connector (brown and gray wires).
5. If a terminator is installed on the external portion of the SCSI bus, resistance should indicate between 12 and 28 Ohms.
 - If resistance is between 12 and 28 Ohms, there is no apparent cause for the blown fuse.
 - If resistance is greater than 28 Ohms but less than 1.6K Ohms, the external bus-end terminator is missing or the SCSI bus extension card is defective.
 - a. Replace the missing external bus-end terminator, and recheck the resistance.

- b. If the resistance is not between 12 and 28 Ohms, replace the SCSI bus extension card.
- If the resistance is less than 12 Ohms, troubleshoot the system by disconnecting cables, terminators, and devices (including internal disk drives) attached to the SCSI bus until the cause of the low resistance is found. The cause of the short will be evident when the resistance rises to 12 Ohms or greater. If the short still cannot be located, replace the SCSI bus extension card and the I/O slot planar, in that order.
- If the resistance is greater than 1.8K Ohms, the external bus-end terminator is missing, and the SCSI bus extension card is defective; replace both.

Note: The internal portion of the SCSI bus is terminated by the SCSI bus extension card.

Probable Blown Fuse Causes:

- More than two terminators on the bus.
- A shorted terminator or cable.
- Intermittent fuse blowing may be due to a shorted cable or improperly seated cable connector. Replace the fuse, reseal the connector, and flex the cable in an attempt to duplicate the fuse failure.
- A shorted SCSI device.
- An internal terminator installed on a SCSI device.
- Hot-plugging SCSI cables *will* blow the fuse.

Step 0050-7

SCSI-2 Differential Controller PTC Failure Isolation

Use the following procedures if diagnostic testing indicates SRNs 889-191 or 889-211.

Before replacing a suspected defective SCSI-2 differential controller, check the positive temperature coefficient (PTC) resistor mounted on the controller. The PTC protects the external SCSI bus. The PTC can be tripped by a cable, terminator or any device attached to the SCSI-2 differential bus, but *not* a defective SCSI-2 controller. Do not replace the SCSI-2 controller because of a tripped PTC.

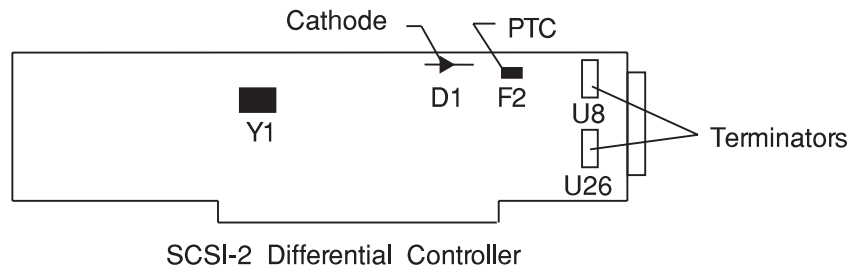
A fault causes an increase in PTC resistance, and the resultant heat trips the protective device. The PTC automatically returns to a low resistance when the fault is removed from the SCSI bus, and the system is powered Off. 15 minutes is usually sufficient time for the device to fully reset.

Isolate the tripped PTC problem with the following procedure:

ATTENTION: Ensure that system power and all externally attached device power is turned Off. All testing will be accomplished with power Off.

1. With the SCSI-2 differential controller still installed in the system unit (except in Model 7015 machine types where, because of inaccessibility, the controller should be removed and remain attached to the external cable) verify that the PTC is cool and is in a low resistance state (500 milliohms or less) by checking with a digital Ohmmeter. If necessary, allow 5 minutes for PTC cooling.
2. Locate diode D1 and oscillator Y1, and complete the following substeps:

- Connect the positive (+) Ohmmeter lead to the cathode of D1 (the end nearest the PTC).
- Connect the negative (-) Ohmmeter lead to the can of Y1.



1. If all differential terminators (U8 and U26 mounted on the controller, and the terminator at the last device on the bus) are installed, resistance should indicate between 19 and 25 Ohms.
 - If resistance is between 19 and 25 Ohms, there is no apparent cause for the tripped PTC.
 - If resistance is greater than 25 Ohms, one of the bus-end terminators is missing and should be replaced; a missing terminator will cause SCSI problems.
 - If the resistance is less than 19 Ohms, troubleshoot the system by disconnecting cables, terminators, and devices attached to the SCSI bus until the cause on the low resistance is found.

Notes: Missing terminators will affect the resistance reading as follows:

- A disconnected external terminator (part number 79X3795 for the 9334 expansion unit) will produce a resistance reading between 40 and 48 Ohms.
 - If both on-card terminators U8 and U26 (42G3326) and the external terminator are disconnected, the resistance reading should be greater than 4K Ohms.
 - If the on-card terminators U8 and U26 (42G3326) are disconnected and the external differential terminator (79X3795) is connected, the resistance reading should be between 40 and 48 Ohms.
1. For increased availability configurations, ensure that the on-card terminators (U8 and U26) are removed and that the SCSI-2 differential terminator (52G7359) is plugged into the SCSI-2 differential Y cable.

Probable Tripped PTC Causes:

- More than two terminators on the bus.
- A shorted terminator or cable. Check for bent pins in the cable and terminator.
- Intermittent PTC tripping may be due to a shorted cable or improperly seated cable connector. Reseat the connector, and flex the cable in an attempt to duplicate the PTC failure.
- A shorted SCSI device.
- Missing on-card terminators U8 or U26 (42G3326). These terminators should only be removed for the increased availability configuration. The SCSI-2 differential terminator (52G7359) is plugged into the SCSI-2 differential Y cable in the increased availability configuration.
- Hot-plugging SCSI cables may trip the PTC.

Single-Ended Device: Differential Bus Prohibition

Before replacing a suspected SCSI-2 differential controller, ensure that all SCSI cables, terminators, and devices attached to the bus are differential. Non-OEM differential cables, adapters, terminators, and devices are marked Differential SCSI at or near the connector.

If single-ended SCSI devices are attached to a differential SCSI bus, the bus will not operate until the single-ended device is removed.

Probable Tripped PTC Causes:

- More than two terminators on the bus.
- A shorted terminator or cable.
- Intermittent PTC tripping may be due to a shorted cable or improperly seated cable connector. Reseat the connector, and flex the cable in an attempt to duplicate the PTC tripping.
- A shorted SCSI device.
- An internal terminator installed on a SCSI device.
- Hot-plugging SCSI cables *will* trip the PTC.

Chapter 7. MAP 0051: SCSI-2 Fast/Wide Adapter/A Problem Isolation Procedure

Purpose of This MAP

This MAP is intended to be used for the single-ended version of the SCSI-2 Fast/Wide Adapter/A. Use it after diagnostics have been run on the adapter and further isolation is needed for appropriate FRU identification and replacement.

Note: This procedure can be applied to adapters configured with both internal and external devices.

Some implementation considerations are:

- The system will not allow concurrent diagnostics to be run on an adapter associated with a device in the root volume group (such as paging space). If the adapter being diagnosed is associated with the root volume group for the system, standalone diagnostics must be used in this procedure. Use the *SCSI Subsystem* diagnostic diskettes if supported on the system.
- The system must be powered OFF before performing any connecting and disconnecting of cables or devices to prevent any damage to hardware or erroneous diagnostic results.
- This procedure is also valid for embedded SCSI-2 Fast/Wide implementations. Replace the planar (or parent device) when the procedure calls for replacing the adapter.

The following steps should be followed for determining the defective FRU's in the SCSI system.

Step 0051-1

This step determines the error that led to this procedure.

Error Description	SRN	Action
Terminator power failure (PTC error)	890-106, 890-107, 890-160, 890-175, 890-180, 890-206, 890-207, 890-260, 890-275, 890-280, 890-306, 890-307, 890-360, 890-375, 890-380, 890-406, 890-407, 890-460, 890-475, 890-480	Go to "Step 0051-2."
SCSI bus error on external bus.	890-109, 890-190, 890-209, 890-290, 890-309, 890-390, 890-407, 890-490	Go to "Step 0051-3" on page 7-3.
SCSI bus error on internal bus.	890-108, 890-185, 890-208, 890-285, 890-308, 890-385, 890-408, 890-485	Go to "Step 0051-5" on page 7-4.
Any other SCSI error		Go to "Step 0051-8" on page 7-6.

Step 0051-2

This step determines the component causing the PTC failure.

If diagnostics indicated a terminator power failure (PTC error) then perform the following:

1. Turn the system off to allow PTC to cool (five minutes is recommended).
2. While waiting for the PTC to cool, check that SCSI cables and terminators on the failing buses are properly connected. Inspect for bent pins and obvious cable damage.
3. Rerun diagnostics for the adapter.
 - If this same error persists, refer to the SCSI-2 Fast/Wide PTC Problem Isolation Procedure beginning on 7-6
 - If no errors are indicated, the problem is intermittent, or was corrected by adjusting the cables.
If any damage was noted in cables or terminators, suspect that component as the source of intermittent problems.
4. If errors are still occurring and the PTC Isolation Procedure has been followed, continue isolating the problem and move onto "Step 0051-8" on page 7-6.

Step 0051-3

This step determines if an external device may be causing this failure.

Turn off the power to all external devices and rerun diagnostics for the adapter. (If there is an external cable attached, but no devices, go directly to “Step 0051-5” on page 7-4.)

- If diagnostics fails with the same error, go to “Step 0051-5” on page 7-4.
 - If no failures occurred, go to “Step 0051-4.”
 - If any other error occurred, follow the instructions for the SRN indicated.
-

Step 0051-4

This step determines if a particular device can be identified as the source of the problem.

Notes:

- If you arrived at this step as a result of getting SRN 890-X90, you have a problem on the SCSI bus that is preventing one of your SCSI devices from being detected and configured. If no changes have been made to the SCSI bus configuration, make sure the SCSI cabling attached to the missing resource is secure and that the device has power. Refer to the appropriate service guide for your SCSI device if you discover a power related problem.
- If changes have been made to the SCSI bus configuration, check for address conflicts between devices and for cabling problems, such as configurations that exceed maximum cabling lengths, missing termination, or excessive termination. Refer to the Adapters, Devices, and Cable Information manual for more details on supported SCSI cabling information.
- If the diagnostics fail to identify a failing component and all cabling and power connections are correct, replace the components in the following order:
 - a. Device
 - b. Cable
 - c. Adapter

If however, there is only one device on the bus and it is not configuring, suspect the cable, then the adapter before the device.

Turn on the external SCSI devices one at a time. After turning on each device, follow this procedure:

- Rerun diagnostics for the adapter.
- If there is any failure, the problem should be with the last device turned back on. Follow the problem determination procedure for that device. Replace the device if no problem determination procedure exists.
- If no errors occurred, the problem could be intermittent. Make a record of the problem. Running diagnostics for each of the devices on the bus may provide more information.
- After replacing any hardware, go to Chapter 19, “MAP 0410: Repair Checkout” on page 19-1.

Step 0051-5

Steps from this point on isolate the problem to the adapter, cables, or devices by bringing the system down to a minimum configuration and methodically building it back to the original configuration.

Notes:

- If you arrived at this step as a result of getting SRN 890-X85, you have a problem on the SCSI bus that is preventing one of your SCSI devices from being detected and configured. If no changes have been made to the SCSI bus configuration, make sure the SCSI cabling attached to the missing resource is secure and that the device has power. Refer to the appropriate service guide for your SCSI device if you discover a power related problem.
- If changes have been made to the SCSI bus configuration, check for address conflicts between devices and for cabling problems, such as configurations that exceed maximum cabling lengths, missing termination, or excessive termination. Refer to the Adapters, Devices, and Cable Information manual for more details on supported SCSI cabling information.
- If the diagnostics fail to identify a failing component and all cabling and power connections are correct, replace the components in the following order:
 - a. Device
 - b. Cable
 - c. Adapter

If however, there is only one device on the bus and it is not configuring, suspect the cable, then the adapter before the device.

Disconnect the SCSI cable from the adapter on the bus that is indicating the error. Rerun diagnostics for the adapter.

Reminder: No terminator needs to be attached to the open connector on the adapter for this step because the adapter has built-in terminators.

- Replace the adapter if there is a failure, then go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
- If no errors occurred, go to "Step 0051-6" on page 7-5.

Step 0051-6

This step continues to build up from a minimum configuration to determine if a cable, terminator, or device is the cause of the error. This step concentrates on the cable and terminator.

Reconnect the SCSI cable without any devices attached.

For the external bus, only attach the first section of cable. If the appropriate terminator is not available for the end of the cable, reconnect the SCSI cable with one device attached so that the bus can be properly terminated through the device connector. The device should be turned off.

Rerun diagnostics for the adapter.

- If there is a failure, replace components in the following order:
 - Cable
 - Terminator
 - Device (if attached)
- If no errors occurred, go to “Step 0051-7.”
- If any component is replaced, go to Chapter 19, “MAP 0410: Repair Checkout” on page 19-1.

Step 0051-7

This step determines whether a particular section of cable or a device may be causing a problem. This step differs from “Step 0051-4” on page 7-3 because, the devices are detached from the bus, not just turned off. Make sure all cables, terminators, and devices are reconnected before leaving this step.

Reconnect the SCSI devices one at a time, making sure that the bus remains appropriately terminated. (A new section of cable will be added with each device on an external bus). After connecting each device and turning it on, follow the procedure below:

- Rerun diagnostics.
- If there is any failure, the problem should be that device or cable. Replace the components in following order:
 - Cable
 - Device
- If no errors occurred, the problem could be intermittent. The problem is most likely cabling or a device. Contact the next level of support if this problem continues to occur.
- If any component is replaced, go to Chapter 19, “MAP 0410: Repair Checkout” on page 19-1.

This is the end of this part of the procedure. Go to “Step 0051-9” on page 7-6.

Step 0051-8

This step determines if the error is caused by the adapter.

Disconnect all cables, and rerun diagnostics for the adapter.

- If there is any failure, replace adapter.
- If no errors were indicated, reconnect the cable with the devices and rerun diagnostics.

Note: If there are both external and internal devices, then reconnect one bus at a time, starting with the internal bus. If the internal bus had no errors, then reconnect the external bus.

- If there is any failure, go to "Step 0051-6" on page 7-5.
 - If no failure occurs, there may be intermittent or transient errors. The problem is most likely the cabling or a device. If the problem continues contact next level of support.
-

Step 0051-9

This step finds out if there are operational errors that can be determined by actually transferring data on the SCSI bus.

Run the SCSI service aid to issue an inquiry command to a device on the bus. The command completion status returned by adapter will indicate if a failure occurred, and whether the failure was due to a device error. If a device error occurred, diagnostics for that device should be performed. If it fails with other errors, replace components in the following order:

- Cable
- Adapter
- Devices

Note: Run diagnostics after swapping each of the above components.

Proceed to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

SCSI-2 Fast/Wide PTC Problem Isolation Procedure

Use the following procedures if diagnostics testing indicates a potential temperature coefficient (PTC) resistor fault and you are diagnosing a single-ended adapter. The SRNs do not distinguish between the SCSI-2 Differential Fast/Wide Adapter/A or the SCSI-2 Fast/Wide Adapter/A.

Before replacing a SCSI-2 Fast/Wide Adapter/A, use these procedures to determine if a short-circuit condition exists on the SCSI Bus. There is one PTC for the internal SCSI bus and another for the external bus. The PTC protects the SCSI bus from high currents due to shorts on the cable, terminator, or device. It is unlikely that the PTC can be tripped by a defective adapter. Unless instructed to do so by these procedures, *do not* replace the adapter because of a tripped PTC resistor.

A fault (short-circuit) causes an increase in PTC resistance and temperature. The increase in resistance causes the PTC to halt current flow. The PTC returns to a low resistive and low temperature state when the fault is removed from the SCSI bus or when the system is turned off. Wait 5 minutes for the PTC resistor to fully cool, then reset.

These procedures determine if the PTC resistor is still tripped and then determines if there is a short somewhere on the SCSI bus.

Picking the Proper Procedure

For SRNs 890-160, 890-260, 890-360 and 890-460, follow the procedure for isolating the internal PTC and then follow the procedure for isolating the external bus PTC resistor.

For SRNs 890-106, 890-175, 890-206, 890-275, 890-306, 890-375, 890-406 and 890-475, follow the procedure for isolating the internal bus PTC resistor.

For SRNs 890-107, 890-180, 890-207, 890-280, 890-307, 890-380, 890-407 and 890-480, follow the procedure for isolating the external bus PTC resistor.

Internal Bus PTC Isolation Procedure

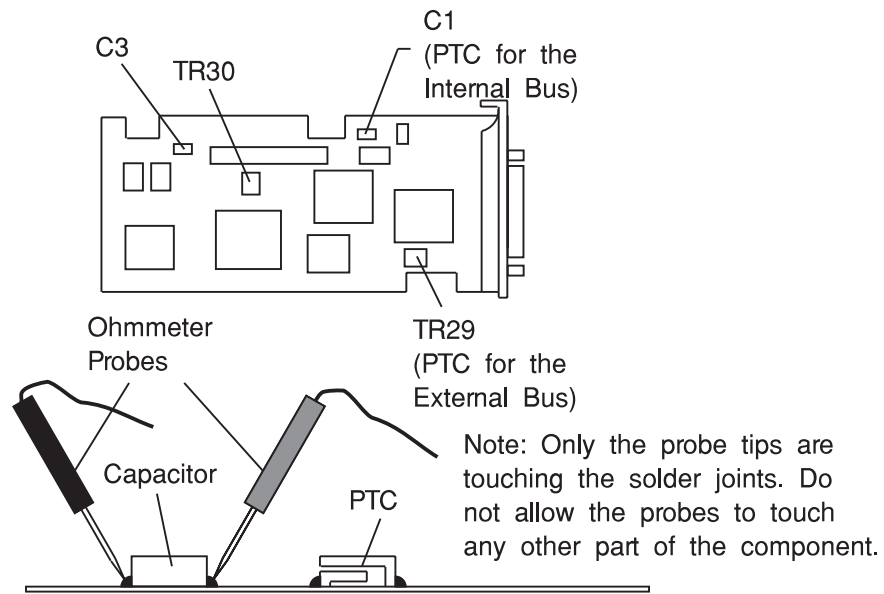
Isolate the internal SCSI bus PTC resistor fault with the following procedure.

Note: The internal bus is single-ended.

1. Ensure that system power and all externally attached device power is turned off.
2. Disconnect the internal and external cables from the adapter then remove the adapter from the system.
3. Verify with a digital Ohmmeter, that the internal PTC resistor, labeled TR30, is cool and in a low resistance state, typically less than 1/2 Ohm. Measuring across, be sure to probe both sides of the PTC where the solder joints a board come together. The polarity of the test leads is not important. If necessary, allow the PTC to cool and remeasure. Refer to 7-8

If there was no internal cable attached, diagnostics either sent you here in error or the adapter is shorted. The next step determines if there is a short on the adapter.

SCSI-2 Fast/Wide Adapter/A Test Locations



4. Locate capacitor C3 and measure the resistance across it using the following procedure:

- a. Connect the positive lead to the side of the capacitor where the + is indicated. Be sure to probe at the solder joint where the capacitor and board come together.
- b. Connect the negative lead to the opposite side of the capacitor. Be sure to probe at the solder joint where the capacitor and board come together.
- c. If there is no short present, the resistance reading will be high, typically hundreds of Ohms.

Note: This reading is a function of the Ohmmeter used and is not predictable.

- If there is a fault, the resistance reading is low, typically below 10 Ohms. Because there are no cables attached, the fault is on the adapter. The adapter should be replaced.
- If the resistance is high and there is no internal cable to reattach, there is no apparent cause for the PTC resistor diagnostic failure.
- If the resistance is high and there is an internal cable to reattach, proceed to the next step.

5. Reattach the internal cable to the adapter then:

- a. Remeasure across C3 as described above.
- b. If the resistance is still high, above 25 Ohms, there is no apparent cause for a PTC failure.
- c. If the resistance is less than 10 Ohms, there is a possibility of a fault the internal SCSI bus. Troubleshoot the internal SCSI bus by disconnecting devices and terminators. Measure across C3 to determine if the fault has been removed.

Note: Some internal cables have nonremovable terminators.

Probable Tripped PTC Resistor Causes

- A shorted terminator or cable. Check for bent pins on each connector and removable terminator.

- Intermittent PTC failures can be caused by improperly seated cable connectors. Reseat the connector and flex the cable in an attempt to duplicate the fault condition across C3.
- A shorted device.
- On some systems, the terminator is fixed to the internal cable and cannot be removed. If all devices are removed from the cable and the resistance is still low, then the cable should be replaced.

Note: The SCSI-2 Fast/Wide Adapter/A uses an onboard electronic terminator on the internal SCSI bus. When power is removed from the adapter, as in the case of this procedure, the terminator goes to a high impedance state and the resistance measured can not be verified, other than it will be high. Some internal terminators use an electronic terminator which also goes to a high impedance state when power is removed. Therefore, this procedure is designed to find a short or low resistance fault as opposed to the presence of a terminator or a missing terminator.

External Bus PTC Isolation Procedure

Isolate the external SCSI bus PTC fault with the following procedure.

Note: The external bus is of single-ended design.

1. Ensure the system power and all externally attached device power is turned off. All testing is accomplished with the power off.
2. Disconnect the internal and external cables from the adapter and remove the adapter from the system.
3. Verify with a digital Ohmmeter that the internal PTC resistor, labeled TR29, (refer to 7-8) is cool and in a low resistance state, typically less than 1/2 Ohm. Measuring across, be sure to probe both sides of the PTC where the solder joints and board come together. The polarity of the test leads is not important. If necessary, allow the PTC resistor to cool and remeasure.

If there was no internal cable attached, diagnostics either sent you here in error or the adapter is shorted. The next step determines if there is a short on the adapter.

4. Locate Capacitor C1 and measure the resistance across it using the following procedure:
 - a. Connect the positive lead to the side of the capacitor where the + is indicated on the board near C1. Be sure to probe at the solder joint where the capacitor and board come together.
 - b. Connect the negative lead to the opposite side of the capacitor. Be sure to probe at the solder joint where the capacitor and board come together.
 - c. If there is no short present, then the resistance reading will be high, typically hundreds of Ohms.

Note: This reading is a function of the Ohmmeter used and is not predictable.

- If there is a fault, the resistance reading is low, typically below 10 Ohms. Because there are no cables attached, the fault is on the adapter. The adapter should be replaced.
- If the resistance is high and there is no external cable to reattach, there is no apparent cause for the PTC diagnostic failure.
- If the resistance measured was high and there is an external cable to reattach proceed to the next step.

5. Reattach the external cable to the adapter, then:
 - a. Remeasure across C1 as previously described.
 - b. If the resistance is still high, in this case above 10 Ohms, then there is no apparent cause for a PTC failure.
 - c. If the resistance is less than 10 Ohms, there is a possibility of a fault on the external SCSI bus. Troubleshoot the external SCSI bus by disconnecting devices and terminators. Measure across C1 to determine if the fault has been removed.

Probable Tripped PTC Causes

- A shorted terminator or cable. Check for bent pins on each connector and removable terminator.
- Intermittent PTC failures can be caused by improperly seated cable connectors. Reseat the connector and flex the cable in an attempt to duplicate the fault condition across C1.
- Plugging or unplugging a cable or terminator while the system is turned on (hot plugging).
- A shorted device.
- Differential devices or terminators are attached to the single-ended SCSI bus.

Note: The SCSI-2 Fast/Wide Adapter/A uses an onboard electronic terminator on the external SCSI bus. When power is removed from the adapter, as in the case of this procedure, the terminator goes to a high impedance state and the resistance measured cannot be verified, other than it will be high. Some external terminators use an electronic terminator which also goes to a high impedance state when power is removed. Therefore, this procedure is designed to find a short or low resistance fault as opposed to the presence of a terminator or a missing terminator.

Chapter 8. MAP 0052: SCSI-2 and SCSI-2 Enhanced Differential Fast/Wide Adapter/A Problem Isolation Procedure

Purpose of This MAP

This MAP is intended to be used for the differential-ended version of the SCSI-2 Fast/Wide Adapter/A and the Enhanced SCSI-2 Fast/Wide Adapter/A. Use it after diagnostics have been run on the adapter and further isolation is needed for appropriate FRU identification and replacement.

Note: This procedure can be applied to adapters configured with both internal and external devices.

Some implementation considerations are:

- The system will not allow concurrent diagnostics to be run on an adapter associated with a device in the root volume group (such as paging space). If the adapter being diagnosed is associated with the root volume group for the system, standalone diagnostics must be used in this procedure. Use the *SCSI Subsystem* diagnostic diskettes if supported on the system.
- The system must be powered OFF before performing any connecting and disconnecting of cables or devices to prevent any damage to hardware or erroneous diagnostic results.
- This adapter external port has socketed terminators to support high-availability. If the adapter being diagnosed is configured this way, terminators would have been removed from the adapter. Steps in this procedure that require the removal of the cable from the adapter cannot be used because the adapter with its terminators removed will always fail diagnostics. To perform diagnostics properly in this case, the terminators must be replaced. Or a Y-cable is in use for the configuration, leave it and the appropriate terminator attached to the adapter. Refer to 8-11 for location of terminators RN1, RN2, and RN3.

The following steps should be followed for determining the defective FRU's in the SCSI system.

Step 0052-1

This step determines the error that led to this procedure.

Error Description	SRN	Action
Terminator power failure (PTC error)	890-106, 890-107, 890-160, 890-175, 890-180, 890-206, 890-207, 890-260, 890-275, 890-280, 890-306, 890-307, 890-360, 890-375, 890-380, 890-406, 890-407, 890-460, 890-475, 890-480, 890-506, 890-507, 890-560, 890-575, 890-580	Go to "Step 0052-2."
SCSI bus error on external bus.	890-109, 890-190, 890-209, 890-290, 890-309, 890-390, 890-407, 890-490, 890,509, 890-590	Go to "Step 0052-3" on page 8-3.
SCSI bus error on internal bus.	890-108, 890-185, 890-208, 890-285, 890-308, 890-385, 890-408, 890-485, 890-508, 890-585	Go to "Step 0052-5" on page 8-4.
Any other SCSI error		Go to "Step 0052-8" on page 8-6.

Step 0052-2

This step determines the component causing the PTC failure.

If diagnostics indicated a terminator power failure (PTC error) then perform the following:

1. Turn the system off to allow PTC to cool (five minutes is recommended).
2. While waiting for the PTC to cool, check that SCSI cables and terminators on the failing buses are properly connected. Inspect for bent pins and obvious cable damage.
3. Rerun diagnostics for the adapter.
 - If this same error persists, refer to the SCSI-2 or the SCSI-2 Enhanced Fast/Wide PTC Problem Isolation Procedure beginning on page 8-6 or 8-10 respectively.
 - If no errors are indicated, the problem is intermittent, or was corrected by adjusting the cables.

If any damage was noted in cables or terminators, suspect that component as the source of intermittent problems.
4. If error are still occurring and the PTC Isolation Procedure has been followed, continue isolating the problem and move onto "Step 0052-8" on page 8-6.

Step 0052-3

This step determines if an external device may be causing this failure.

Turn off the power to all external devices and rerun diagnostics for the adapter. (If there is an external cable attached, but no devices, go directly to “Step 0052-5” on page 8-4.)

- If diagnostics fails with the same error, go to “Step 0052-5” on page 8-4.
 - If no failures occurred, go to “Step 0052-4.”
 - If any other error occurred, follow the instructions for the SRN indicated.
-

Step 0052-4

This step determines if a particular device can be identified as the source of the problem.

Notes:

- If you arrived at this step as a result of getting SRN 890-X90, you have a problem on the SCSI bus that is preventing one of your SCSI devices from being detected and configured. If no changes have been made to the SCSI bus configuration, make sure the SCSI cabling attached to the missing resource is secure and that the device has power. Refer to the appropriate service guide for your SCSI device if you discover a power related problem.
- If changes have been made to the SCSI bus configuration, check for address conflicts between devices and for cabling problems, such as configurations that exceed maximum cabling lengths, missing termination, or excessive termination. Refer to the Adapters, Devices, and Cable Information manual for more details on supported SCSI cabling information.
- If the diagnostics fail to identify a failing component and all cabling and power connections are correct, replace the components in the following order:
 - a. Device
 - b. Cable
 - c. Adapter

If however, there is only one device on the bus and it is not configuring, suspect the cable, then the adapter before the device.

Turn on the external SCSI devices one at a time. After turning on each device, follow this procedure:

- Rerun diagnostics for the adapter.
- If there is any failure, the problem should be with the last device turned back on. Follow the problem determination procedure for that device. Replace the device if no problem determination procedure exists.
- If no errors occurred, the problem could be intermittent. Make a record of the problem. Running diagnostics for each of the devices on the bus may provide more information.
- After replacing any hardware, go to Chapter 19, “MAP 0410: Repair Checkout” on page 19-1.

Step 0052-5

Steps from this point on isolate the problem to the adapter, cables, or devices by bringing the system down to a minimum configuration and methodically building it back to the original configuration.

Notes:

- If you arrived at this step as a result of getting SRN 890-X90, you have a problem on the SCSI bus that is preventing one of your SCSI devices from being detected and configured. If no changes have been made to the SCSI bus configuration, make sure the SCSI cabling attached to the missing resource is secure and that the device has power. Refer to the appropriate service guide for your SCSI device if you discover a power related problem.
- If changes have been made to the SCSI bus configuration, check for address conflicts between devices and for cabling problems, such as configurations that exceed maximum cabling lengths, missing termination, or excessive termination. Refer to the Adapters, Devices, and Cable Information manual for more details on supported SCSI cabling information.
- If the diagnostics fail to identify a failing component and all cabling and power connections are correct, replace the components in the following order:
 - a. Device
 - b. Cable
 - c. Adapter

If however, there is only one device on the bus and it is not configuring, suspect the cable, then the adapter before the device.

Disconnect the SCSI cable from the adapter on the bus that is indicating the error. Rerun diagnostics for the adapter.

Reminder: No terminator needs to be attached to the open connector on the adapter for this step because the adapter has built-in terminators.

- Replace the adapter if there is a failure, then go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
- If no errors occurred, go to "Step 0052-6" on page 8-5.

Step 0052-6

This step continues to build up from a minimum configuration to determine if a cable, terminator, or device is the cause of the error. This step concentrates on the cable and terminator.

Reconnect the SCSI cable without any devices attached.

For the external bus, only attach the first section of cable. If the appropriate terminator is not available for the end of the cable, reconnect the SCSI cable with one device attached so that the bus can be properly terminated through the device connector. The device should be turned off.

Rerun diagnostics for the adapter.

- If there is any failure, replace components in the following order:
 - Cable
 - Terminator
 - Device (if attached)
- If no errors occurred, go to “Step 0052-7.”
- If any component is replaced, go to Chapter 19, “MAP 0410: Repair Checkout” on page 19-1.

Step 0052-7

This step determines whether a particular section of cable or a device may be causing a problem. This step differs from “Step 0052-4” on page 8-3 because, the devices are detached from the bus, not just turned off. Make sure all cables, terminators, and devices are reconnected before leaving this step.

Reconnect the SCSI devices one at a time, making sure that the bus remains appropriately terminated. (A new section of cable will be added with each device on an external bus). After connecting each device and turning it on, follow the procedure below:

- Rerun diagnostics.
- If there is any failure, the problem should be that device or cable. Replace the components in following order:
 - Cable
 - Device
- If no errors occurred, the problem could be intermittent. The problem is most likely cabling or a device. Contact the next level of support if this problem continues to occur.
- If any component is replaced, go to Chapter 19, “MAP 0410: Repair Checkout” on page 19-1.

This is the end of this part of the procedure. Go to “Step 0052-9” on page 8-6.

Step 0052-8

This step determines if the error is caused by the adapter.

Disconnect all cables, and rerun diagnostics for the adapter.

- If there is any failure, replace adapter.
- If no errors were indicated, reconnect the cable with the devices and rerun diagnostics.

Note: If there are both external and internal devices, then reconnect one bus at a time, starting with the internal bus. If the internal bus had no errors, then reconnect the external bus.

- If there is any failure, go to "Step 0052-6" on page 8-5.
 - If no failure occurs, there may be intermittent or transient errors. The problem is most likely the cabling or a device. If the problem continues contact next level of support.
-

Step 0052-9

This step finds out if there are operational errors that can be determined by actually transferring data on the SCSI bus.

Run the SCSI service aid to issue an inquiry command to a device on the bus. The command completion status returned by adapter will indicate if a failure occurred, and whether the failure was due to a device error. If a device error occurred, diagnostics for that device should be performed. If it fails with other errors, replace components in the following order:

- Cable
- Adapter
- Devices

Note: Run diagnostics after swapping each of the above components.

Proceed to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1

SCSI-2 Differential Fast/Wide Adapter/A PTC Failure Isolation

Purpose of This Procedure

Use the following procedures if diagnostics testing indicates a potential positive temperature coefficient (PTC) resistor fault and you are diagnosing a differential adapter. The SRNs do not distinguish between the SCSI-2 Differential Fast/Wide Adapter/A or the SCSI-2 Fast/Wide Adapter/A.

Before replacing a SCSI-2 Differential Fast/Wide Adapter/A, use this MAP to determine if a short-circuit condition exists on the SCSI Bus. There is one PTC for the internal SCSI bus and another for the external bus. The PTC protects the SCSI bus from high currents due to shorts on the cable, terminator, or device. It is highly unlikely that the PTC resistor can

be tripped by a defective adapter. Unless instructed to do so by these procedures, *do not* replace the adapter because of a tripped PTC.

A fault (short circuit) causes an increase in PTC resistance and temperature. The increase in resistance causes the PTC resistor to halt current flow. The PTC resistor returns to a low resistive and low temperature state when the fault is removed from the SCSI bus or when the system is powered off. Wait 5 minutes for the PTC resistor to fully cool, then reset.

These procedures determine if the PTC resistor is still tripped and then determine if there is a short somewhere on the SCSI bus.

Picking the Proper Procedure

For SRNs 890-160, 890-260, 890-360 and 890-460, follow the procedure for isolating the internal PTC and then follow the procedure for isolating the external PTC resistor.

For SRNs 890-106, 890-175, 890-206, 890-275, 890-306, 890-375, 890-406 and 890-475, follow the procedure for isolating the internal PTC resistor.

For SRNs 890-107, 890-180, 890-207, 890-280, 890-307, 890-380, 890-407 and 890-480, follow the procedure for isolating the external PTC resistor.

Internal Bus PTC Isolation Procedure

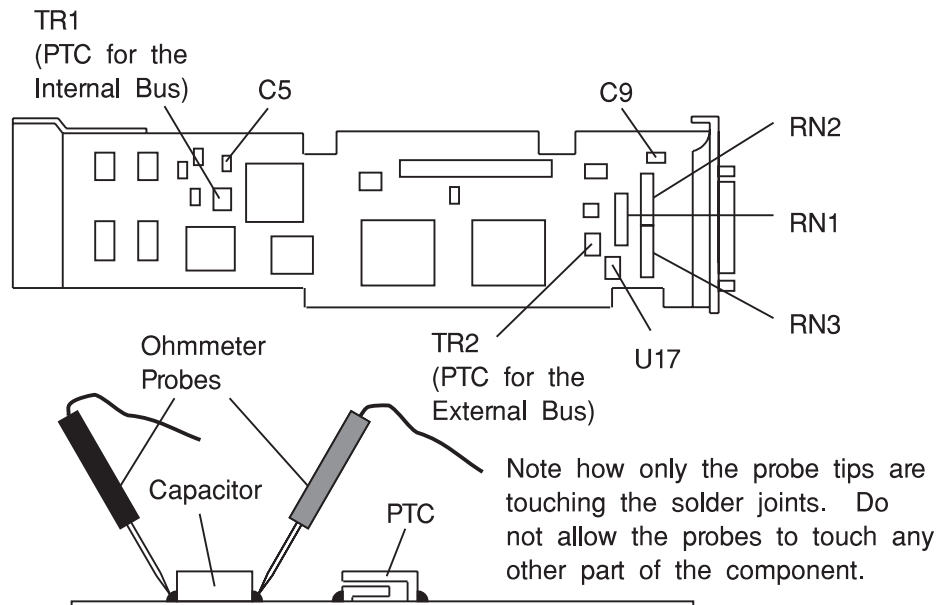
Isolate the internal SCSI bus PTC resistor fault with the following procedure:

Note: The internal bus is single-ended.

1. Ensure that system power and all externally attached device power is turned off.
2. Disconnect the internal and external cables from the adapter then remove the adapter from the system.
3. Verify with a digital Ohmmeter that the internal PTC resistor, labeled TR1, is cool and in a low resistance state, typically less than 1/2 Ohm. Measuring across, be sure to probe both sides of the PTC resistor where the solder joints and board come together. The polarity of the test leads is not important. If necessary, allow the PTC resistor to cool and remeasure.

If there was no internal cable attached, diagnostics either sent you here in error or the adapter is shorted. The next step determines if there is a short on the adapter.

SCSI-2 Differential Fast/Wide Adapter/A Test Locations



4. Locate capacitor C5 and measure the resistance across it using the following procedure:

- a. Connect the positive lead to the side of the capacitor where the + is indicated. Be sure to probe at the solder joint where the capacitor and board come together.
- b. Connect the negative lead to the opposite side of the capacitor. Be sure to probe at the solder joint where the capacitor and board come together.
- c. If there is no short present, then the resistance reading will be high, typically hundreds of Ohms.

Note: This reading is a function of the Ohmmeter used and is not predictable.

- If there is a fault, the resistance reading is low, typically below 10 Ohms. Because there are no cables attached, the fault is on the adapter. The adapter should be replaced.
- If the resistance is high and there is no internal cable to reattach, there is no apparent cause for the PTC diagnostic failure.
- If the resistance is high and there is an internal cable to reattach, proceed to the next step.

5. Reattach the internal cable to the adapter, then:

- a. Remeasure across C5 as previously described.
- b. If the resistance is still high, in this case above 25 Ohms, there is no cause for a PTC failure.
- c. If the resistance is less than 10 Ohms, there is a possibility of a fault on the internal SCSI bus. Troubleshoot the internal SCSI bus by disconnecting devices and terminators. Measure across C5 to determine if the fault has been removed.

Note: Some internal cables have nonremovable terminators.

Probable Tripped PTC Causes

- A shorted terminator or cable. Check for bent pins on each connector and removable terminator.
- Intermittent PTC failures can be caused by improperly seated cable connectors. Reseat the connector and flex the cable in an attempt to duplicate the fault condition across C5.
- A shorted device.
- On some systems, the terminator is fixed to the internal cable and cannot be removed. If all devices are removed from the cable and the resistance is still low, then the cable should be replaced.

Note: The SCSI-2 Differential Fast/Wide Adapter/A uses an onboard electronic terminator on the internal SCSI bus. When power is removed from the adapter, as in the case of this procedure, the terminator goes to a high impedance state and the resistance measured cannot be verified, other than it will be high. Some terminators use an electronic terminator which also goes to a high impedance state when power is removed. Therefore, this procedure is designed to find a short or low resistance fault as opposed to the presence of a terminator or a missing terminator.

External Bus PTC Isolation Procedure

Isolate the external SCSI bus PTC fault with the following procedure.

Note: The external bus is differential.

1. Ensure that system power and all externally attached device power is turned off.
2. Check to ensure all devices are marked SCSI-Differential and that the terminator on the end of the SCSI bus is also marked differential. If not, you may have a single-ended SCSI device or terminator on the differential SCSI bus. Single-ended devices do not work on a differential SCSI bus and may cause a PTC type error to be reported. The entire SCSI bus may appear to be intermittent. After the system is completely differential, continue.
3. Disconnect the internal and external cables from the adapter and remove the adapter from the system.
4. Verify with a digital Ohmmeter, that the internal PTC resistor, labeled TR2, (refer to 8-11) is cool and in a low resistance state typically less than 1/2 Ohm. Measuring across, be sure to probe both sides of the PTC resistor where the solder joints and board come together. The polarity of the test leads is not important. If necessary, allow the PTC resistor cool and remeasure.

If there was no internal cable attached, diagnostics either sent you here in error or the adapter is shorted. The next step determines if there is a short on the adapter.

5. Locate capacitor C9 and measure the resistance across it using the following procedure:
 - a. Connect the positive lead to the side of the capacitor where the + is indicated on the board near C9. Be sure to probe at the solder joint where the capacitor and board come together.
 - b. Connect the negative lead to the opposite side of the capacitor. Be sure to probe at the solder joint where the capacitor and board come together.

- If there is no fault present, then the resistance reading will be 25 to 35 Ohms. The adapter is not faulty. Continue to the next step.
- If the resistance measured is higher than 35 Ohms, check to see if RN1, RN2, and RN3 are plugged into their sockets. If these sockets are empty, you are working with a Multi-Initiators or High-Availability system. With these sockets empty, a resistive reading across C9 cannot be verified other than it will measure a high resistance (not a short). If the resistance measurement is not low enough to be suspected as a fault (lower than 10 Ohms), continue to next step.
- If the resistance is high and there is no external cable to reattach, there is no apparent cause for the PTC diagnostic failure.
- If the resistance reading is low, typically below 10 Ohms, there is a fault. Because there are no cables attached, the fault is on the adapter. The adapter should be replaced.
- If the resistance measured was high and there is an external cable to reattach proceed to the next step.

6. Reattach the external cable to the adapter.

- a. Remeasure across C9 as previously described.
- b. If the resistance is between 10 to 20 Ohms, there is no apparent cause for a PTC resistor failure.
- c. If the resistance is less than 10 Ohms, there is a possibility of a fault on the external SCSI bus. Troubleshoot the external SCSI bus by disconnecting devices and terminators. Measure across C9 to determine if the fault has been removed.

Probable Tripped PTC Causes

- A shorted terminator or cable. Check for bent pins on each connector and removable terminator.
- Intermittent PTC failures can be caused by improperly seated cable connectors. Reseat the connector and flex the cable in an attempt to duplicate the fault condition across C9.
- Plugging or unplugging a cable or terminator while the system is turned on (hot plugging).
- A shorted device.
- Single-ended devices are attached to the differential SCSI bus.

Enhanced SCSI-2 Differential Fast/Wide Adapter/A PTC Failure Isolation

Use the following procedures if diagnostics testing indicates a potential positive temperature coefficient (PTC) resistor fault and you are diagnosing an adapter. The SRNs do not distinguish between the Enhanced SCSI-2 Differential Fast/Wide Adapter/A, SCSI-2 Differential Fast/Wide Adapter/A or the SCSI-2 Fast/Wide Adapter/A.

Before replacing an Enhanced SCSI-2 Differential Fast/Wide Adapter/A, use these procedures to determine if a short-circuit condition exists on the SCSI Bus. There is one PTC for the internal SCSI bus and another for the external bus. The PTC protects the SCSI bus from high currents due to shorts on the cable, terminator, or device. It is highly unlikely that the PTC resistor can be by a defective adapter. Unless instructed to do so by these procedures, *do not* replace the adapter because of a tripped PTC.

A fault (short circuit) causes an increase in PTC resistance and temperature. The increase in resistance causes the PTC resistor to halt current flow. The PTC resistor returns to a low resistive and low temperature state when the fault is removed from the

SCSI bus or when the system is powered off. Wait 5 minutes for the PTC resistor to fully cool, then reset.

These procedures determine if the PTC resistor is still tripped and then determine if there is a short somewhere on the SCSI bus.

Picking the Proper Procedure

For SRNs 890-501, and 890-560 follow the procedure for isolating the internal PTC and then follow the procedure for isolating the external PTC resistor.

For SRNs 890-506, and 890-575, follow the procedure for isolating the internal PTC resistor.

For SRNs 890-507, and 890-580 follow the procedure for isolating the external PTC resistor.

Internal Bus PTC Isolation Procedure

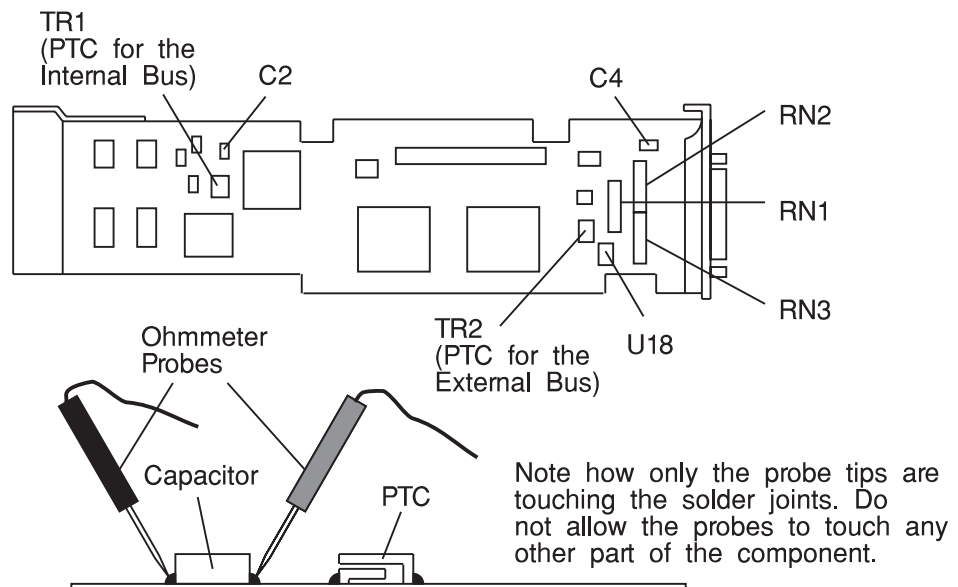
Isolate the internal SCSI bus PTC resistor fault with the following procedure:

Note: The internal bus is single-ended.

1. Ensure that system power and all externally attached device power is turned off.
2. Disconnect the internal and external cables from the adapter then remove the adapter from the system.
3. Verify with a digital Ohmmeter that the internal PTC resistor, labeled TR1, is cool and in a low resistance state, typically less than 1/2 Ohm. Measuring across, be sure to probe both sides of the PTC resistor where the solder joints and board come together. The polarity of the test leads is not important. If necessary, allow the PTC resistor to cool and remeasure.

If there was no internal cable attached, diagnostics either sent you here in error or the adapter is shorted. The next step determines if there is a short on the adapter.

Enhanced SCSI-2 Differential Fast/Wide Adapter/A Test Locations



4. Locate capacitor C2 and measure the resistance across it using the following procedure:
 - a. Connect the positive lead to the side of the capacitor where the + is indicated. Be sure to probe at the solder joint where the capacitor and board come together.
 - b. Connect the negative lead to the opposite side of the capacitor. Be sure to probe at the solder joint where the capacitor and board come together.
 - c. If there is no short present, then the resistance reading will be high, typically hundreds of Ohms.

Note: This reading is a function of the Ohmmeter used and is not predictable.

- If there is a fault, the resistance reading is low, typically below 10 Ohms. Because there are no cables attached, the fault is on the adapter. The adapter should be replaced.
- If the resistance is high and there is no internal cable to reattach, there is no apparent cause for the PTC diagnostic failure.
- If the resistance is high and there is an internal cable to reattach, proceed to the next step.

5. Reattach the internal cable to the adapter, then:
 - a. Remeasure across C2 as previously described.
 - b. If the resistance is still high, in this case above 25 Ohms, there is no cause for a PTC failure.
 - c. If the resistance is less than 10 Ohms, there is a possibility of a fault on the internal SCSI bus. Troubleshoot the internal SCSI bus by disconnecting devices and terminators. Measure across C2 to determine if the fault has been removed.

Note: Some internal cables have nonremovable terminators.

Probable Tripped PTC Causes

- A shorted terminator or cable. Check for bent pins on each connector and removable terminator.
- Intermittent PTC failures can be caused by improperly seated cable connectors. Reseat the connector and flex the cable in an attempt to duplicate the fault condition across C2.
- A shorted device.
- On some systems, the terminator is fixed to the internal cable and cannot be removed. If all devices are removed from the cable and the resistance is still low, then the cable should be replaced.

Note: The Enhanced SCSI-2 Differential Fast/Wide Adapter/A uses an onboard electronic terminator on the internal SCSI bus. When power is removed from the adapter, as in the case of this procedure, the terminator goes to a high impedance state and the resistance measured cannot be verified, other than it will be high. Some internal terminators use an electronic terminator which also goes to a high impedance state when power is removed. Therefore, this procedure is designed to find a short or low resistance fault as opposed to the presence of a terminator or a missing terminator.

External Bus PTC Isolation Procedure

Isolate the external SCSI bus PTC fault with the following procedure.

Note: The external bus is differential.

1. Ensure that system power and all externally attached device power is turned off.
2. Check to ensure all devices are marked SCSI-Differential and that the terminator on the end of the SCSI bus is also marked differential. If not, you may have a single-ended SCSI device or terminator on the differential SCSI bus. Single-ended devices do not work on a differential SCSI bus and may cause a PTC type error to be reported. The entire SCSI bus may appear to be intermittent. After ensuring the system is completely differential, continue.
3. Disconnect the internal and external cables from the adapter and remove the adapter from the system.
4. Verify with a digital Ohmmeter, that the internal PTC resistor, labeled TR2, (refer to 8-11) is cool and in a low resistance state, typically less than 1/2 Ohm. Measuring across, be sure to probe both sides of the PTC resistor where the solder joints and board come together. The polarity of the test leads is not important. If necessary, allow the PTC resistor cool and remeasure.

If there was no internal cable attached, diagnostics either sent you here in error or the adapter is shorted. The next step determines if there is a short on the adapter.

5. Locate capacitor C4 and measure the resistance across it using the following procedure:
 - a. Connect the positive lead to the side of the capacitor where the + is indicated on the board near C4. Be sure to probe at the solder joint where the capacitor and board come together.
 - b. Connect the negative lead to the opposite side of the capacitor. Be sure to probe at the solder joint where the capacitor and board come together.
 - If there is no fault present, then the resistance reading will be 25 to 35 Ohms. The adapter is not faulty. Continue to the next step.
 - If the resistance measured is higher than 35 Ohms, check to see if RN1, RN2 and RN3 are plugged into their sockets. If these sockets are empty, you are working with a Multi-Initiators or High-Availability system. With these sockets empty, a resistive reading across C4 cannot be verified other than it will measure a high resistance (not a short). If the resistance measurement is low enough to be suspected as a fault (lower than 10 Ohms), continue to next step.
 - If the resistance is high and there is no external cable to reattach, there is no apparent cause for the PTC diagnostic failure.
 - If the resistance reading is low, typically below 10 Ohms, there is a fault. Because there are no cables attached, the fault is on the adapter. The adapter should be replaced.
 - If the resistance measured was high and there is an external cable to reattach proceed to the next step.
6. Reattach the external cable to the adapter.
 - a. Remeasure across C4 as previously described.

- b. If the resistance is between 10 to 20 Ohms, there is no apparent cause for a PTC resistor failure.
- c. If the resistance is less than 10 Ohms, there is a possibility of a fault on the external SCSI bus. Troubleshoot the external SCSI bus by disconnecting devices and terminators. Measure across C4 to determine if the fault has been removed.

Probable Tripped PTC Causes

- A shorted terminator or cable. Check for bent pins on each connector and removable terminator.
- Intermittent PTC failures can be caused by improperly seated cable connectors. Reseat the connector and flex the cable in an attempt to duplicate the fault condition across C4.
- Plugging or unplugging a cable or terminator while the system is turned on (hot plugging).
- A shorted device.
- Single-ended devices are attached to the differential SCSI bus.

Chapter 9. MAP 0210: General Problem Resolution

Purpose of This MAP

Use this MAP to exchange the FRUs in the order of their listing within the SRN table in Chapter 22, "Diagnostic Numbers and Codes" on page 22-1 of this manual. This MAP directs you to exchange the most-likely-to-fail FRU first if it is easily exchanged.

Step 0210-1

1. Refer to Chapter 22, "Diagnostic Numbers and Codes" on page 22-1, "Diagnostic Numbers and Codes," and record the SRN source code, and the FFCs by order of their listing in the table. Replace each in the same order as were the recorded FFCs.
2. Find the failing function codes in the "Failing Function Code List" in Chapter 23, "Failing Function Codes (FFCs)" on page 23-1, and record the part number and description for each FRU.
3. If the system is accepting commands, enter the appropriate system shutdown command (or press the indicated PF key). Refer to "Running the Diagnostic Programs from Disk or From a Server" on page 27-9
4. Set the system unit power switch to Off.

Notes:

- a. If the most probable FRU listed is the standard I/O planar, you first may want to exchange any other listed FRUs because the standard I/O planar takes more time to exchange.
 - b. If the most probable FRU listed is a disk drive, you first may want to exchange any other FRUs listed, since the data stored on the disk is very important to the customer.
5. Replace FRU parts in the order by which the FFCs are listed.

Have you exchanged the first FRU in the listing?

- NO** Exchange the first FRU in the list, and then go to "Step 0210-2" on page 9-2.
YES Go to "Step 0210-2" on page 9-2.

Step 0210-2

1. To verify the repair, find the SRN source code you recorded in the following table; then go to the step indicated in the Action column.

SRN Source Code	Action
A	Go to "Step 0210-3."
B	Go to "Step 0210-12" on page 9-6.
C	Go to "Step 0210-8" on page 9-4.
D	Go to "Step 0210-12" on page 9-6.
E	Go to "Step 0210-12" on page 9-6.
F	Go to "Step 0210-12" on page 9-6.
G	Go to "Step 0210-19" on page 9-10.
H	Go to "Step 0210-18" on page 9-9.
J	Go to "Step 0210-23" on page 9-12.
K	Go to "Step 0210-26" on page 9-14.

Step 0210-3

The following steps address problems when the system stops during POST with a steady value displayed in the operator panel display.

1. Set the key mode switch to the Service position.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
2. Set the system unit power switch to On. If c07 displays in the operator panel display, insert the next diagnostic diskette. If c31 displays, follow the displayed instructions to select a console display.
3. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
4. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady value in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Is a steady value other than c07, c31, 260, 261 or 262 displayed in the operator panel display?

NO Go to "Step 0210-7" on page 9-4.

YES Go to "Step 0210-4."

Step 0210-4

Look at the operator panel display.

Is the displayed number the same as the last three digits of the SRN?

Note: If the last three digits of the SRN are FFF, answer the question YES.

NO The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.

YES Go to "Step 0210-5."

Step 0210-5

Look at the FRU part numbers you recorded for this SRN.

Have you exchanged all the FRUs that correspond to the failing function codes?

NO Go to "Step 0210-6."

YES The SRN did not identify the failing FRU. Go to Chapter 4, "MAP 0030: Additional Problem Determination" on page 4-1.

Step 0210-6

1. Set the system unit power switch to Off.
2. Remove the new FRU and install the original FRU.
3. Exchange the next FRU in order of its failing function code SRN table listing.

Note: If the AIX operating system is not used on the system; start diagnostics from an alternate source.

4. Set the system unit power switch to On. If c07 displays in the operator panel display, insert the next diagnostic diskette. If c31 displays, follow the displayed instructions to select a console display.

5. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Is a steady value other than c07, c31, 260, 261 or 262 displayed in the operator panel display?

- NO** Go to "Step 0210-7."
- YES** Go to "Step 0210-4" on page 9-3.
-

Step 0210-7

This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0210-8

The following steps handle the problems when the system does not detect a resource.

Note: The following substeps are to be used with SRNs having source code C. In addition, diagnostics *must* be run from a disk or server.

1. Set the key mode switch to the Service position.
2. Set the system unit power switch to On. If c31 displays, follow the displayed instructions to select a console display. If you do not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
3. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
4. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the Operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.

- The DIAGNOSTIC OPERATING INSTRUCTIONS display.
- The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 3, “MAP 0020: Problem Determination Procedure” on page 3-1 to get a new SRN.
- YES** Go to “Step 0210-9.”
-

Step 0210-9

1. Press the Enter key.
2. If the terminal type has not been defined, you must use the Initialize Terminal option on the FUNCTION SELECTION menu to initialize the AIX operating system environment before you can continue with the diagnostics. This is a separate and different operation than selecting the console display.
3. Select the Advanced Diagnostics option.
4. When the DIAGNOSTIC MODE SELECTION menu displays, select System Verification.

Is the MISSING RESOURCE menu displayed?

- NO** Check the FRU you just exchanged by selecting System Verification on the DIAGNOSTIC MODE SELECTION menu; then select the FRU you exchanged. This completes the repair. Go to MAP 0410.
- YES** Go to “Step 0210-10.”
-

Step 0210-10

Look at the failing function codes and the FRU part numbers you recorded for this SRN.

Have you exchanged all the FRUs that correspond to the failing function codes?

- NO** Go to “Step 0210-11” on page 9-6.
- YES** The SRN did not identify the failing FRU. Go to Chapter 4, “MAP 0030: Additional Problem Determination” on page 4-1.

Step 0210-11

1. After performing a system shutdown, set the system unit power switch to Off.
2. Remove the new FRU and install the original FRU.
3. Exchange the next FRU in order of its failing function code SRN table listing.
4. Set the system unit power switch to On. If c31 displays, follow the displayed instructions to select a console display.
5. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.
- YES** Go to "Step 0210-8" on page 9-4, and repeat the steps.

Step 0210-12

Note: Run diagnostics from disk or server, if possible. If the system planar or battery has been replaced and you are loading diagnostics from a server over a network, it will be necessary for the customer to set the network boot information for this system before diagnostics can be loaded. The system time and date information should also be set when the repair is completed.

1. Set the key mode switch to the Service position.

Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
2. Set the system unit power switch to On. If c07 displays in the operator panel display, insert the next diagnostic diskette. If c31 displays, follow the displayed instructions to select a console display. If you do not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
3. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
4. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.

- The machine stops for at least three minutes with a steady number in the operator panel display.
- A flashing 888 is displayed in the operator panel display.
- The operator panel display is blank.
- The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
- The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

NO The symptom has changed. Check for loose cards, cables and obvious problems. If you do not find a problem go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.

Note: If the symptom is a flashing 888 in the operator panel display, go to "Step 0210-20" on page 9-10 instead.

YES Go to "Step 0210-13."

Step 0210-13

1. Press the Enter key.
2. If the terminal type has not been defined, you must use the Initialize Terminal option on the FUNCTION SELECTION menu to initialize the AIX operating system environment before you can continue with the diagnostics. This is a separate and different operation than selecting the console display.
3. Select the Advanced Diagnostics Routines option.
4. When the DIAGNOSTIC MODE SELECTION menu displays, select the System Verification option.

Is the ADVANCED DIAGNOSTIC SELECTION menu displayed?

NO The symptom has changed. Check for loose cards, cables, and obvious Problems. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.

YES Go to "Step 0210-14."

Step 0210-14

Select the FRU you exchanged.

Did the FRU pass the test?

NO Go to "Step 0210-15" on page 9-8.

YES This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0210-15

Look at the failing function codes and FRU part numbers you recorded for this SRN.

Have you exchanged all the FRUs that correspond to the failing function codes?

- NO** Go to "Step 0210-16."
- YES** The SRN did not identify the failing FRU. Go to Chapter 4, "MAP 0030: Additional Problem Determination" on page 4-1.
-

Step 0210-16

1. After performing a system shutdown, set the system unit power switch to Off.
2. Remove the new FRU and install the original FRU.
3. Exchange the next FRU in order of its failing function code SRN table listing.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
4. Set the system unit power switch to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If you do not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
5. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.
- YES** Go to "Step 0210-17" on page 9-9.

Step 0210-17

1. Press the Enter key.
2. When the FUNCTION SELECTION menu displays, select the Advanced Diagnostics Routines option.
3. When the DIAGNOSTIC MODE SELECTION menu displays, select the System Verification option.
4. Run the test for the resource that originally failed if the SRN Source code is D,F or G; otherwise select the test for the FRU you just exchanged.

Did the FRU pass the test?

- NO** Go to "Step 0210-15" on page 9-8, and repeat the steps.
- YES** This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
-

Step 0210-18

The following steps handle the problem when the machine stops with a flashing 888 displayed in the operator panel display while it is loading diagnostics.

1. Set the key mode switch to the Service position.
 - Note:** If the AIX operating system is not used on the system, start diagnostics from an alternate source.
2. Set the system unit power switch to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
3. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
4. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Did the system stop with 888 flashing in the operator panel display?

- NO** This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
- YES** Go to "Step 0210-20" on page 9-10.

Step 0210-19

Each time the Problem Determination option is selected from the Diagnostic Mode Selection menu, the error log for the preceding 24-hour period is analyzed, and problems are assigned SRN source G. Although a FRU may have already been replaced based on that error log analysis, repeated selection of the Problem Determination option will continue to reflect the same error for 24-hours, if the Product Topology service aid has not been run. The System Verification option does not perform error analysis. Ensure that the indicated failing FRU has not been replaced in the previous 24-hours.

Has the FRU called out by this SRN been replaced in the 24-hour period prior to this repair action?

- NO** Go to "Step 0210-12" on page 9-6.
- YES** Disregard this SRN. If the Problem Determination option needs to be run, use the AIX operating system **errclear** command (refer to the AIX operating system *Commands Reference*) to delete the error log entry for the replaced resource. Go to Chapter 2, "Start of Call MAP" on page 2-1.

Step 0210-20

1. Read out the message in the operator panel display. If needed, see "Reading Flashing 888 Numbers" in Chapter 22, "Diagnostic Numbers and Codes" on page 22-1 of this manual.
2. Find and record the SRN in the message read out.
3. Find and record the location codes for the FRUs in the message read out.

Are the SRN and the location codes the same as the SRN you were analyzing?

- NO** Go to "Step 0210-1" on page 9-1, and analyze the new SRN.
- YES** Go to "Step 0210-21."

Step 0210-21

Look at the failing function codes and FRU part numbers you recorded for this SRN.

Have you exchanged all the FRUs that correspond to the failing function codes?

- NO** Go to "Step 0210-22" on page 9-11.
- YES** The SRN did not identify the failing FRU. Go to Chapter 4, "MAP 0030: Additional Problem Determination" on page 4-1.

Step 0210-22

1. Set the power switch on the system unit to Off.
2. Remove the new FRU and install the original FRU.
3. Replace FRU parts in the order by which the FFCs are listed.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
4. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
5. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Did the system stop with 888 flashing in the operator panel display?

- NO** This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
- YES** Go to "Step 0210-21" on page 9-10.

Step 0210-23

If the built-in diagnostics detect a problem while the system IPL is performed in Service mode, follow these steps.

Note: If the system planar or battery has been replaced and you are loading diagnostics from a server over a network, it will be necessary for the customer to set the network boot information for this system before diagnostics can be loaded. The system time and date information should also be set when the repair is completed.

1. Set the key mode switch to the Service mode.
2. Set the system unit power switch to On.
3. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
4. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - A flashing 888 is displayed in the operator panel display.
 - The MAIN MENU is displayed.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS or the MAIN MENU displayed?

- NO** Go to "Step 0210-23."
YES This completes the repair. Go to MAP 1560 in the service guide for this system unit for repair verification.

Step 0210-24

Look at the failing function codes and FRU part numbers you recorded for this SRN.

Have you exchanged all the FRUs that correspond to the failing function codes?

- NO** Go to "Step 0210-25" on page 9-13.
YES Go to MAP 1560 in the service guide for this system unit.

Step 0210-25

Note: If the system planar or battery has been replaced and you are loading diagnostics from a server over a network, it will be necessary for the customer to set the network boot information for this system before diagnostics can be loaded. The system time and date information should also be set when the repair is completed.

1. Turn the system unit's power off.
2. Remove the new FRU, and reinstall the original FRU.
3. Replace FRU parts in the order by which the FFCs are listed.
4. Turn the system unit's power on.
5. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - A flashing 888 is displayed in the operator panel display.
 - The MAIN MENU is displayed.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS or the MAIN MENU displayed?

NO Go to "Step 0210-24" on page 9-12.

YES This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0210-26

1. Set the key mode switch to the Service mode.
2. Turn the system unit's power on.
3. Wait until one of the following conditions occurs.
 - The system unit's power-on light does not come on.
 - The system stops with a steady 3-digit number in the operator panel display.
 - The Maintenance Menu is displayed.
 - The Diagnostic Operation Instructions are displayed.
 - A flashing 888 is displayed in the op panel display.
 - The system stops with an error code displayed in the op panel display or on the BUMP Console.
 - The system stops with an SRN displayed on the BUMP Console.
4. Find your symptom in the following table and do the listed action.

Symptom	Action
The Maintenance Menu is displayed.	Go to "Step 0210-27."
The Diagnostic Operation Instructions are displayed.	Go to "Step 0210-13" on page 9-7.
A flashing 888 is displayed in the op panel display.	Go to "Step 0210-20" on page 9-10.
The system stops with an error code displayed in the op panel display or on the BUMP Console.	Go to "Step 0210-32" on page 9-16.
The system stops with a SRN displayed on the BUMP Console.	Go to "Step 0210-32" on page 9-16.
All others.	The symptom has changed. Check for loose cards, and obvious problems. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.

Step 0210-27

Did you get the SRN or error code from the BUMP Error Log?

No Go to "Step 0210-28" on page 9-15.

Yes Go to "Step 0210-29" on page 9-15.

Step 0210-28

1. Select System Boot, then boot from the list.
2. Wait until one of the following conditions occurs.
 - The Diagnostic Operation Instructions are displayed.
 - A flashing 888 is displayed in the op panel display.
 - The system stops with an error code displayed in the op panel display or on the BUMP Console.
 - The system stops with a SRN displayed on the BUMP Console.
3. Find your symptom in the following table and do the listed action.

Symptom	Action
The Diagnostic Operation Instructions are displayed.	Go to "Step 0210-13" on page 9-7.
A flashing 888 is displayed in the op panel display.	Go to "Step 0210-20" on page 9-10.
The system stops with an error code displayed in the op panel display or on the BUMP Console.	Go to "Step 0210-32" on page 9-16.
The system stops with a SRN displayed on the BUMP Console.	Go to "Step 0210-32" on page 9-16.

Step 0210-29

Check the BUMP error log for the same SRN or error code you are analyzing.

Is the same SRN or error code logged?

No This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Note: If you changed any BUMP flags, change them back to their previous state.

Yes Go to "Step 0210-30."

Step 0210-30

Have you exchanged all the FRUs that correspond to the failing function codes?

No Go to "Step 0210-31" on page 9-16.

Yes The SRN did not identify the failing FRU. Call your support person.

Step 0210-31

1. Turn the system unit's power off.
2. Remove the new FRU and install the original FRU.
3. Replace FRU parts in the order by which the FFCs are listed.
4. Turn the system unit's power on.
5. Wait until one of the following conditions occurs.
 - The system unit's power-on light does not come on.
 - The system stops with a steady 3-digit number in the op panel display.
 - The Maintenance Menu is displayed.
 - The Diagnostic Operation Instructions are displayed.
 - A flashing 888 is displayed in the op panel display.
 - The system stops with an error code displayed in the op panel display or on the BUMP Console.
 - The system stops with a SRN displayed on the BUMP Console.
6. Find your symptom in the following table and do the listed action.

Symptom	Action
The Maintenance Menu is displayed.	Go to "Step 0210-29" on page 9-15.
All others.	The symptom has changed. Check for loose cards, and obvious problems. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.

Step 0210-32

Is the same SRN or error code displayed that you are analyzing?

- No** The symptom has changed. Check for loose cards, and obvious problems. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.
- Yes** Go to "Step 0210-33."

Step 0210-33

Have you exchanged all the FRUs that correspond to the failing function codes?

- No** Go to "Step 0210-34" on page 9-17.
- Yes** The SRN did not identify the failing FRU. Call your support person.

Step 0210-34

1. Turn the system unit's power off.
2. Remove the new FRU and install the original FRU.
3. Replace FRU parts in the order by which the FFCs are listed.
4. Turn the system unit's power on.
5. Wait until one of the following conditions occurs.
 - The system unit's power-on light does not come on.
 - The system stops with a steady 3-digit number in the op panel.
 - The Maintenance Menu is displayed.
 - The Diagnostic Operation Instructions are displayed.
 - A flashing 888 is displayed in the op panel display.
 - The system stops with an error code displayed in the op panel display or on the BUMP Console.
 - The system stops with a SRN displayed on the BUMP Console.
6. Find your symptom in the following table and do the listed action.

Symptom	Action
The Diagnostic Operation Instructions are displayed.	Go to "Step 0210-13" on page 9-7.
The system stops with an error code displayed in the op panel or on the BUMP Console.	Go to "Step 0210-33" on page 9-16.
The system stops with a SRN displayed on the BUMP Console.	Go to "Step 0210-33" on page 9-16.
All others.	The symptom has changed. Check for loose cards, and obvious problems. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.

Chapter 10. MAP 0220: Checking a System with No Console Display

Purpose of This MAP

This MAP guides you in checking out a system unit that does not have a console display.

The diagnostic programs use the operator panel display to communicate with the user when there is no console display available. You should have entered this MAP from a point where you were loading the diagnostic programs, and a c31, 260, 261, or 262 is displayed in the operator panel display.

The diagnostic programs will loop on the System Checkout option of the diagnostics until a problem is detected or a c99 is displayed in the operator panel display. A c99 indicates that all resources have been tested.

Note: On those systems that power off when the AIX “shutdown” command is entered will also power off immediately after the c99 is displayed to indicate that testing is complete. It may be necessary to closely monitor the operator panel to see the c99 displayed before the system powers off.

The numbers being displayed while the diagnostic programs are looping are the failing function code numbers for the resources being tested. Find the number in the “Failing Function Code List” in Chapter 23, “Failing Function Codes (FFCs)” on page 23-1 to find out which resource is being tested. Go to “Step 0220-1.”

Running Diagnostics with No Console from the Diskette Package

Diskette diagnostics run without a console behave differently from those from other media. Note the following differences:

- A c99 indicating that all resources have been tested is not displayed.
- When all the devices on a diskette have tested successfully, c07 is displayed. When the c07 is displayed in the operator panel display, you may insert another diskette to test additional resources.

Step 0220-1

Are you running diagnostics from the diskette package?

NO Go to “Step 0220-2” on page 10-2.

YES Go to “Step 0220-8” on page 10-4.

Step 0220-2

The diagnostic loading should have halted, and one of the following should be displayed in the operator panel display: c31, 260, 261, or 262.

Note: If 260, 261, or 262 is displayed in the operator panel display, set the key mode switch to the Normal position and then back to the Service position; wait for c31 to appear in the operator panel display before proceeding with this step.

1. Set the key mode switch to Normal and back to Service. This indicates to the diagnostics that there is no console display.
2. Wait until a c99 or a flashing 888 is displayed in the operator panel display.

Is a flashing 888 displayed?

NO Go to "Step 0220-7" on page 10-3.

YES Go to "Step 0220-3."

Step 0220-3

The flashing 888 indicates the diagnostics found a problem.

Are you doing a checkout after exchanging a FRU?

NO Go to "Step 0220-6" on page 10-3.

YES Go to "Step 0220-4."

Step 0220-4

Look at the FRU part numbers you recorded for this SRN.

Have you exchanged all of the FRUs identified by the failing function codes for this SRN?

NO Go to "Step 0220-5" on page 10-3.

YES The SRN did not fix the problem. Check for loose cards, cables, and other obvious problems. If you do not find an obvious problem, call your support person.

Step 0220-5

1. Set the power switch on the system unit to Off.
 2. Remove the new FRU and install the original FRU.
 3. Replace FRU parts in the order by which the FFCs are listed.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
 4. Set the power switch on the system unit to On.
 5. Wait until c31 displays; then go to “Step 0220-2” on page 10-2 if you are running diagnostics from disk; otherwise, go to “Step 0220-8” on page 10-4
-

Step 0220-6

A flashing 888 in the operator panel display indicates that a crash message or a diagnostic message is ready to be read.

Use the instructions in “Reading Flashing 888 Numbers” in Chapter 22, “Diagnostic Numbers and Codes” on page 22-1 of this manual to read the message. Record the message number, the crash message, and the diagnostic message.

1. Locate the SRN in the message.
 2. Find the SRN in the “Service Request Number List” in Chapter 22, “Diagnostic Numbers and Codes” on page 22-1.
 3. Perform the action listed.
-

Step 0220-7

Are you doing a checkout after exchanging a FRU?

- NO** The diagnostics did not find a problem. The problem may be caused by a software failure or be an intermittent hardware problem. If you think you have an intermittent problem, go to Chapter 5, “MAP 0040: Intermittent Problem Isolation” on page 5-1.
- YES** This completes the checkout. Return the system to the customer.

Step 0220-8

The diagnostic loading should have halted, and c31 should be displayed in the operator panel display. Perform the following:

1. Insert the diskette containing the device(s) you want to test.
2. Set the keymode switch to Normal and then back to Service. This indicates to the diagnostics that there is no console display.
3. Wait until c09 is displayed in the operator panel display; then proceed the next substep.
4. Wait until c07 or a flashing 888 is displayed in the operator panel display; then answer the following question.

Is a flashing 888 displayed?

NO Go to "Step 0220-7" on page 10-3.

YES Go to "Step 0220-3" on page 10-2.

Note: You can test other devices while c07 is displayed by repeating "Step 0220-1" on page 10-1, "Step 0220-3" on page 10-2, and "Step 0220-4" on page 10-2 before answering the question.

Chapter 11. MAP 0230: SMP VPD Problem Resolution

Purpose of This MAP

This MAP handles SMP VPD Problems.

This MAP determines the problem by attempting to read the VPD from the system planar and the CPU cards. If the VPD can be read, the problem is a VPD problem. If the VPD can not be read, the problem is a hardware problem.

SRN 409-089 indicates that either the VPD from the system planar or a CPU card could not be read or the VPD that was read is not compatible.

Step 0230-1

1. Shutdown or power-off the system unit.
2. Place the Key Mode Switch to Service.
3. Enter *sbb*.
4. Select **I2C Maintenance**. The I2C Maintenance Menu should appear.
5. Select **rd EEPROM** from the I2C Maintenance Menu. The EEPROM list menu should appear.
6. Select **MP**. The MP VPD should be displayed. A **.VPD** should be displayed at the beginning of the VPD.

Did the **.VPD** display?

- NO** Replace the System Planar.
YES Go to "Step 0230-2."
-

Step 0230-2

Select **CPU0**. The CPU's VPD should be displayed. A **.VPD** should be displayed at the beginning of the VPD.

Did the **.VPD** display?

- NO** Replace the CPU card.
YES Repeat this step for each CPU card that is installed. If the VPD for all the CPU cards has been displayed, Go to "Step 0230-3" on page 11-2.

Step 0230-3

The problem is a VPD mismatch between the system planar and one of the CPU cards.
Call your support center for assistance or replace the CPU card.

Chapter 12. MAP 0240: Memory Problem Resolution

Purpose of This MAP

This MAP handles memory problems.

Note: When a FRU callout is a memory card, remove the memory modules from the card being replaced, and insert the memory modules into the new card.

Step 0240-1

1. Find your SRN in the “Service Request Number List” in Chapter 22, “Diagnostic Numbers and Codes” on page 22-1.
2. Record the SRN source code, and the failing function code. For SRNs which point to more than one FFC record and replace in the order as listed.
3. Find the function codes in the “Failing Function Code List” in Chapter 23, “Failing Function Codes (FFCs)” on page 23-1 and record the part number and description for each FRU.
4. Set the power switch on the system unit to Off.
5. Replace FRU parts in the order by which the FFCs are listed.

Note: If the SRN table lists multiple FRUs replace the FRUs one at a time in the order as listed. If a replaced FRU does not fix the problem, reinstall the original FRU, and then replace the next FRU on the list, when directed by the MAPs.

6. To verify the repair, find the SRN source code you recorded in the following table and go to the step indicated in the Action column.

SRN Source Code	Action
H, K	Go to “Step 0240-2” on page 12-2.
E	Go to “Step 0240-10” on page 12-6.

Step 0240-2

1. Set the key mode switch to the Service position.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
2. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
3. If the Maintenance Menu is displayed, select **System Boot**, then specify **Boot From List**.
4. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Did the system stop with 888 flashing in the operator panel display?

- NO** This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
- YES** Go to "Step 0240-3."

Step 0240-3

Look at the failing function codes you recorded.

Have you replaced all the FRUs that correspond to the failing function codes?

- NO** Go to "Step 0240-4" on page 12-3.
- YES** Go to "Step 0240-21" on page 12-12.

Step 0240-4

1. Set the power switch on the system unit to Off.
2. Remove the new FRU and install the original FRU.
3. Replaced FRU parts in the order by which the FFCs are listed. If all FRUs have been replaced, go to the next substep.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
4. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
5. If the Maintenance Menu is displayed, select **System Boot**, then specify **Boot From List**.
6. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Did the system stop with 888 flashing in the operator panel display?

- NO** This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
- YES** Go to "Step 0240-3" on page 12-2.

Step 0240-5

Look at the FRU descriptions you recorded for this SRN.

Was the only FRU identified by this SRN a memory module?

- NO** Go to "Step 0240-6" on page 12-4.
- YES** Go to "Step 0240-9" on page 12-5.

Step 0240-6

Look at the FRU descriptions you recorded for this SRN.

Was the only FRU identified by this SRN a base memory card?

- NO** The SRN did not identify the failing FRU. Go to MAP 1540 in either the service guide or the installation and service guide for this system unit or drawer.
- YES** Go to "Step 0240-7."
-

Step 0240-7

Look at the Machine Type/Model.

Is the Machine Type/Model either 7012, 7013/520/52H/J series, 7015/R30/R40, or 7018?

- NO** Go to "Step 0240-8."
- YES** Go to "Step 0240-18" on page 12-11.
-

Step 0240-8

For CPU planars with paired memory cards (refer to "System Unit Cross-Reference Data" in Chapter 23, "Failing Function Codes (FFCs)" on page 23-1), the pairs are:

- Cards in slots D and H (first pair)
 - Cards in slots B and F (second pair)
 - Cards in slots C and G (third pair)
 - Cards in slots A and E (fourth pair).
1. Remove all memory cards except the pair containing the failing memory card.
 2. Replace the memory card you removed with the other memory card of the pair.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
 3. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
 4. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.

- The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
- The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Did the system stop with 888 flashing in the operator panel display?

- NO** This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
- YES** Go to "Step 0240-19" on page 12-12.
-

Step 0240-9

1. Set the power switch on the system unit to Off.
2. If the memory module is located on a memory card, replace that memory card. If the memory module is located on a system planar, replace the CPU planar.

Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
3. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
4. If the Maintenance Menu is displayed, select **System Boot**, then specify **Boot From List**.
5. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Did the system stop with 888 flashing in the operator panel display?

- NO** This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
- YES** Go to "Step 0240-20" on page 12-12.

Step 0240-10

The following steps handle the problem when the diagnostics identify a memory problem.

1. Set the key mode switch to the Service position.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
2. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
3. If the Maintenance Menu is displayed, select **System Boot**, then specify **Boot From List**.
4. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.
- YES** Go to "Step 0240-11" on page 12-7.

Step 0240-11

1. Press the Enter key.
2. When the FUNCTION SELECTION menu is displayed, select the Advanced Diagnostics option.
3. When the DIAGNOSTIC MODE SELECTION menu is displayed, select the System Verification option.
4. When the ADVANCED DIAGNOSTIC SELECTION menu is displayed, select the Base System or the Memory Diagnostic option.

Did the test pass?

NO Go to "Step 0240-12."

YES This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0240-12

1. Find the SRN in the "Service Request Number List" in Chapter 22, "Diagnostic Numbers and Codes" on page 22-1.
2. Record the SRN source code, and the failing function code. For SRNs which point to more than one FFC record and replace in the order as listed.
3. Find the function codes in the "Failing Function Code List" in Chapter 23, "Failing Function Codes (FFCs)" on page 23-1 and record the part number and description for each FRU.

Have you replaced all the FRUs that correspond to the failing function codes?

NO Go to "Step 0240-13" on page 12-8.

YES Go to "Step 0240-15" on page 12-9.

Step 0240-13

Note: If the Maintenance Menu is displayed, select **System Boot** then **Boot From List** and continue with this step.

1. After performing a system shutdown, set the power switch on the system unit to Off.
2. Remove the new FRU and install the original FRU.
3. Find the SRN in the "Service Request Number List" in Chapter 22, "Diagnostic Numbers and Codes" on page 22-1.
4. Replace FRU parts in the order by which the FFCs are listed. If more than one memory module is listed, replace all memory modules.

Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.

5. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to MAP 0220.
6. If the Maintenance Menu is displayed, select **System Boot**, then specify **Boot From List**.
7. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.
- YES** Go to "Step 0240-14" on page 12-9.

Step 0240-14

1. Press Enter.
2. If the terminal type has not been defined, you must use the Initialize Terminal option on the FUNCTION SELECTION menu to initialize the AIX operating system environment before you can continue with the diagnostics. This is a separate and different operation than selecting the console display.
3. Select the Advanced Diagnostics option.
4. When the DIAGNOSTIC MODE SELECTION menu displays, select the System Verification option.
5. When the ADVANCED DIAGNOSTIC SELECTION menu is displayed, select the Base System or the Memory Diagnostic option.

Did the test pass?

- NO** Go to "Step 0240-12" on page 12-7, and repeat the steps.
- YES** This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
-

Step 0240-15

Look at the FRU descriptions you recorded for this SRN.

Is the only FRU identified by this SRN a memory module?

- NO** Go to "Step 0240-6" on page 12-4.
- YES** Go to "Step 0240-16" on page 12-10.

Step 0240-16

1. After performing a shutdown, set the power switch on the system unit to Off.
2. Replace the memory card that contains the memory module.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
3. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If you do not have a console display, go to MAP 0220.
4. If the Maintenance Menu is displayed, select **System Boot**, then specify **Boot From List**.
5. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.
- YES** Go to "Step 0240-17" on page 12-11.

Step 0240-17

1. Press Enter.
2. If the terminal type has not been defined, you must use the Initialize Terminal option on the FUNCTION SELECTION menu to initialize the AIX operating system environment before you can continue with the diagnostics. This is a separate and different operation than selecting the console display.
3. Select the Advanced Diagnostics option.
4. When the DIAGNOSTIC MODE SELECTION menu is displayed, select the System Verification option.
5. When the ADVANCED DIAGNOSTIC SELECTION menu is displayed, select the Base System or the Memory Diagnostic option.

Did the test pass?

- NO** The SRN did not identify the failing FRU. Go to Chapter 4, "MAP 0030: Additional Problem Determination" on page 4-1.
- YES** This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0240-18

The failure may be caused by a memory module.

1. Obtain two good memory modules for the type of memory on which you are working.
2. Isolate the failure to a pair of memory modules by following this procedure:
 - a. Install the two new memory modules in locations 1 and 2 on the old card.
 - b. Move the memory modules from locations 3 through 8 to the old card.
 - c. Use the failing procedure to test the memory modules.
 - d. If the system still fails, continue testing the memory modules in pairs (3 and 4, 5 and 6, 7 and 8) until the system does not fail or all memory modules have been tested.

Note: The quickest way to isolate a failing memory module pair is to reduce the system memory to one card. With only the failing memory card installed, the system should stop with a flashing 888 in the operator panel display during the POST.

Were you able to isolate the problem?

- NO** Go to MAP 1540 in either the service guide or the installation and service guide for this system unit or drawer.
- YES** This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0240-19

The failure may be caused by a memory module on one of the two memory cards.

1. Obtain two good memory modules for the type of memory on which you are working.
2. Isolate the failure to a pair of memory modules by following this procedure:
 - a. Install the two new memory modules in locations 1 and 2 on one of the cards.
 - b. Use the failing procedure to test the memory modules.
 - c. If the system still fails, continue testing the memory modules in pairs (3 and 4, 5 and 6, 7 and 8 on each card) until the system does not fail or all memory modules have been tested.

Were you able to isolate the problem?

- NO** Go to MAP 1540 in the installation and service guide for this system.
- YES** This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
-

Step 0240-20

Are the same FRUs being called out in the flashing 888 sequence?

- NO** Find the SRN in the "Service Request Number List," and perform the action indicated.
- YES** The SRN list did not identify the failing FRU. Go to MAP 1540 in the installation and service guide for this system unit.
-

Step 0240-21

Use the "Reading the Flashing 888 Numbers" procedure in Chapter 22, "Diagnostic Numbers and Codes" on page 22-1 to read the flashing 888 message. Record the message number, the crash message (if present), and the diagnostic message.

Is the SRN and location code(s) of the FRU(s) the same as previously recorded?

- NO** Find the SRN in the "Service Request Number List," and perform the action indicated.
- YES** Go to "Step 0240-5" on page 12-3.

Chapter 13. MAP 0250: Unexpected System Halts During Diagnostics

Purpose of This MAP

This MAP handles unexpected system halts that occur while running the diagnostic programs.

Step 0250-1

The last three digits of the SRN match a failing function code number.

Look at the “Failing Function Code List” in Chapter 23, “Failing Function Codes (FFCs)” on page 23-1 and find the failing function code that matches the last three digits of your SRN. Record the part number and description.

Does this system unit contain only one of this kind of FRU?

- NO** Go to “Step 0250-2.”
- YES** Go to “Step 0250-3” on page 13-2.
-

Step 0250-2

One of the multiple FRUs of this kind is defective.

Remove this kind of FRUs one at a time. Test the system unit after each FRU is removed. When the test is successful or all FRUs of this kind have been removed, answer the following question.

Were you able to identify a failing FRU?

- NO** Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
- YES** Go to “Step 0250-3” on page 13-2.

Step 0250-3

1. Set the power switch on the system unit to Off.
2. Exchange the FRU identified in Step 2 or the FRU identified by the last three digits of the SRN.
3. Set the key mode switch to the Service position.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
4. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
5. If the Maintenance Menu is displayed, select **System Boot** then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

NO Go to "Step 0250-6" on page 13-3.

YES Go to "Step 0250-4" on page 13-3.

Step 0250-4

1. Press the Enter key.
2. When the FUNCTION SELECTION menu is displayed, select the Advanced Diagnostics option.
3. When the DIAGNOSTIC MODE SELECTION menu is displayed, select the System Verification option.

Did the ADVANCED DIAGNOSTIC SELECTION menu display?

- NO** The symptom changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.
- YES** Go to "Step 0250-5."
-

Step 0250-5

Run the diagnostic checkout on the FRU you exchanged.

Did the FRU pass the test?

- NO** Contact your support person.
- YES** This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
-

Step 0250-6

A flashing 888 may be displayed in the operator panel display.

Is a flashing 888 displayed in the operator panel display?

- NO** The symptom changed. Check for loose cards, cables and other obvious problems. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1, and get a new SRN.
- YES** Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.

Chapter 14. MAP 0260: System Hangs During Resource Configuration

Purpose of This MAP

This MAP handles problems when the system unit hangs while configuring a resource.

Step 0260-1

The last three digits of the SRN match a failing function code number.

Look at the “Failing Function Code List” in Chapter 23, “Failing Function Codes (FFCs)” on page 23-1 and find the failing function code that matches the last three digits of your SRN. Record the FRU part number and description (use the first FRU part listed when multiple FRUs are listed).

Does your system unit contain only one of this kind of FRU?

NO Go to “Step 0260-2.”

YES Go to “Step 0260-3.”

Step 0260-2

One of the FRUs of this kind is defective.

Remove this kind of FRU one at a time. Test the system unit after each FRU is removed. When the test completes successfully or when you have removed all of the FRUs of this kind, answer the following question.

Were you able to identify a failing FRU?

NO Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.

YES Go to “Step 0260-3.”

Step 0260-3

1. Set the power switch on the system unit to Off.
2. Exchange the FRU identified in “Step 0260-2” or identified by the last three digits of your SRN.
3. Set the key mode switch to the Service position.
4. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, “MAP 0220: Checking a System with No Console Display” on page 10-1.

5. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** Go to "Step 0260-4."
- YES** Go to "Step 0260-9" on page 14-4.
-

Step 0260-4

Look at the operator panel display.

Is the number displayed the same as the last three digits of your SRN?

- NO** The symptom changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.
- YES** Go to "Step 0260-5."
-

Step 0260-5

Was the FRU you exchanged an adapter or a planar?

- NO** Go to "Step 0260-6."
- YES** Go to "Step 0260-8" on page 14-3.
-

Step 0260-6

Was the FRU you exchanged a device?

- NO** Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
- YES** Go to "Step 0260-7" on page 14-3.

Step 0260-7

The adapter for the device may be causing the problem.

1. Set the power switch on the system unit to Off.
2. Exchange the adapter for the device.
3. Set the key mode switch to the Service position.

Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.

4. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
5. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
- YES** Go to "Step 0260-11" on page 14-5.

Step 0260-8

The FRU identified by failing function code 227 may be causing the problem.

1. Set the power switch on the system unit to Off.
2. Find failing function code 227 in the "Failing Function Code List" in Chapter 23, "Failing Function Codes (FFCs)" on page 23-1.
3. If the FRU identified by failing function code 227 has not been exchanged, exchange that FRU.
4. Set the key-mode switch to the Service position.

Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.

5. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the dis-

played instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.

6. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
7. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
- YES** Go to "Step 0260-13" on page 14-5.
-

Step 0260-9

Are you executing diagnostics from the diskette package?

- NO** Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
- YES** Go to "Step 0260-10."
-

Step 0260-10

1. Follow the displayed instructions. Load the diskette containing the resource that is hanging during resource configuration.
2. Wait until one of the following conditions occur; then answer the question:
 - The ADVANCED DIAGNOSTIC SELECTION MENU is displayed.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.

Is the ADVANCED DIAGNOSTIC SELECTION MENU displayed?

- NO** Go to "Step 0260-4" on page 14-2.
- YES** Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0260-11

Are you executing diagnostics from the diskette package?

- NO** Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
- YES** Go to "Step 0260-12."
-

Step 0260-12

Follow the displayed instructions. Load the diskette containing the resource that is hanging during resource configuration.

1. Wait until one of the following conditions occur; then answer the question:
 - The ADVANCED DIAGNOSTIC SELECTION MENU is displayed.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.

Is the ADVANCED DIAGNOSTIC SELECTION MENU displayed?

- NO** Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
- YES** Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
-

Step 0260-13

Are you executing diagnostics from the diskette package?

- NO** Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
- YES** Go to "Step 0260-14" on page 14-6.

Step 0260-14

Note: If the Maintenance Menu is displayed, select System Boot then boot from list and continue with this step.

1. Follow the displayed instructions. Load the diskette containing the resource that is hanging during resource configuration.
2. Wait until one of the following conditions occur; then answer the question:
 - The ADVANCED DIAGNOSTIC SELECTION MENU is displayed.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.

Is the ADVANCED DIAGNOSTIC SELECTION MENU displayed?

NO Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.

YES Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Chapter 15. MAP 0270: System Hangs During Adapter Configuration

Purpose of This MAP

This MAP handles unexpected system halts that occur while configuring the adapters.

Step 0270-1

The right-most digit of the SRN identifies the slot number of the adapter being configured. The second digit from the right in the SRN, identifies the planar containing the adapter slot.

1. Set the power switch on the system unit to Off.
2. Look at the right-most digit of your SRN. Exchange the adapter plugged into the slot indicated by that number.
3. Set the key mode switch to the Service position.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
4. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
5. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

NO Go to "Step 0270-2" on page 15-2.

YES Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0270-2

Look at the operator panel display.

Is the number displayed the same as the last three digits of your SRN?

- NO** The symptom changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.
- YES** Go to "Step 0270-3."
-

Step 0270-3

The FRU identified by failing function code 227 may be causing the problem.

1. Set the power switch on the system unit to Off.
2. Find failing function code 227 in the "Failing Function Code List" in Chapter 23, "Failing Function Codes (FFCs)" on page 23-1.
3. If the FRU identified by failing function code 227 has not been exchanged, exchange that FRU.
4. Set the key-mode switch to the Service position.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
5. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
6. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
7. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
- YES** Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Chapter 16. MAP 0280: IPL Problem Resolution

Purpose of This MAP

Use this MAP to handle problems when the SRN was the result of a MAP callout.

Step 0280-1

1. Find the SRN in the "Service Request Number List" in Chapter 22, "Diagnostic Numbers and Codes" on page 22-1.
2. Record the SRN source code, and the failing function code. For SRNs which point to more than one FFC record and replace in the order as listed.
3. Find the function codes in the "Failing Function Code List" in Chapter 23, "Failing Function Codes (FFCs)" on page 23-1 and record the part number and description for each FRU.
4. Set the power switch on the system unit to Off.

Notes:

1. If the first FRU listed is the standard I/O planar, you first may want to exchange the other listed FRUs, because the standard I/O planar takes more time to exchange.
2. If the first FRU listed is a disk drive, you first may want to exchange the other listed FRUs, because the data stored on the disk is important to the customer.
5. Replace FRU parts in the order by which the FFCs are listed.
6. Find the FRU you exchanged in the following table and go to the step listed in the Action column.

FRU	Action
Keyboard	Go to "Step 0280-2" on page 16-2.
Diskette drive	Go to "Step 0280-8" on page 16-5.
Display adapter	Go to "Step 0280-12" on page 16-7.
Terminal cable	Go to "Step 0280-22" on page 16-11.
Other	Go to "Step 0280-31" on page 16-15.

Step 0280-2

The following steps handle problems where the system fails to respond to a key stroke while trying to select diagnostics.

1. Set the key mode switch to Service position.

Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.

2. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
3. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
4. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** The symptom has changed. Check for loose cards, cables, or an obvious problem. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.
- YES** Go to "Step 0280-3."

Step 0280-3

Press the Enter key.

Is the FUNCTION SELECTION menu displayed?

- NO** Go to "Step 0280-4" on page 16-3.
- YES** Go to "Step 0280-6" on page 16-4.

Step 0280-4

Look at the FRU part numbers you recorded for this SRN.

Have you exchanged all the FRUs that correspond to the failing function codes?

- NO** Go to "Step 0280-5."
YES Contact your support person.
-

Step 0280-5

1. Set the power switch on the system unit to Off.
2. Remove the new FRU and install the original FRU.
3. Replace FRU parts in the order by which the FFCs are listed.

Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.

4. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not respond when you attempt to select a console display, go to "Step 0280-4." If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
5. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to MAP 0020 and get a new SRN.
- YES** Go to "Step 0280-3" on page 16-2, and repeat the steps.

Step 0280-6

1. Select Advanced Diagnostics.
2. When the DIAGNOSTIC MODE SELECTION menu displays, select the System Verification option.

Is the **ADVANCED DIAGNOSTIC SELECTION** menu displayed?

- NO** Go to "Step 0280-4" on page 16-3.
- YES** Go to "Step 0280-7."
-

Step 0280-7

Select the keyboard checkout.

Did the keyboard pass the test?

- NO** The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.
- YES** This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0280-8

The following steps handle problems when the diagnostic programs cannot do an IPL from the diskette drive.

1. Set the key mode switch to the Service position.
2. Insert the first diagnostic diskette into the diskette drive.
3. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
4. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
5. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Did the system stop with two or more numbers between 221-296 alternating in the operator panel display?

- NO** Go to "Step 0280-9."
- YES** Go to "Step 0280-10" on page 16-6.

Step 0280-9

Look at the console display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** The symptom has changed. Check for loose cards, cables, and obvious Problems. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.
- YES** This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0280-10

Look at the FRU part numbers you recorded for this SRN.

Have you exchanged all the FRUs that correspond to the failing function codes?

NO Go to "Step 0280-11."

YES The SRN did not identify the failing FRU. Go to Chapter 4, "MAP 0030: Additional Problem Determination" on page 4-1.

Step 0280-11

1. Set the power switch on the system unit to Off.
2. Remove the new FRU and install the original FRU.
3. Replace FRU parts in the order by which the FFCs are listed.
4. Insert the first diagnostic diskette into the diskette drive.
5. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
6. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
7. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Did the system stop with two or more numbers between 221 and 296 alternating in the operator panel display?

NO Go to "Step 0280-9" on page 16-5.

YES Go to "Step 0280-10."

Step 0280-12

The following steps handle problems where information is not displayed correctly while loading the diagnostics.

1. Set the key mode switch to the Service position.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
2. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette.
3. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
4. Wait until one of the following conditions occurs; then go to the next substep.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS display.
 - The machine stops for at least three minutes with a steady c31 in the operator panel display.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.
 - The MAIN MENU is displayed.
 - The system stops with a blank operator panel display, and the DIAGNOSTIC OPERATING INSTRUCTIONS are not displayed correctly.
5. Find the condition in the following table and go to the step listed in the Action column.

Condition	Action
c31 is displayed in the operator panel display.	Go to "Step 0280-13" on page 16-8.
The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.	Go to "Step 0280-14" on page 16-8.
The system stops with a blank operator panel display, and the DIAGNOSTIC OPERATING INSTRUCTIONS or the MAIN MENU are not displayed correctly.	Go to "Step 0280-16" on page 16-8.
The MAIN MENU is displayed.	Go to "Step 0280-14" on page 16-8.
One of the other conditions exists.	Go to "Step 0280-15" on page 16-8.

Step 0280-13

The instructions for selecting a console display should be on all of the direct-attached displays and any terminal attached to the S1 port.

Are the instructions for selecting a console display displayed without any obvious display problem?

NO Go to "Step 0280-16."

YES This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0280-14

The DIAGNOSTIC OPERATING INSTRUCTIONS or MAIN MENU should be displayed now.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS or MAIN MENU displayed without any obvious display problems?

NO Go to "Step 0280-16."

YES This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0280-15

The symptom has changed. Check for loose cards, cables, or an obvious problem. If you do not find a problem, go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1 and get a new SRN.

Step 0280-16

Look at the FRU part numbers you recorded for this SRN.

Have you exchanged all the FRUs that correspond to the failing function codes?

NO Go to "Step 0280-17" on page 16-9.

YES Go to "Step 0280-18" on page 16-10.

Step 0280-17

1. Set the power switch on the system unit to Off.
2. Remove the new FRU and install the original FRU.
3. Replace FRU parts in the order by which the FFCs are listed.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
4. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette.
5. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then go to the next substep.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The machine stops for at least three minutes with a steady c31 in the operator panel display.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.
 - The MAIN MENU is displayed.
 - The system stops with a blank operator panel display, and the DIAGNOSTIC OPERATING INSTRUCTIONS are not displayed correctly.
7. Find the condition in the following table and go to the step listed in the Action column.

Condition	Action
c31 is displayed in the operator panel display.	Go to "Step 0280-13" on page 16-8.
The DIAGNOSTIC OPERATING INSTRUCTIONS or MAIN MENU are displayed.	Go to "Step 0280-14" on page 16-8.
The system stops with a blank operator panel display, and the DIAGNOSTIC OPERATING INSTRUCTIONS or the MAIN MENU are not displayed correctly.	Go to "Step 0280-16" on page 16-8.
One of the other conditions exists.	Go to "Step 0280-15" on page 16-8.

Step 0280-18

1. Set the power switch on the system unit to Off.
2. Remove the new FRU and install the original FRU.
3. Remove all adapters except the display and boot adapters.
4. Set the keymode switch to the Service position.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
5. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette.
6. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
7. Wait until one of the following conditions occurs; then go to the next substep.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The machine stops for at least three minutes with a steady c31 in the operator panel display.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.
 - The MAIN MENU is displayed.
 - The system stops with a blank operator panel display, and the DIAGNOSTIC OPERATING INSTRUCTIONS are not displayed correctly.
8. Find the condition in the following table and go to the step listed in the Action column.

Condition	Action
c31 is displayed in the operator panel display.	Go to "Step 0280-19."
The system stops with a blank operator panel display, and the DIAGNOSTIC OPERATING INSTRUCTIONS or the MAIN MENU are not displayed correctly.	Go to "Step 0280-34" on page 16-17.
One of the other conditions exists.	Go to "Step 0280-15" on page 16-8.

Step 0280-19

The instructions for selecting a console display should be on all of the direct-attached displays and any terminal attached to the S1 port.

Are the instructions for selecting a console display displayed without any obvious display problem?

- NO** Go to "Step 0280-21" on page 16-11.
YES Go to "Step 0280-20" on page 16-11.

Step 0280-20

One of the adapters you removed is causing the problem. Install the adapters one at a time to determine the failing adapter. Test the system after each adapter. Exchange the failing adapter; then go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0280-21

The problem is most likely a display problem. The display problem determination procedures did not detect the problem. Continue with the problem determination procedures for your display.

Step 0280-22

The following steps handle problems where information is not displayed correctly on an attached terminal while loading the diagnostics.

1. Set the key mode switch to the Service position.

Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.

2. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette.
3. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
4. Wait until one of the following conditions occurs; then go to the next substep.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS displayed.
 - The machine stops for at least three minutes with a steady c31 in the operator panel display.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.
 - The system stops with a blank operator panel display, and the DIAGNOSTIC OPERATING INSTRUCTIONS are not displayed correctly.

5. Find the condition in the following table and go to the step listed in the Action column.

Condition	Action
c31, 260, 261, or 262 is displayed in the operator panel display.	Go to "Step 0280-23."
The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.	Go to "Step 0280-24."
The system stops with a blank operator panel display, and the DIAGNOSTIC OPERATING INSTRUCTIONS or the MAIN MENU are not displayed correctly.	Go to "Step 0280-16" on page 16-8.
One of the other conditions exists.	Go to "Step 0280-15" on page 16-8.

Step 0280-23

The instructions for selecting a console display should be on all of the direct-attached displays and any terminal attached to the S1 port.

Are the instructions for selecting a console display displayed without any obvious display problem?

NO Go to "Step 0280-25."

YES This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0280-24

The DIAGNOSTIC OPERATING INSTRUCTIONS or the MAIN MENU should be displayed now.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS or the MAIN MENU displayed without any obvious display problems?

NO Go to "Step 0280-25."

YES This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0280-25

Look at the FRU part numbers you recorded for this SRN.

Have you exchanged all the FRUs that correspond to the failing function codes?

NO Go to "Step 0280-26" on page 16-13.

YES Go to "Step 0280-27" on page 16-14.

Step 0280-26

1. Set the power switch on the system unit to Off.
2. Remove the new FRU and install the original FRU.
3. Replace FRU parts in the order by which the FFCs are listed.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
4. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette.
5. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then go to the next substep.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS displayed.
 - The machine stops for at least three minutes with a steady c31 in the operator panel display.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.
7. Find the condition in the following table and go to the step listed in the Action column.

Condition	Action
c31, 260, 261, or 262 is displayed in the operator panel display.	Go to "Step 0280-23" on page 16-12.
The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.	Go to "Step 0280-24" on page 16-12.
The system stops with a blank operator panel display, and the DIAGNOSTIC OPERATING INSTRUCTIONS are not displayed correctly.	Go to "Step 0280-16" on page 16-8.
One of the other conditions exists.	Go to "Step 0280-15" on page 16-8.

Step 0280-27

1. Set the power switch on the system unit to Off.
2. Remove the new FRU and install the original FRU.
3. Remove all adapters except the display and boot adapters.
4. Set the key mode switch to the Service position.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
5. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette.
6. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
7. Wait until one of the following conditions occurs; then go to the next substep.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The machine stops for at least three minutes with a steady c31 in the operator panel display.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.
8. Find the condition in the following table and go to the step listed in the Action column.

Condition	Action
c31, 260, 261, or 262 is displayed in the operator panel display.	Go to "Step 0280-28."
The system stops with a blank operator panel display, and the DIAGNOSTIC OPERATING INSTRUCTIONS are not displayed correctly.	Go to "Step 0280-16" on page 16-8.
One of the other conditions exists.	Go to "Step 0280-15" on page 16-8.

Step 0280-28

The instructions for selecting a console display should be on all of the direct-attached displays and any terminal attached to the S1 port.

Are the instructions for selecting a console display displayed without any obvious display problem?

NO Go to "Step 0280-30" on page 16-15.

YES Go to "Step 0280-29" on page 16-15.

Step 0280-29

One of the adapters you removed is causing the problem. Install the adapters one at a time to determine the failing adapter. Test the system after each adapter. Exchange the failing adapter; then go to MAP 0410.

Step 0280-30

The problem is most likely an attached terminal problem. The terminal problem determination procedures did not detect the problem. Continue with the problem determination procedures for your terminal.

Step 0280-31

1. Set the key mode switch to the Service position.

Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.

2. Set the power switch on the system unit to On. If c07 displays in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
3. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
4. Wait until one of the following conditions occurs; then go to the next substep.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The machine stops for at least three minutes with a steady c31 in the operator panel display.
 - The system unit's power-on light does not come on, or does not stay on.
 - Either 888 or other characters are flashing in the operator panel display.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

NO Go to "Step 0280-32" on page 16-16.

YES This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0280-32

Look at the FRU part numbers you recorded for this SRN.

Have you exchanged all the FRUs that correspond to the failing function codes?

- NO** Go to "Step 0280-33."
- YES** Check for loose cards, cables, and obvious problems. If you do not find a problem, call your support person.
-

Step 0280-33

1. Set the power switch on the system unit to Off.
2. Remove the new FRU and install the original FRU.
3. Replace FRU parts in the order by which the FFCs are listed.
Note: If the AIX operating system is not used on the system, insert the first diagnostic diskette into the diskette drive, or insert the CD-ROM diagnostic disc into the CD-ROM drive.
4. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
5. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then go to the next substep.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The machine stops for at least three minutes with a steady c31 in the operator panel display.
 - The system unit's power-on light does not come on, or does not stay on.
 - Either 888 or other characters are flashing in the operator panel display.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** Go to "Step 0280-32."
- YES** This completes the repair. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0280-34

1. Set the power switch on the system unit to Off.
2. Observe the operator panel display while setting the system unit power switch to On.

Did the operator panel display remain blank when the system unit power switch was set to On?

- NO** Go to Chapter 4, "MAP 0030: Additional Problem Determination" on page 4-1.
- YES** Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.

Chapter 17. MAP 0290: Missing Resource Problem Resolution

Purpose of This MAP

Use this MAP to handle problems when a resource is not detected by the diagnostics.

Step 0290-1

Use the “Display Configuration and Resource List” on page 28-8 to display the resources that were sensed by the configuration program when the diagnostic programs were loaded; then go to “Step 0290-2.”

Note: Supplemental diskettes may be required for specific adapters and devices if service aids are run from Standalone Diagnostics.

Step 0290-2

Is the undetected resource a SCSI device installed in an externally attached enclosure for a SCSI device(s)?

NO Go to “Step 0290-4” on page 17-2.

YES Go to “Step 0290-3.”

Step 0290-3

Go to the documentation for SCSI devices installed in an externally attached enclosure for a SCSI device(s), and check the device(s) for proper power, cabling, fans running, and any other checks available. Return here after you check the device.

Did you find a problem?

NO Go to “Step 0290-4” on page 17-2.

YES Correct the problem; then go to Chapter 19, “MAP 0410: Repair Checkout” on page 19-1.

Step 0290-4

Are you running Standalone Diagnostics?

NO Go to "Step 0290-7."

YES Go to "Step 0290-5."

Step 0290-5

Are multiple devices missing that are connected to the same adapter?

NO Go to "Step 0290-7."

YES Suspect a problem with the device adapter. Run diagnostics on the device adapter then go to "Step 0290-6."

Step 0290-6

Did the diagnostics detect a problem with the adapter?

NO Go to "Step 0290-7."

YES Record the SRN then find the SRN in the SRN List and do the listed action.

Step 0290-7

Take the following steps:

1. Exchange the undetected resource.
2. Use the "Display Configuration and Resource List" on page 28-8 to display the resources sensed by the configuration program.

Is the resource listed?

NO Go to Chapter 4, "MAP 0030: Additional Problem Determination" on page 4-1.

YES Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Chapter 18. MAP 0310: No Memory Detected Problem Resolution

Purpose of This MAP

This MAP handles problems when the system unit power-on self-test (POST) did not detect any memory installed in the system unit.

Note: When a FRU callout is a memory card, remove the memory SIMMs from the card being replaced, and insert the SIMMs in the new card or replace the memory card. To identify the memory cards and SIMMS in the system, refer to “Memory Card and SIMM Cross-Reference” in Appendix C.

Step 0310-1

1. Set the power switch on the system unit to Off.
2. Set the key mode switch to the Service position.
3. Find the system unit model number in the following table, and go to the step listed in the Action column.

System Unit Type/Model Number	Action
7011/220	Go to “Step 0310-3” on page 18-2.
7012/320/32E/32H/340/350/355/360/36T/365/370/37T/375	Go to “Step 0310-16” on page 18-9.
7013/520/52H	Go to “Step 0310-11” on page 18-6.
7013/55L	Go to “Step 0310-11” on page 18-6.
7018/740/741	Go to “Step 0310-11” on page 18-6.
7012 G Series, 7013 J Series, 7015/R30	Go to “Step 0310-21” on page 18-12.
All other models	Go to “Step 0310-2” on page 18-2.

Step 0310-2

Look at the memory cards.

Are there only two memory cards installed?

- NO** Go to "Step 0310-3."
- YES** Go to "Step 0310-4" on page 18-3.
-

Step 0310-3

1. Set the power switch on the system unit to Off.
2. Exchange the planar containing the CPU.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
3. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
4. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
5. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
- YES** Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0310-4

For CPU planars with paired memory cards (refer to “System Unit Cross-Reference Data” in Chapter 3), the pairs are:

- Cards in slots D and H (first pair)
- Cards in slots B and F (second pair)
- Cards in slots C and G (third pair)
- Cards in slots A and E (fourth pair).

Check to be sure the memory cards are installed correctly.

Did you find a problem?

- NO** Go to “Step 0310-5.”
- YES** Go to “Step 0310-8” on page 18-5.
-

Step 0310-5

1. Set the power switch on the system unit to Off.
2. Exchange one of the memory cards.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
3. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, “MAP 0220: Checking a System with No Console Display” on page 10-1.
4. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
5. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** Go to “Step 0310-6” on page 18-4.
- YES** Go to Chapter 19, “MAP 0410: Repair Checkout” on page 19-1.

Step 0310-6

Look at the operator panel display.

Is a steady 213 or a flashing 888 displayed?

NO Go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1.

YES Go to "Step 0310-7."

Step 0310-7

1. Set the power switch on the system unit to Off.
2. Remove the new memory card and put the old memory card back into the system unit.
3. Exchange another memory card that has not been exchanged yet.

Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.

4. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
5. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

NO Go to "Step 0310-9" on page 18-5.

YES Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0310-8

1. Set the power switch on the system unit to Off.
2. Exchange one pair of memory cards. For CPU planars with paired memory cards refer to “System Unit Memory Combinations” table in Appendix C of this manual.

The pairs are:

Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.

- Cards in slots D and H (first pair)
 - Cards in slots B and F (second pair)
 - Cards in slots C and G (third pair)
 - Cards in slots A and E (fourth pair).
3. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, “MAP 0220: Checking a System with No Console Display” on page 10-1.
 4. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
 5. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** Go to Chapter 3, “MAP 0020: Problem Determination Procedure” on page 3-1.
- YES** Go to Chapter 19, “MAP 0410: Repair Checkout” on page 19-1.

Step 0310-9

Look at the operator panel display.

Is a steady 213 or a flashing 888 displayed?

- NO** Go to Chapter 3, “MAP 0020: Problem Determination Procedure” on page 3-1.
- YES** Go to “Step 0310-10” on page 18-6.

Step 0310-10

1. Set the power switch on the system unit to Off.
2. Remove the new memory card, and put the old memory card back into the system unit.
3. Exchange the CPU planar.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
4. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
5. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
- YES** Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0310-11

Look at the memory cards.

Is there only one memory card installed?

- NO** Go to "Step 0310-12" on page 18-7.
- YES** Go to "Step 0310-13" on page 18-8.

Step 0310-12

1. Set the power switch on the system unit to Off.
2. Exchange the CPU planar.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
3. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
4. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
5. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
- YES** Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0310-13

1. Set the power switch on the system unit to Off.
2. Exchange the memory card.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
3. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
4. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
5. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

NO Go to "Step 0310-14."

YES Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0310-14

Look at the operator panel display.

Is a steady 213 or a flashing 888 displayed?

NO Go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1.

YES Go to "Step 0310-15" on page 18-9.

Step 0310-15

1. Set the power switch on the system unit to Off.
2. Remove the new memory card and put the old memory card back into the system unit.
3. Exchange the CPU planar.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
4. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
5. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
- YES** Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0310-16

Look at the memory cards.

Is there only one memory card installed?

- NO** Go to "Step 0310-17" on page 18-10.
- YES** Go to "Step 0310-18" on page 18-11.

Step 0310-17

1. Set the power switch on the system unit to Off.
2. Exchange the CPU card.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
3. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
4. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
5. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
- YES** Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0310-18

1. Set the power switch on the system unit to Off.
2. Exchange the memory card.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
3. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
4. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
5. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

NO Go to "Step 0310-19."

YES Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0310-19

Look at the operator panel display.

Is a steady 213 or a flashing 888 displayed?

NO Go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1.

YES Go to "Step 0310-20" on page 18-12.

Step 0310-20

1. Set the power switch on the system unit to Off.
2. Remove the new memory card and put the old memory card back into the system unit.
3. Exchange the CPU planar xx32.
Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.
4. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
5. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
- YES** Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0310-21

Look at the memory cards.

Is there only one memory card installed?

- NO** Go to "Step 0310-22" on page 18-13.
- YES** Go to "Step 0310-24" on page 18-14.

Step 0310-22

1. Turn the system unit's power off.
2. Exchange the system planar.
3. Turn the system unit's power on. If c31 is displayed, follow the displayed instructions to select a console display.
4. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
5. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** Remove the new FRU and install the original FRU. Go to "Step 0310-23."
- YES** Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
-

Step 0310-23

1. Turn the system unit's power off.
2. Exchange the first memory card.
3. Turn the system unit's power on. If c31 is displayed, follow the displayed instructions to select a console display.
4. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
5. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** Repeat the operation for all installed memory cards. If, after the replacement of all memory cards, the DIAGNOSTIC OPERATING INSTRUCTIONS are not displayed, go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
- YES** Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0310-24

1. Turn the system unit's power off.
2. Exchange the memory card.
3. Turn the system unit's power on. If c31 is displayed, follow the displayed instructions to select a console display.
4. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
5. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

NO Go to "Step 0310-25."

YES Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0310-25

1. Turn the system unit's power off.
2. Exchange the system planar.
3. Turn the system unit's power on. If c31 is displayed, follow the displayed instructions to select a console display.
4. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
5. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

NO Remove the new FRU and install the original FRU. Go to MAP 1540.

YES Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Chapter 19. MAP 0410: Repair Checkout

Purpose of This MAP

This MAP is used to check out the system after a repair is completed.

Note: This MAP does not analyze the error log.

Step 0410-1

Note: If the system planar or battery has been replaced and you are loading diagnostics from a server over a network, it will be necessary for the customer to set the network boot information for this system before diagnostics can be loaded. The system time and date information should also be set when the repair is completed.

1. After performing a system shutdown, set the power switch on the system unit to Off.
2. Install all of the cards, adapters, cables, devices, and any other FRUs that were removed during problem analysis.
3. Set the key mode switch to the Service position.

Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.

4. Set the power switch on the system unit to On. If c07 is displayed in the operator panel display, insert the next diagnostic diskette. If c31 is displayed, follow the displayed instructions to select a console display. If your system does not have a console display, go to Chapter 10, "MAP 0220: Checking a System with No Console Display" on page 10-1.
5. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
6. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 291 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

NO There is a problem that keeps the DIAGNOSTIC OPERATING INSTRUCTIONS from displaying. Go to MAP 0020.

YES Go to "Step 0410-2" on page 19-2.

Step 0410-2

1. Press the Enter key.
2. If the terminal type has not been defined, you must use the Initialize Terminal option on the FUNCTION SELECTION menu to initialize the operating system environment before you can continue with the diagnostics. This is a separate and different operation than selecting the console display.
3. Select the Advanced Diagnostics option.
4. When the DIAGNOSTIC MODE SELECTION menu is displayed, select System Verification.
5. When the ADVANCED DIAGNOSTIC SELECTION menu displays, select the System Checkout option or test the FRUs you exchanged by selecting the test(s) for the FRU(s). If the RESOURCE SELECTION menu is displayed, select the All Resources option or test the FRU(s) you exchanged by selecting the diagnostics for the FRU(s).

Did the test pass?

NO There is still a problem. Go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1.

YES This completes the repair. Return the system to the customer

Note: Use the appropriate service TAC and Action Code, using *QSAR Preparation Guide*, order number Z229-0455.

Chapter 20. MAP 0420: System Checkout

Purpose of This MAP

Use this MAP to verify that the system is working properly. "Step 0420-1."

Note: This MAP does not analyze the contents of the error log.

Step 0420-1

1. Set the key mode switch to the Service position.
2. Set the power switch on the system unit to On.
3. If the Maintenance Menu is displayed, select **System Boot**, then **Boot from List** and continue with this step.
4. Wait until one of the following conditions occurs; then answer the question.
 - The system unit's power-on light does not come on, or does not stay on.
 - The machine stops for at least three minutes with a steady number in the operator panel display.
 - A flashing 888 is displayed in the operator panel display.
 - The operator panel display is blank.
 - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
 - The system stops with two or more numbers between 221 and 291 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

- NO** There is a problem. Go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1.
- YES** Go to "Step 0420-2" on page 20-2.

Step 0420-2

1. Press the Enter key.
2. When the FUNCTION SELECTION menu displays, select Advanced Diagnostics.
3. When the DIAGNOSTIC MODE SELECTION menu displays, select the System Verification option.
4. If the NEW RESOURCE menu is displayed, be sure that all resources listed are installed; then follow the instructions.
5. The MISSING RESOURCE menu should only be displayed if a resource was removed or moved. If the MISSING RESOURCE menu is displayed, follow the instructions.
6. When the ADVANCED DIAGNOSTIC SELECTION menu displays, select the System Checkout option to test the system or select the individual tests you want to run. If the RESOURCE SELECTION menu is displayed select the All Resources option to test the system or select each test you want to run.

Did the test pass?

- NO** There is a problem. Go to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1.
- YES** This completes the system checkout.

Chapter 21. MAP 0430: System Hangs with 871 in the Operator Panel Display

Purpose of This MAP

Use this MAP to analyze problems when the system hangs with 871 displayed in the operator panel display.

Note: This is not a Start of Call MAP. You should be using this MAP only after being directed here from MAP 0020.

Step 0430-1

If this is a POWERstation Model 7016, the system is trying to configure the Graphics Card Cage Assembly. If this is any other system with a 7235 attached, the system is trying to configure the 7235.

Allow approximately 10 minutes for the system to continue configuration attempts.

Did the system eventually stop with the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

NO Go to "Step 0430-2."

YES Go back to Chapter 3, "MAP 0020: Problem Determination Procedure" on page 3-1, Step 7, and continue.

Step 0430-2

The system hangs while trying to configure the resource.

Is this a 7016 machine type?

NO Go to "Step 0430-3" on page 21-2.

YES Go to "Step 0430-4" on page 21-2.

Step 0430-3

1. Set the power switch of the system unit to Off.
2. Set the power switch of the 7235 to Off.
3. Disconnect the external CVME cable from the rear of the system unit.
4. Set the key mode switch to the Service position.
5. Set the power switch on the system unit to On.

Did the operator panel display progress past 871?

- NO** Exchange the Graphics Subsystem Adapter. Locate the correct part number by referring to failing function code 871 listed in Chapter 3. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
- YES** Exchange the CVME Interface Card in the 7235. Obtain the correct part number by referring to Chapter 23, "Failing Function Codes (FFCs)" on page 23-1 110. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Step 0430-4

1. Set the power switch of the 7016 system unit to Off.
2. Remove the covers of the 7016 system unit. Refer to the *7016 POWERstation and POWERserver Installation and Service Guide*.
3. Disconnect the cable connected to the Graphics Subsystem Adapter.
4. Set the power switch of the 7016 to On.

Did the operator panel display progress past 871?

- NO** Exchange the Graphics Subsystem Adapter. Locate the correct part number by referring to Chapter 23, "Failing Function Codes (FFCs)" on page 23-1 871. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.
- YES** Exchange the CVME Interface Card in the graphics card cage assembly. Obtain the correct part number by referring to Chapter 23, "Failing Function Codes (FFCs)" on page 23-1 110. Go to Chapter 19, "MAP 0410: Repair Checkout" on page 19-1.

Chapter 22. Diagnostic Numbers and Codes

Operator Panel Display Numbers

This section contains lists of the various numbers and characters that may be displayed in the operator panel display. The numbers and characters are divided into two broad categories. The first group tracks the system unit's power-on testing; the second group provides information about messages that follow a *flashing* 888 number.

The operator panel display numbers listed below are valid only when the system unit's power-on indicator is lit.

To form an SRN from any *steady* number that occurs during the system unit's power-on test (BIST or POST), add 101-in front of the displayed number.

For more detailed explanations of operator panel display numbers, refer to the *AIX Version 4 Messages Guide and Reference*, order number SC23-2641.

Built-In Self-Test (BIST) Indicators

- 100** BIST completed successfully; control was passed to IPL ROS.
- 101** BIST started following reset.
- 102** BIST started, following the system unit's power-on reset.
- 103** BIST could not determine the system model number.
- 104** Equipment conflict; BIST could not find the CBA.
- 105** BIST could not read from the OCS EPROM.
- 106** BIST failed: CBA not found
- 111** OCS stopped; BIST detected a module error.
- 112** A checkstop occurred during BIST; checkstop results could not be logged out.
- 113** Three checkstops have occurred.
- 120** BIST starting a CRC check on the 8752 EPROM.
- 121** BIST detected a bad CRC in the first 32K bytes of the OCS EPROM.
- 122** BIST started a CRC check on the first 32K bytes of the OCS EPROM.
- 123** BIST detected a bad CRC on the OCS area of NVRAM.
- 124** BIST started a CRC check on the OCS area of NVRAM.
- 125** BIST detected a bad CRC on the time-of-day area of NVRAM.
- 126** BIST started a CRC check on the time-of-day area of NVRAM.
- 127** BIST detected a bad CRC on the 8752 EPROM.
- 130** BIST presence test started.
- 140** Running BIST. (Box Manufacturing Mode Only)
- 142** Box manufacturing mode operation.
- 143** Invalid memory configuration.
- 144** Manufacturing test failure.
- 151** BIST started AIPGM test code.
- 152** BIST started DCLST test code.
- 153** BIST started ACLST test code.
- 154** BIST started AST test code.
- 160** Bad EPOW Signal/Power status signal.
- 161** BIST being conducted on BUMP I/O.
- 162** BIST being conducted on JTAG.
- 163** BIST being conducted on Direct I/O.

- 164** BIST being conducted on CPU.
- 165** BIST being conducted on DCB and Memory.
- 166** BIST being conducted on Interrupts.
- 170** BIST being conducted on Multi-Processors.
- 180** Logout in progress.
- 182** BIST COP bus not responding.
- 185** A checkstop condition occurred during the BIST.
- 186** System logic-generated checkstop (Model 250 only).
- 187** Graphics-generated checkstop (Model 250).
- 195** Checkstop logout complete
- 199** Generic SCSI backplane
- 888** BIST did not start.

Power-On Self-Test (POST) Indicators

- 200** IPL attempted with keylock in the Secure position.
- 201** IPL ROM test failed or checkstop occurred (irrecoverable).
- 202** Unexpected machine check interrupt.
- 203** Unexpected data storage interrupt.
- 204** Unexpected instruction storage interrupt.
- 205** Unexpected external interrupt.
- 206** Unexpected alignment interrupt.
- 207** Unexpected program interrupt.
- 208** Unexpected floating point unavailable interrupt.
- 209** Unexpected SVC interrupt.
- 20c** L2 cache POST error. (The display shows a solid 20c for 5 seconds.)
- 210** Unexpected SVC interrupt.
- 211** IPL ROM CRC comparison error (irrecoverable).
- 212** RAM POST memory configuration error or no memory found (irrecoverable).
- 213** RAM POST failure (irrecoverable).
- 214** Power status register failed (irrecoverable).
- 215** A low voltage condition is present (irrecoverable).
- 216** IPL ROM code being uncompressed into memory.
- 217** End of boot list encountered.
- 218** RAM POST is looking for good memory.
- 219** RAM POST bit map is being generated.
- 21c** L2 cache is not detected. (The display shows a solid 21c for 2 seconds.)
- 220** IPL control block is being initialized.
- 221** NVRAM CRC comparison error during AIX IPL(key mode switch in Normal mode).
Reset NVRAM by reaccomplishing IPL in Service mode. For systems with an internal, direct-bus-attached (DBA) disk, IPL ROM attempted to perform an IPL from that disk before halting with this operator panel display value.
- 222** Attempting a Normal mode IPL from Standard I/O planar-attached devices specified in NVRAM IPL Devices List.
- 223** Attempting a Normal mode IPL from SCSI-attached devices specified in NVRAM IPL Devices List.
- 224** Attempting a Normal mode IPL from 9333 subsystem device specified in NVRAM IPL Devices List.
- 225** Attempting a Normal mode IPL from 7012 DBA disk-attached devices specified in NVRAM IPL Devices List.
- 226** Attempting a Normal mode IPL from Ethernet specified in NVRAM IPL Devices List.
- 227** Attempting a Normal mode IPL from Token-Ring specified in NVRAM IPL Devices List.

- 228** Attempting a Normal mode IPL from NVRAM expansion code.
- 229** Attempting a Normal mode IPL from NVRAM IPL Devices List; cannot IPL from any of the listed devices, or there are no valid entries in the Devices List.
- 22c** Attempting a normal mode IPL from FDDI specified in NVRAM IPL device list.
- 230** Attempting a Normal mode IPL from adapter feature ROM specified in IPL ROM Device List.
- 231** Attempting a Normal mode IPL from Ethernet specified in IPL ROM Device List.
- 232** Attempting a Normal mode IPL from Standard I/O planar-attached devices specified in ROM Default Device List.
- 233** Attempting a Normal mode IPL from SCSI-attached devices specified in IPL ROM Default Device List.
- 234** Attempting a Normal mode IPL from 9333 subsystem device specified in IPL ROM Device List.
- 235** Attempting a Normal mode IPL from 7012 DBA disk-attached devices specified in IPL ROM Default Device List.
- 236** Attempting a Normal mode IPL from Ethernet specified in IPL ROM Default Device List.
- 237** Attempting a Normal mode IPL from Token-Ring specified in IPL ROM Default Device List.
- 238** Attempting a Normal mode IPL from Token-Ring specified by the operator.
- 239** System failed to IPL from the device chosen by the operator.
- 23c** Attempting a normal mode IPL from FDDI specified in IPL ROM device list.
- 240** Attempting a Service mode IPL from adapter feature ROM.
- 241** Attempting a normal boot from devices specified in the NVRAM boot list.
- 242** Attempting a Service mode IPL from Standard I/O planar-attached devices specified in the NVRAM IPL Devices List.
- 243** Attempting a Service mode IPL from SCSI-attached devices specified in the NVRAM IPL Devices List.
- 244** Attempting a Service mode IPL from 9333 subsystem device specified in the NVRAM IPL Devices List.
- 245** Attempting a Service mode IPL from 7012 DBA disk-attached devices specified in the NVRAM IPL Devices List.
- 246** Attempting a Service mode IPL from Ethernet specified in the NVRAM IPL Devices List.
- 247** Attempting a Service mode IPL from Token-Ring specified in the NVRAM Device List.
- 248** Attempting a Service mode IPL from NVRAM expansion code.
- 249** Attempting a Service mode IPL from the NVRAM IPL Devices List; cannot IPL from any of the listed devices, or there are no valid entries in the Devices List.
- 24c** Attempting a service mode IPL from FDDI specified in NVRAM IPL device list.
- 250** Attempting a Service mode IPL from adapter feature ROM specified in the IPL ROM Device List.
- 251** Attempting a Service mode IPL from Ethernet specified in the IPL ROM Default Device List.
- 252** Attempting a Service mode IPL from Standard I/O planar-attached devices specified in the ROM Default Device List.
- 253** Attempting a Service mode IPL from SCSI-attached devices specified in the IPL ROM Default Device List.
- 254** Attempting a Service mode IPL from 9333 subsystem device specified in the IPL ROM Devices List.
- 255** Attempting a Service mode IPL from 7012 DBA disk-attached devices specified in IPL ROM Default Device List.
- 256** Attempting a Service mode IPL from Ethernet specified in the IPL ROM Devices List.

- 257** Attempting a Service mode IPL from Token-Ring specified in the IPL ROM Devices List.
- 258** Attempting a Service mode IPL from Token-Ring specified by the operator.
- 259** Attempting a Service mode IPL from FDDI specified by the operator.
- 25c** Attempting a service mode IPL from FDDI specified in IPL ROM device list.
- 260** Information is being displayed on the display console.
- 261** No supported local system display adapter was found.
- 262** Keyboard not detected as being connected to the system's keyboard port.
- 263** Attempting a Normal mode IPL from adapter feature ROM specified in the NVRAM Device List.
- 269** Stalled state - the system is unable to IPL.
- 270** Low Cost Ethernet Adapter (LCE) POST executing
- 271** Mouse and Mouse port POST.
- 272** Tablet Port POST.
- 276** 10/100Mbps MCA Ethernet Adapter POST executing
- 277** Auto Token-Ring LANstreamer MC 32 Adapter.
- 278** Video ROM scan POST.
- 279** FDDI POST.
- 280** 3com Ethernet POST.
- 281** Keyboard POST executing.
- 282** Parallel port POST executing.
- 283** Serial port POST executing.
- 284** POWER Gt1 graphics adapter POST executing.
- 285** POWER Gt3 graphics adapter POST executing.
- 286** Token-Ring adapter POST executing.
- 287** Ethernet adapter POST executing.
- 288** Adapter card slots being queried.
- 289** POWER GT0 Display Adapter POST.
- 290** IOCC POST error (irrecoverable).
- 291** Standard I/O POST running.
- 292** SCSI POST running.
- 293** 7012 DBA disk POST running.
- 294** IOCC bad TCW memory module in slot location J being tested.
- 295** Graphics Display adapter POST, color or grayscale.
- 296** ROM scan POST.
- 297** System model number does not compare between OCS and ROS (irrecoverable).
- 298** Attempting a software IPL.
- 299** IPL ROM passed control to the loaded program code.
- 301** Flash Utility ROM test failed or checkstop occurred (irrecoverable)
- 302** Flash Utility ROM: User prompt, move the key to the service position in order to perform an optional Flash Update. LED 302 will only appear if the key switch is in the secure position. This signals the user that a Flash Update may be initiated by moving the key switch to the service position. If the key is moved to the service position then LED 303 will be displayed, this signals the user to press the Reset button and select optional Flash Update.
- 303** Flash Utility ROM: User prompt, press the Reset button in order to perform an optional Flash Update. LED 302 will only appear if the key switch is the secure position. This signals the user that a Flash Update may be initiated by moving the key switch to the service position. If the key is moved to the service position LED 303 will be displayed, this signals the user to press the Reset button and select optional Flash Update.
- 304** Flash Utility ROM IOCC POST error (irrecoverable).
- 305** Flash Utility ROM standard I/O POST running.
- 306** Flash Utility ROM is attempting IPL from Flash Update media device.

- 307 Flash Utility ROM system model number does not compare between OCS and ROM (irrecoverable).
- 308 Flash Utility ROM: IOCC TCW memory is being tested.
- 309 Flash Utility ROM passed control to a Flash Update Boot Image.
- 311 Flash Utility ROM CRC comparison error (irrecoverable).
- 312 Flash Utility ROM RAM POST memory configuration error or no memory found (irrecoverable).
- 313 Flash Utility ROM RAM POST failure (irrecoverable).
- 314 Flash Utility ROM Power status register failed (irrecoverable).
- 315 Flash Utility ROM detected a low voltage condition.
- 318 Flash Utility ROM RAM POST is looking for good memory.
- 319 Flash Utility ROM RAM POST bit map is being generated.
- 322 CRC error on media Flash Image. No Flash Update performed.
- 323 Current Flash Image is being erased.
- 324 CRC error on new Flash Image after Update was performed. (Flash Image is corrupted.)
- 325 Flash Update successful and complete.

Configuration Program Indicators

- 500 Querying Standard I/O slot.
- 501 Querying card in Slot 1.
- 502 Querying card in Slot 2.
- 503 Querying card in Slot 3.
- 504 Querying card in Slot 4.
- 505 Querying card in Slot 5.
- 506 Querying card in Slot 6.
- 507 Querying card in Slot 7.
- 508 Querying card in Slot 8.
- 510 Starting device configuration.
- 511 Device configuration completed.
- 512 Restoring device configuration files from media.
- 513 Restoring basic operating system installation files from media.
- 516 Contacting server during network boot.
- 517 Mounting client remote file system during network IPL.
- 518 Remote mount of the root and /usr file systems failed during network boot.
- 520 Bus configuration running.
- 521 **/etc/init** invoked **cfmgr** with invalid options; **/etc/init** has been corrupted or incorrectly modified (irrecoverable error).
- 522 The configuration manager has been invoked with conflicting options (irrecoverable error).
- 523 The configuration manager is unable to access the ODM database (irrecoverable error).
- 524 The configuration manager is unable to access the config.rules object in the ODM database (irrecoverable error).
- 525 The configuration manager is unable to get data from a customized device object in the ODM database (irrecoverable error).
- 526 The configuration manager is unable to get data from a customized device driver object in the ODM database (irrecoverable error).
- 527 The configuration manager was invoked with the phase 1 flag; running phase 1 at this point is not permitted (irrecoverable error).
- 528 The configuration manager cannot find sequence rule, or no program name was specified in the ODM database (irrecoverable error).

- 529 The configuration manager is unable to update ODM data (irrecoverable error).
- 530 The program **savebase** returned an error.
- 531 The configuration manager is unable to access the **PdAt** object class (irrecoverable error).
- 532 There is not enough memory to continue (malloc failure); irrecoverable error.
- 533 The configuration manager could not find a configure method for a device.
- 534 The configuration manager is unable to acquire database lock (irrecoverable error).
- 535 HIPPI diagnostics interface driver being configured.
- 536 The configuration manager encountered more than one sequence rule specified in the same phase (irrecoverable error).
- 537 The configuration manager encountered an error when invoking the program in the sequence rule.
- 538 The configuration manager is going to invoke a configuration method.
- 539 The configuration method has terminated, and control has returned to the configuration manager.
- 551 IPL vary-on is running.
- 552 IPL varyon failed.
- 553 IPL phase 1 is complete.
- 554 The boot device could not be opened or read, or unable to define NFS swap device during network boot.
- 555 An ODM error occurred when trying to varyon the rootvg, or unable to create an NFS swap device during network boot.
- 556 Logical Volume Manager encountered error during IPL vary-on.
- 557 The root filesystem will not mount.
- 558 There is not enough memory to continue the system IPL.
- 559 Less than 2 M bytes of good memory are available to load the AIX kernel.
- 570 Virtual SCSI devices being configured.
- 571 HIPPI common function device driver being configured.
- 572 HIPPI IPI-3 master transport driver being configured.
- 573 HIPPI IPI-3 slave transport driver being configured.
- 574 HIPPI IPI-3 transport services user interface device driver being configured.
- 575 A 9570 disk-array driver is being configured.
- 576 Generic async device driver being configured.
- 577 Generic SCSI device driver being configured.
- 578 Generic commo device driver being configured.
- 579 Device driver being configured for a generic device.
- 580 HIPPI TCPIP network interface driver being configured.
- 581 Configuring TCP/IP.
- 582 Configuring Token-Ring data link control.
- 583 Configuring an Ethernet data link control.
- 584 Configuring an IEEE Ethernet data link control.
- 585 Configuring an SDLC MPQP data link control.
- 586 Configuring a QLLC X.25 data link control.
- 587 Configuring a NETBIOS.
- 588 Configuring a Bisync Read-Write (BSCRW).
- 589 SCSI target mode device being configured.
- 590 Diskless remote paging device being configured.
- 591 Configuring an LVM device driver.
- 592 Configuring an HFT device driver.
- 593 Configuring SNA device drivers.
- 594 Asynchronous I/O being defined or configured.
- 595 X.31 pseudo-device being configured.
- 596 SNA DLC/LAPE pseudo-device being configured.
- 597 OCS software being configured.

- 598 OCS hosts being configured during system reboot.
- 599 Configuring FDDI data link control.
- 5c0 Streams-based hardware drive being configured.
- 5c1 Streams-based X.25 protocol being configured.
- 5c2 Streams-based X.25 COMIO emulator driver being configured.
- 5c3 Streams-based X.25 TCP/IP interface driver being configured.
- 5c4 FCS adapter device driver being configured.
- 5c5 SCB network device driver for FCS is being configured.
- 5c6 AIX SNA channel being configured.
- 600 Starting network boot portion of **/sbin/rc.boot**
- 602 Configuring network parent devices.
- 603 **/usr/lib/methods/defsys**, **/usr/lib/methods/cfgsys**, or **/usr/lib/methods/cfgbus** failed.
- 604 Configuring physical network boot device.
- 605 Configuration of physical network boot device failed.
- 606 Running **/usr/sbin/ifconfig** on logical network boot device.
- 607 **/usr/sbin/ifconfig** failed.
- 608 Attempting to retrieve the **client.info** file with **fttp**. Note that a flashing 608 indicates multiple attempt(s) to retrieve the **client_info** file are occurring.
- 609 The **client.info** file does not exist or it is zero length.
- 610 Attempting remote mount of NFS file system.
- 611 Remote mount of the NFS file system failed.
- 612 Accessing remote files; unconfiguring network boot device.
- 614 Configuring local paging devices.
- 615 Configuration of a local paging device failed.
- 616 Converting from diskless to dataless configuration.
- 617 Diskless to dataless configuration failed.
- 618 Configuring remote (NFS) paging devices.
- 619 Configuration of a remote (NFS) paging device failed.
- 620 Updating special device files and ODM in permanent filesystem with data from boot RAM filesystem.
- 622 Boot process configuring for operating system installation.
- 650 IBM SCSD disk drive being configured
- 668 25MB ATM MCA Adapter being configured
- 680 POWER GXT800M Graphics Adapter
- 689 4.5GB Ultra SCSI Single Ended Disk Drive being configured
- 690 9.1GB Ultra SCSI Single Ended Disk Drive being configured
- 694 Eicon ISDN DIVA MCA Adapter for PowerPC Systems
- 700 Progress indicator. A 1.1 GB 8-bit SCSI disk drive being identified or configured.
- 701 Progress indicator. A 1.1 GB 16-bit SCSI disk drive is being identified or configured.
- 702 Progress indicator. A 1.1 GB 16-bit differential SCSI disk drive is being identified or configured.
- 703 Progress indicator. A 2.2 GB 8-bit SCSI disk drive is being identified or configured.
- 704 Progress indicator. A 2.2 GB 16-bit SCSI disk drive is being identified or configured.
- 705 The configuration method for the 2.2 GB 16-bit differential SCSI disk drive is being run. If an irrecoverable error occurs, the system halts.
- 706 Progress indicator. A 4.5 GB 16-bit SCSI disk drive is being identified or configured.
- 707 Progress indicator. A 4.5 GB 16-bit differential SCSI disk drive is being identified or configured.
- 708 Progress indicator. A L2 cache is being identified or configured.
- 710 POWER GXT150M graphics adapter being identified or configured.
- 711 Unknown adapter being identified or configured.
- 712 Graphics slot bus configuration is executing.
- 713 The IBM ARTIC960 device is being configured.

- 714** A video capture adapter is being configured.
- 715** The Ultimedia Services audio adapter is being configured. This LED displays briefly on the panel.
- 717** TP Ethernet Adapter being configured.
- 718** GXT500 Graphics Adapter being configured.
- 720** Unknown read/write optical drive type being configured.
- 721** Unknown disk or SCSI device being identified or configured.
- 722** Unknown disk being identified or configured.
- 723** Unknown CD-ROM being identified or configured.
- 724** Unknown tape drive being identified or configured.
- 725** Unknown display adapter being identified or configured.
- 726** Unknown input device being identified or configured.
- 727** Unknown async device being identified or configured.
- 728** Parallel printer being identified or configured.
- 729** Unknown parallel device being identified or configured.
- 730** Unknown diskette drive being identified or configured.
- 731** PTY being identified or configured.
- 732** Unknown SCSI initiator type being configured.
- 733** 7GB 8mm tape drive being configured.
- 734** 4x SCSI-2 640MB CD-ROM Drive
- 741** 1080MB SCSI Disk Drive
- 745** 16GB 4mm Tape Auto Loader
- 748** MCA keyboard/mouse adapter being configured.
- 749** 7331 Model 205 Tape Library
- 754** 1.1GB 16-bit SCSI disk drive being configured.
- 755** 2.2GB 16-bit SCSI disk drive being configured.
- 756** 4.5GB 16-bit SCSI disk drive being configured.
- 757** External 13GB 1.5M/s 1/4 inch tape being configured.
- 772** 4.5GB SCSI F/W Disk Drive
- 773** 9.1GB SCSI F/W Disk Drive
- 774** 9.1GB External SCSI Disk Drive
- 77c** Progress indicator. A 1.0 GB 16-bit SCSI disk drive being identified or configured.
- 783** 4mm DDS-2 Tape Autoloader
- 789** 2.6GB External Optical Drive
- 794** 10/100MB Ethernet PX MC Adapter
- 797** Turboways 155 UTP/STP ATM Adapter being identified or configured.
- 798** Video streamer adapter being identified or configured.
- 800** Turboways 155 MMF ATM Adapter being identified or configured.
- 803** 7336 Tape Library Robotics being configured
- 804** 8x Speed SCSI-2 CD ROM drive being configured
- 807** SCSI Device Enclosure being configured
- 808** System Interface Full (SIF) configuration process
- 80c** SSA 4-Port Adapter being identified or configured.
- 811** Processor complex being identified or configured.
- 812** Memory being identified or configured.
- 813** Battery for time-of-day, NVRAM, and so on being identified or configured, or system I/O control logic being identified or configured.
- 814** NVRAM being identified or configured.
- 815** Floating-point processor test
- 816** Operator panel logic being identified or configured.
- 817** Time-of-day logic being identified or configured.
- 819** Graphics input device adapter being identified or configured.
- 821** Standard keyboard adapter being identified or configured.
- 823** Standard mouse adapter being identified or configured.

- 824** Standard tablet adapter being identified or configured.
- 825** Standard speaker adapter being identified or configured.
- 826** Serial Port 1 adapter being identified or configured.
- 827** Parallel port adapter being identified or configured.
- 828** Standard diskette adapter being identified or configured.
- 831** 3151 adapter being identified or configured, or Serial Port 2 being identified or configured.
- 834** 64-port async controller being identified or configured.
- 835** 16-port async concentrator being identified or configured.
- 836** 128-port async controller being identified or configured.
- 837** 16-port remote async node being identified or configured.
- 838** Network Terminal Accelerator Adapter being identified or configured.
- 839** 7318 Serial Communications Server being configured.
- 841** 8-port async adapter (EIA-232) being identified or configured.
- 842** 8-port async adapter (EIA-422A) being identified or configured.
- 843** 8-port async adapter (MIL-STD 188) being identified or configured.
- 844** 7135 RAIDiant Array disk drive subsystem controller being identified or configured.
- 845** 7135 RAIDiant Array disk drive subsystem drawer being identified or configured.
- 846** RAIDiant Array SCSI 1.3GB Disk Drive
- 847** 16-port serial adapter (EIA-232) being identified or configured.
- 848** 16-port serial adapter (EIA-422) being identified or configured.
- 849** X.25 Interface Co-Processor/2 adapter being identified or configured.
- 850** Token-Ring network adapter being identified or configured.
- 851** T1/J1 Portmaster adapter being identified or configured.
- 852** Ethernet adapter being identified or configured.
- 854** 3270 Host Connection Program/6000 connection being identified or configured.
- 855** Portmaster Adapter/A being identified or configured.
- 857** FSLA adapter being identified or configured.
- 858** 5085/5086/5088 adapter being identified or configured.
- 859** FDDI adapter being identified or configured.
- 85c** Progress indicator. Token-Ring High-Performance LAN adapter is being identified or configured.
- 861** Optical adapter being identified or configured.
- 862** Block Multiplexer Channel Adapter being identified or configured.
- 865** ESCON Channel Adapter or emulator being identified or configured.
- 866** SCSI adapter being identified or configured.
- 867** Async expansion adapter being identified or configured.
- 868** SCSI adapter being identified or configured.
- 869** SCSI adapter being identified or configured.
- 870** Serial disk drive adapter being identified or configured.
- 871** Graphics subsystem adapter being identified or configured.
- 872** Grayscale graphics adapter being identified or configured.
- 874** Color graphics adapter being identified or configured.
- 875** Vendor generic communication adapter being configured.
- 876** 8-bit color graphics processor being identified or configured.
- 877** POWER Gt3/POWER Gt4 being identified or configured.
- 878** POWER Gt4 graphics processor card being configured.
- 879** 24-bit color graphics card, MEV2
- 880** POWER Gt1 adapter being identified or configured.
- 887** Integrated Ethernet adapter being identified or configured.
- 889** SCSI adapter being identified or configured.
- 890** SCSI-2 Differential Fast/Wide and Single-Ended Fast/Wide Adapter/A.
- 891** Vendor SCSI adapter being identified or configured.
- 892** Vendor display adapter being identified or configured.

- 893** Vendor LAN adapter being identified or configured.
- 894** Vendor async/communications adapter being identified or configured.
- 895** Vendor IEEE 488 adapter being identified or configured.
- 896** Vendor VME bus adapter being identified or configured.
- 897** S/370 Channel Emulator adapter being identified or configured.
- 898** POWER Gt1x graphics adapter being identified or configured.
- 899** 3490 attached tape drive being identified or configured.
- 89c** Progress indicator. A multimedia SCSI CD-ROM is being identified or configured.
- 901** Vendor SCSI device being identified or configured.
- 902** Vendor display device being identified or configured.
- 903** Vendor async device being identified or configured.
- 904** Vendor parallel device being identified or configured.
- 905** Vendor other device being identified or configured.
- 908** POWER GXT1000 Graphics subsystem being identified or configured.
- 910** 1/4GB Fibre Channel/266 Standard Adapter being identified or configured.
- 911** Fibre Channel/1063 Adapter Short Wave
- 912** 2.0GB SCSI-2 differential disk drive being identified or configured.
- 913** 1.0GB differential disk drive being identified or configured.
- 914** 5GB 8 mm differential tape drive being identified or configured.
- 915** 4GB 4 mm tape drive being identified or configured.
- 916** Non-SCSI vendor tape adapter being identified or configured.
- 917** Progress indicator. 2.0GB 16-bit differential SCSI disk drive is being identified or configured.
- 918** Progress indicator. 2GB 16-bit single-ended SCSI disk drive is being identified or configured.
- 920** Bridge Box being identified or configured.
- 921** 101 keyboard being identified or configured.
- 922** 102 keyboard being identified or configured.
- 923** Kanji keyboard being identified or configured.
- 924** Two-button mouse being identified or configured.
- 925** Three-button mouse being identified or configured.
- 926** 5083 tablet being identified or configured.
- 927** 5083 tablet being identified or configured.
- 928** Standard speaker being identified or configured.
- 929** Dials being identified or configured.
- 930** Lighted program function keys (LPFK) being identified or configured.
- 931** IP router being identified or configured.
- 933** Async planar being identified or configured.
- 934** Async expansion drawer being identified or configured.
- 935** 3.5-inch diskette drive being identified or configured.
- 936** 5.25-inch diskette drive being identified or configured.
- 937** An HIPPI adapter is being configured.
- 942** POWER GXT 100 graphics adapter being identified or configured.
- 943** Progress indicator. 3480 and 3490 control units attached to a System/370 Channel Emulator/A adapter are being identified or configured.
- 944** 100MB ATM adapter being identified or configured
- 945** 1.0GB SCSI differential disk drive being identified or configured.
- 946** Serial port 3 adapter is being identified or configured.
- 947** Progress indicator. A 730MB SCSI disk drive is being configured.
- 948** Portable disk drive being identified or configured.
- 949** Unknown direct bus-attach device being identified or configured.
- 950** Missing SCSI device being identified or configured.
- 951** 670MB SCSI disk drive being identified or configured.
- 952** 355MB SCSI disk drive being identified or configured.

- 953 320MB SCSI disk drive being identified or configured.
- 954 400MB SCSI disk drive being identified or configured.
- 955 857MB SCSI disk drive being identified or configured.
- 956 670MB SCSI disk drive electronics card being identified or configured.
- 957 120MB DBA disk drive being identified or configured.
- 958 160 MB DBA disk drive being identified or configured.
- 959 160MB SCSI disk drive being identified or configured.
- 960 1.37GB SCSI disk drive being identified or configured.
- 964 Internal 20GB 8mm tape drive identified or configured.
- 968 1.0GB SCSI disk drive being identified or configured.
- 970 Half-inch, 9-track tape drive being identified or configured.
- 971 150MB 1/4-inch tape drive being identified or configured.
- 972 2.3GB 8 mm SCSI tape drive being identified or configured.
- 973 Other SCSI tape drive being identified or configured.
- 974 CD-ROM drive being identified or configured.
- 975 Progress indicator. An optical disk drive is being identified or configured.
- 977 M-Audio Capture and Playback Adapter being identified or configured.
- 981 540MB SCSI-2 single-ended disk drive being identified or configured.
- 984 1GB 8-bit disk drive being identified or configured.
- 985 M-Video Capture Adapter being identified or configured.
- 986 2.4GB SCSI disk drive being identified or configured.
- 987 Progress indicator. Enhanced SCSI CD-ROM drive is being identified or configured.
- 989 200MB SCSI disk drive being identified or configured.
- 990 2.0GB SCSI-2 single-ended disk drive being identified or configured.
- 991 525MB 1/4-inch cartridge tape drive being identified or configured.
- 994 5GB 8 mm tape drive being identified or configured.
- 995 1.2GB 1/4 inch cartridge tape drive being identified or configured.
- 996 Progress indicator. Single-port, multi-protocol communications adapter is being identified or configured.
- 997 FDDI adapter being identified or configured.
- 998 2.0GB4 mm tape drive being identified or configured.
- 999 7137 or 3514 Disk Array Subsystem being configured.
- D81 T2 Ethernet Adapter being configured.

Diagnostic Load Progress Indicators

Note: When a lowercase c is listed, it displays in the lower half of the seven-segment character position.

- c00 AIX Install/Maintenance loaded successfully.
- c01 Insert the first diagnostic diskette.
- c02 Diskettes inserted out of sequence.
- c03 The wrong diskette is in diskette drive.
- c04 The loading stopped with a nonrecoverable error.
- c05 A diskette error occurred.
- c06 The **rc.boot** configuration shell script is unable to determine type of boot.
- c07 Insert the next diagnostic diskette.
- c08 RAM file system started incorrectly.
- c09 The diskette drive is reading or writing a diskette.
- c20 An unexpected halt occurred, and the system is configured to enter the kernel debug program instead of entering a system dump.
- c21 The **ifconfig** command was unable to configure the network for the client network host.

- c22** The **tftp** command was unable to read client's *ClientHostName info* file during a client network boot.
- c24** Unable to read client's *ClientHostName.info* file during a client network boot.
- c25** Client did not mount remote miniroot during network install.
- c26** Client did not mount the */usr* file system during the network boot.
- c29** The system was unable to configure the network device.
- c31** Select the console display for the diagnostics. To select No console display, set the key mode switch to Normal then to Service. The diagnostic programs will then load and run the diagnostics automatically.
- c32** A direct-attached display (HFT) was selected.
- c33** A tty terminal attached to serial ports S1 or S2 was selected.
- c34** A file was selected. The console messages store in a file.
- c40** Configuration files are being restored.
- c41** Could not determine the boot type or device.
- c42** Extracting data files from diskette.
- c43** Cannot access the boot/install tape.
- c44** Initializing installation database with target disk information.
- c45** Cannot configure the console.
- c46** Normal installation processing.
- c47** Could not create a physical volume identifier (PVID) on disk.
- c48** Prompting you for input.
- c49** Could not create or form the JFS log.
- c50** Creating root volume group on target disks.
- c51** No paging devices were found.
- c52** Changing from RAM environment to disk environment.
- c53** Not enough space in the **/tmp** directory to do a preservation installation.
- c54** Installing either BOS or additional packages.
- c55** Could not remove the specified logical volume in a preservation installation.
- c56** Running user-defined customization.
- c57** Failure to restore BOS.
- c58** Displaying message to turn the key.
- c59** Could not copy either device special files, device ODM, or volume group information from RAM to disk.
- c61** Failed to create the boot image.
- c62** Loading platform dependent debug files
- c63** Loading platform dependent data files
- c64** Failed to load platform dependent data files
- c70** Problem Mounting diagnostic CDROM disc
- c99** Diagnostics have completed. This code is only used when there is no console.

Reading Flashing 888 Numbers on a Three-Digit Operator Panel Display

A flashing 888 number indicates that the diagnostic programs detected an error and a diagnostic message is ready to be read.

Note: The 9333 displays four-digit SRNs that are not listed in this book. To decode these SRNs, refer to 9333 documentation listed in "Service Hints" in Chapter 1.

Step 1. Determine the Type of Message

The operator panel display should be flashing 888.

1. Get a problem summary form from the *Problem Solving Guide and Reference* or a blank sheet of paper to record the numbers appearing in the operator panel display.
2. Be sure the key mode switch is set to Normal or Service.

Note: Every time you press the Reset button, hold it for about one second to allow the program to sense the change.

3. Press the Reset button once. Record the number in the operator panel display. This is the message type.
4. In the following list, go to the step for your message type.

Type 102 Go to Step 2.

Type 103 Go to Step 3.

Type 105 Go to Step 4.

Other Go to Step 5.

Step 2. Reading the Type 102 Message

A 102 message is generated when a software or hardware error occurs during system execution of an application. Use the following steps and information to determine the content of the Type 102 message. Crash and dump status codes are listed on the following page.

102 = Message type

RRR = Crash code

SSS = Dump status code

888 or 103 or 105

1. Press the Reset button once and record the crash code. If the crash code is 558, see the note at the end of this step.
2. Press the Reset button and record the dump status code (dump progress indicator).
3. Press the Reset button again. Look at the number in the operator panel display to answer the following question.

Is 888 flashing in the operator panel display?

NO The message has a Type 103 or 105 message included in it. Go to Step 3 to read out the SRN and FRU information about Type 103 messages. Go to Step 4 to read out the SRN and FRU information about Type 105 messages.

YES This completes the read-out of this message. You can repeat the message by pressing the Reset button. You must power the system unit Off to recover from this halt. Return to the MAP step that directed you here.

Note: There are no SRNs associated with this message type. If the crash code is 558 and you were loading the diagnostic diskettes, the problem may be that you used the wrong diagnostic boot diskette. Try using the boot diskette for 8MB systems. To access CERADME file information on 8MB systems, refer to Chapter 6.

Crash Codes

The following crash codes are part of a Type 102 message.

000	Unexpected system interrupt.
200	Machine check because of a memory bus error.
201	Machine check because of a memory timeout.
202	Machine check because of a memory card failure.
203	Machine check because of a out of range address.
204	Machine check because of an attempt to write to ROS.
205	Machine check because of an uncorrectable address parity.
206	Machine check because of an uncorrectable ECC error.
207	Machine check because of an unidentified error.
208	Machine check due to an L2 uncorrectable ECC.
300	Data storage interrupt from the processor.
32x	Data storage interrupt because of an I/O exception from IOCC.
38x	Data storage interrupt because of an I/O exception from SLA.
400	Instruction storage interrupt.
500	External interrupt because of a scrub memory bus error.
501	External interrupt because of an unidentified error.
51x	External interrupt because of a DMA memory bus error.
52x	External interrupt because of an IOCC channel check.
53x	External interrupt from an IOCC bus timeout; x represents the IOCC number.
54x	External interrupt because of an IOCC keyboard check.
558	There is not enough memory to continue the IPL.
600	Portability Assist Layer (PAL) has detected a problem.
700	Program interrupt.
800	Floating point is not available.

Dump Progress Indicators (Dump Status Codes)

The following dump progress indicators, or dump status codes, are part of a Type 102 message.

Note: When a lowercase c is listed, it displays in the lower half of the seven-segment character position. The leftmost position is blank on the following codes.

0c0	The dump completed successfully.
0c1	The dump failed due to an I/O error.
0c2	A dump, requested by the user, is started.
0c3	The dump is inhibited.
0c4	The dump device is not large enough.
0c5	The dump did not start, or the dump crashed.
0c6	Dumping to a secondary dump device.
0c7	Reserved.
0c8	The dump function is disabled.
0c9	A dump is in progress.
0cc	Unknown dump failure

Step 3. Reading the Type 103 Message

A Type 103 message is generated when a hardware error is detected. Use the following steps and information to determine the content of the Type 103 message. (You may have come here from a Type 102 message. If so, use the same procedure).

1. Press the Reset button and record the first three digits of the six-digit SRN.

Note: The 9333 machine type displays four-digit SRNs that are not listed in this book. To decode these SRNs, refer to 9333 documentation.

2. Press the Reset button and record the next three digits of the SRN.
3. Each time the Reset button is pressed, three digits of a FRU location code display. When all FRU location codes are read out, the operator panel display returns to the flashing 888 or, if another message is waiting to be displayed, a ccc. If a ccc is displayed, repeat this step to receive the next message. Try the first SRN listed; if it does not resolve the problem, try following SRNs in the order listed. If the message contains more than four FRUs, not all FRU location codes will be present.

Press the Reset button and record the three-digit numbers until a flashing 888 displays. Use the following to identify the numbers being read.

103 = Message type

XXX-XXX = SRN

c01 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx = First FRU location code

c02 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx = Second FRU location code

c03 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx = Third FRU location code

c04 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx = Fourth FRU location code

4. Identify the SRN. You can cycle through the numbers again by pressing the Reset button.
5. The FRU location codes translate into an eight-digit location code (AB-CD-EF-GH). Each digit of the eight-digit location code is presented as a three-digit number in the operator panel display.

A B C D E F G H = Eight-digit location code

c01 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx = First FRU location code

c02 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx = Second FRU location code

c03 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx = Third FRU location code

c04 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx = Fourth FRU location code

Note: If a ccx (x can be any digit from 2 through 9) is encountered as part of the location code, only the part of the code that is different from the location code of the previous FRU is shown. To form the complete location code of the next FRU, substitute the information following the ccx into the location code of the previous FRU.

For example, if the previous FRU location is:

c01 100 200 300 401 500 601 700 800,

and the next FRU location is listed as:

cc2 602,

the complete location code of the next FRU is:

cc2 100 200 300 401 500 602 700 800.

To identify each digit of the location code (AB-CD-EF-GH), translate the right-most two digits using the following table. See “Location Codes” in this chapter to determine the physical location of the resource.

xx Value	xx Value	xx Value	xx Value
00 = 0	11=A	21=K	31=U
01 = 1	12=B	22=L	32=V
02 = 2	13=C	23=M	33=W
03 = 3	14=D	24=N	34=X
04 = 4	15=E	25=O	35=Y
05 = 5	16=F	26=P	36=Z
06 = 6	17=G	27=Q	
07 = 7	18=H	28=R	
08 = 8	19=I	29=S	
09 = 9	20=J	30=T	

6. The only way to recover from an 888 type of halt is to power the system unit Off. Return to the MAP step that directed you here.

Step 4. Reading the Type 105 Message

Type 105 and 103 messages are similar. The Type 105 message contains SRNs in encoded form because the SRN contains characters that cannot be displayed in the operator panel display. Use the following steps and information to determine the content of the Type 105 message. (You may have come here from a Type 102 message. If so, use the same procedure).

1. Press the Reset button and record the first three digits of the SRN.
2. Press the Reset button and record the next three digits of the SRN.
3. Repeatedly press the Reset button, each time recording the numbers in the operator panel display, until c01 is displayed.
4. Each time the Reset button is pressed, three digits of a FRU location code display. When all FRU location codes are read out, the operator panel display returns to the flashing 888 or, if another message is waiting to be displayed, a ccc. If a ccc is displayed, repeat this step to receive the next message. Try the first SRN listed; if it does not resolve the problem, try following SRNs in the order listed. If the message contains more than four FRUs, not all FRU location codes will be present. Press the Reset button and record the three-digit numbers until a flashing 888 displays. Use the following to identify the numbers being read.

105 = Message type

1xx 2xx 3xx 4xx = encoded SRN

c01 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx = First FRU location code

c02 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx = Second FRU location code

c03 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx = Third FRU location code

c04 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx = Fourth FRU location code

5. Determine the SRN by translating the rightmost two digits of each position within the encoded SRN (1xx 2xx 3xx 4xx) using the table at the end of the following substep. You can cycle through the numbers again by pressing the Reset button.

6. The FRU location codes translate into an eight-digit location code (AB-CD-EF-GH). Each digit of the eight-digit location code is presented as a three-digit number in the operator panel display.

A B C D E F G H = Eight-digit location code
 c01 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx = First FRU location code
 c02 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx = Second FRU location code
 c03 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx = Third FRU location code
 c04 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx = Fourth FRU location code

Note: If a ccx (x can be any digit from 2 through 9) is encountered as part of the location code, only the part of the code that is different from the location code of the previous FRU is shown. To form the complete location code of the next FRU, substitute the information following the ccx into the location code of the previous FRU.

For example, if the previous FRU location is:

c01 100 200 300 401 500 601 700 800,

and the next FRU location is listed as:

cc2 602,

the complete location code of the next FRU is:

cc2 100 200 300 401 500 602 700 800.

To identify each digit of the location code (AB-CD-EF-GH), translate the right-most two digits using the following table. See "Location Codes" in this chapter to determine the physical location of the resource.

xx Value	xx Value	xx Value	xx Value
00 = 0	11=A	21=K	31=U
01 = 1	12=B	22=L	32=V
02 = 2	13=C	23=M	33=W
03 = 3	14=D	24=N	34=X
04 = 4	15=E	25=O	35=Y
05 = 5	16=F	26=P	36=Z
06 = 6	17=G	27=Q	
07 = 7	18=H	28=R	
08 = 8	19=I	29=S	
09 = 9	20=J	30=T	

7. The only way to recover from an 888 type of halt is to power the system unit Off. Return to the MAP step that directed you here.

Step 5. Other Numbers

The only valid message types are types 102, 103, 104, and 105. Type 104 messages are used by the manufacturing plant and should be ignored. If you have any other number displayed, take the following actions:

1. Press the Reset button again and again until a flashing 888 appears in the operator panel display. If you do not get a flashing 888 in the display, you should consider the numbers as *steady* numbers. Go to "Operator Panel Display Numbers" in this chapter, and follow the procedures for analyzing operator panel display codes.

2. When the flashing 888 is displayed, go to “Step 1. Determine the Type of Message” on page 22-13.

Reading a Flashing 888 Message on an Multi-Line Operator Panel Display

An 888 flashing in the first line of the operator panel display indicates that a hardware or software error has been detected and that an error message is being displayed.

Step 1. Determine the Type of Message

The first line of the operator panel display should be displaying a line with 888 flashing in it.

1. Get a problem summary form from the *AIX Problem Solving Guide and Reference*, or a blank sheet of paper to record the characters appearing in the operator panel display.
2. Be sure the mode switch is set to Normal or Service.
3. Record the three digits following the flashing 888 in the first line of the operator panel display. This is the message type.
4. In the following list, go to the step for your message type.

Type 102	Go to Step 2.
Type 103	Go to Step 3.
Type 105	Go to Step 3.
Other	Go to Step 4.

Step 2. Reading the Type 102 Message

A 102 message is generated when a software or hardware error occurs during system execution of an application. Use the following steps and information to determine the contents of the type 102 message. Refer to the “Crash Codes” and “Dump Progress Indicators (Dump Status Codes)” on page 22-19.

The following is an example of the first line of the multiline operator panel display;
888 102 RRR SSS

where:

102 = Message type
RRR = Crash code
SSS = Dump status code

1. Record the three digits following the 102 in the first line of the operator panel display, this is the crash code. Record the three digits immediately following the crash code, this is the dump status.
2. Look at the second line of the operator panel display and then answer the following question.

Is the second line of the operator panel display blank?

- NO** The message has a type 103 or 105 message included in it. Press the Reset button once, then go to Step 3. Read out the SRN and FRU for these message types.
- YES** This completes the read-out of this message. You must turn the system unit's power off to recover from this halt. There are no SRNs associated with this message type. Return to the MAP step that directed you here.

Crash Codes

The following crash codes are part of a Type 102 message.

- 000** Unexpected system interrupt.
- 200** Machine check because of a memory bus error.
- 201** Machine check because of a memory timeout.
- 202** Machine check because of a memory card failure.
- 203** Machine check because of a out of range address.
- 204** Machine check because of an attempt to write to ROS.
- 205** Machine check because of an uncorrectable address parity.
- 206** Machine check because of an uncorrectable ECC error.
- 207** Machine check because of an unidentified error.
- 208** Machine check due to an L2 uncorrectable ECC.
- 300** Data storage interrupt from the processor.
- 32x** Data storage interrupt because of an I/O exception from IOCC.
- 38x** Data storage interrupt because of an I/O exception from SLA.
- 400** Instruction storage interrupt.
- 500** External interrupt because of a scrub memory bus error.
- 501** External interrupt because of an unidentified error.
- 51x** External interrupt because of a DMA memory bus error.
- 52x** External interrupt because of an IOCC channel check.
- 53x** External interrupt from an IOCC bus timeout;x represents the IOCC number.
- 54x** External interrupt because of an IOCC keyboard check.
- 558** There is not enough memory to continue the IPL.
- 700** Program interrupt.
- 800** Floating point is not available.

Dump Progress Indicators (Dump Status Codes)

The following dump progress indicators, or dump status codes, are part of a Type 102 message.

Note: When a lowercase c is listed, it displays in the lower half of the seven character position. The leftmost position is blank on the following codes.

- 0c0** The dump completed successfully.
- 0c2** A dump, requested by the user, is started.
- 0c3** The dump is inhibited.
- 0c4** The dump did not complete. A partial dump may be present.
- 0c5** The dump program could not access the dump device.
- 0c6** A dump to the secondary dump device was requested. Make the secondary dump device ready; then press Ctrl-Alt-Numpad2.
- 0c7** Reserved.
- 0c8** The dump function is disabled.
- 0c9** A dump is in progress.

Step 3. Reading the Type 103 and 105 Message

A type 103 and 105 message is generated when a hardware error is detected. Use the following steps and information to record SRN and FRU location code information.

1. Record all characters following the first 103 or 105 in the first line of the operator panel display. This is the SRN.
2. Record all characters following the number in the first position on the second line, this is the location code information for the first FRU.
3. Each time the Reset button is pressed the operator panel display will scroll upwards one line. When all the information has been displayed the bottom line of the operator panel display will contain a line with 888 flashing. This indicates that the message is being repeated.

Press the Reset button and record the information in the bottom line of the operator panel display. Continue this exercise until a line with a flashing 888 is displayed. Use the following information to help identify the information in each line.

Note: X represents any character.

Displayed Information	Meaning
103 XXX-XXX	SRN being displayed, XXX-XXX is the SRN.
105 XXXX	SRN being displayed, XXXX is the SRN.
1 XX-XX-XX-XX	First FRU location code, XX-XX-XX-XX is the location code.
2 XX-XX-XX-XX	Second FRU location code, XX-XX-XX-XX is the location code.
3 XX-XX-XX-XX	Third FRU location code, XX-XX-XX-XX is the location code.
4 XX-XX-XX-XX	Fourth FRU location code, XX-XX-XX-XX is the location code.

Note: All eleven characters of the location code may not be displayed.

4. If multiple SRNs were recorded start with the SRN recorded first. If that does not fix the problem try the remaining SRNs in the order recorded until the problem is fixed.
5. When the system halts with a flashing 888 you must turn the system unit's power off to recover. Return to the MAP step that directed you here.

Step 4. Other Numbers

The only valid message types are types 102, 103, 104, and 105. Type 104 messages are used by the manufacturing plant and should be ignored. If you have any other number displayed, take the following actions:

1. Press the Reset button again and again until a flashing *888* appears in the first line of the operator panel display. If you do not get a flashing *888* in the display, you should consider the numbers as *steady* numbers. Go to "Operator Panel Display Numbers" in this chapter, and follow the procedures for analyzing operator panel display codes.
2. When the flashing *888* is displayed, go to Step 1 on page 2-18.

Location Codes

Because the same diagnostic programs are used on all of the system units, a location code is used to physically locate a failing device or unit. The location code is displayed along with the service request number (SRN) when the diagnostic programs isolate a failure. If the location code is not known, you can run the Display Previous Diagnostic Results service aid to display the results of the last time the diagnostic programs were run.

The rack-type system unit has several labels on the drawers and devices. These help the operator and service person identify various drawers and devices. The drawer ID should match the slot location of the adapter that drives it. The SCSI devices may be labeled with a number that identifies the SCSI address to which the device is set. See Appendix A of the *Installation and Service Guide* to determine the physical location of a device.

Location Code Format for 7135, and 9334

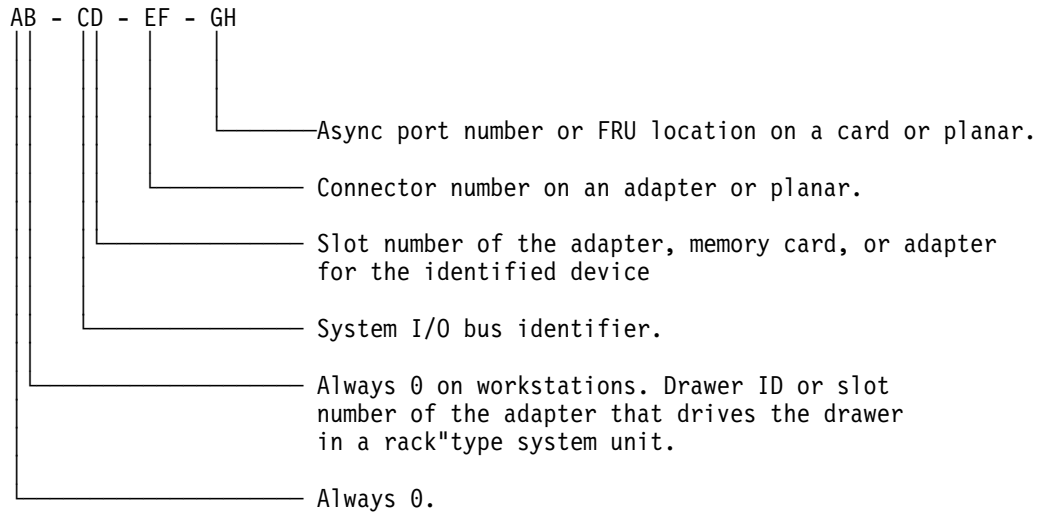
Refer to the 7135 and 9334 service information for their location code formats.

Location Code Format for Non-SCSI Devices

The following example is for non-SCSI devices. These include planars, memory cards, adapters, and async distribution boxes.

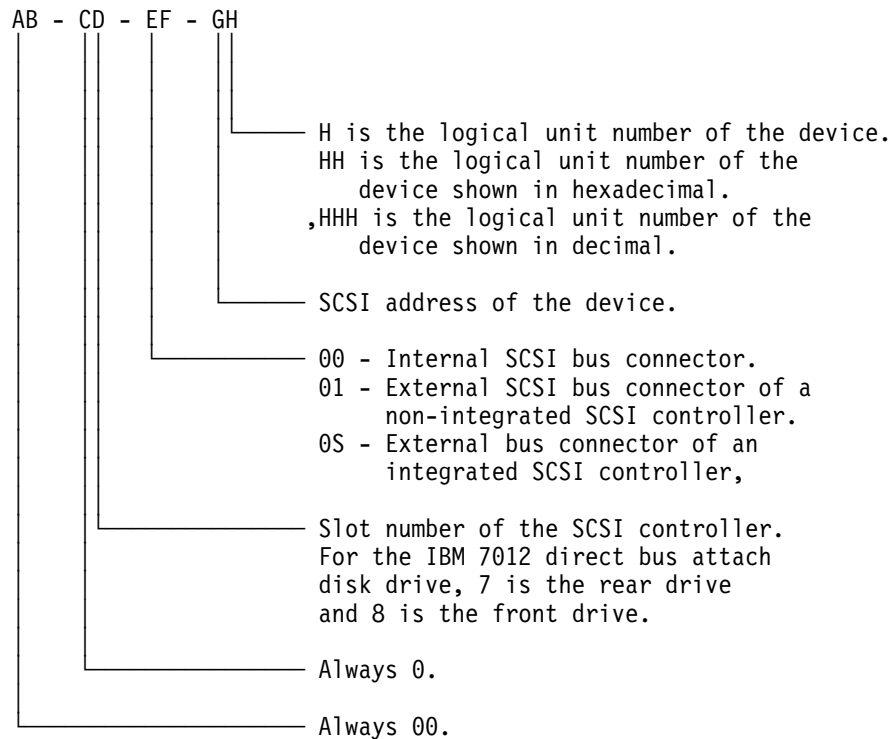
Use the example to determine the physical location of a device.

Note: The G and H fields each can contain one, two, or three characters.



Location Code Format for SCSI Devices

Refer to *Adapters, Devices, and Cable Information* to determine the physical location of a SCSI device.



Note: Refer to the machine specific service guide if your SCSI location code does not appear in the above table.

To aid the operator and service person, the rack-type system unit has several identification labels on drawers and devices. The drawer ID should match the slot location of the adapter that drives it. SCSI devices may be labeled with a number that identifies the SCSI address to which the device is set.

Location Code Format for 9333 High Performance Disk Drive Subsystems

If the 9333 is connected to only one adapter port, each disk drive module has only one location code; if the 9333 is connected to more than one adapter port, each disk drive module has a location code for each adapter port.

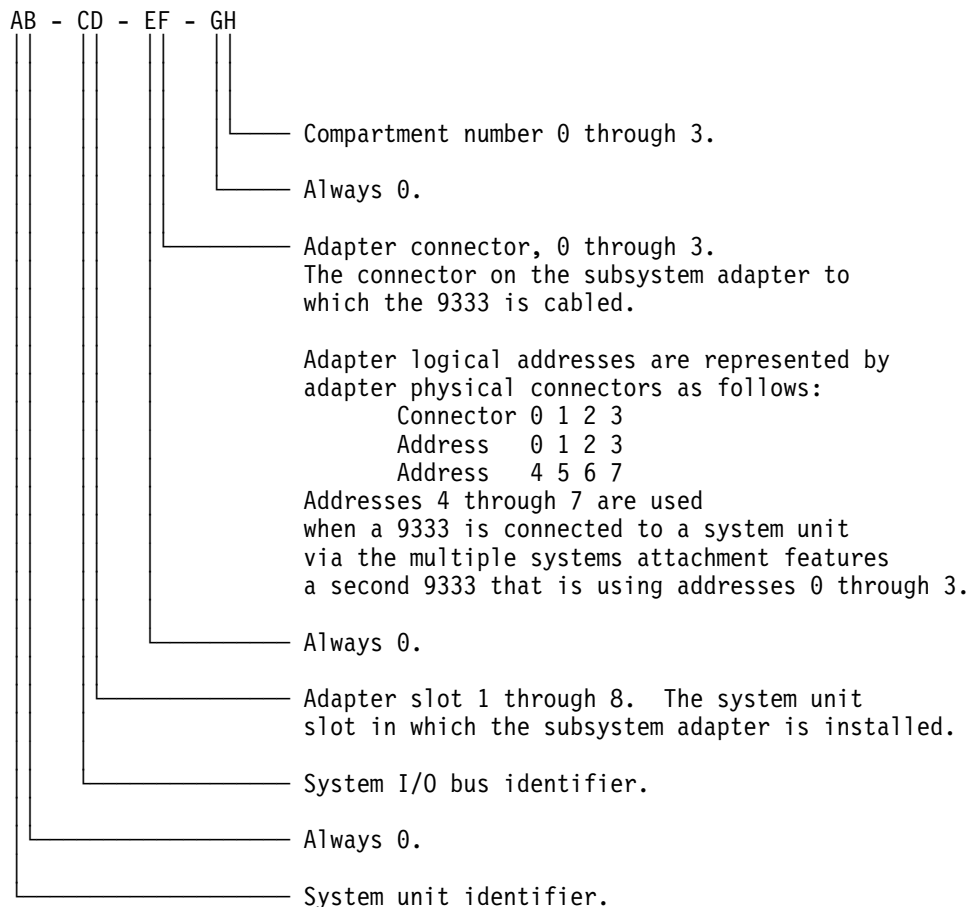
- In 9333 Models 010 and 011 drawer subsystems, the left-hand compartment (viewed from the front) is compartment 0; the right-hand compartment is compartment 3.
- In 9333 Models 500 and 501 deskside subsystems, the top compartment is compartment 0; the bottom compartment is compartment 3.

Notes:

Adapter in the following diagram refers to the particular High-Performance Disk Drive Subsystem Adapter in use.

The 9333 software location code displayed by the system unit *always* shows the system unit identifier (A) as 0.

If the 9333 is connected to only one system unit, the system unit identifier is always 0; if the 9333 is connected to more than one system unit, you must determine the system unit identifier for the system unit that displayed the location code, and then add that identifier to the A field of the code.



Location Code Table

Use the following table to determine the physical location of a device or unit.

Note: The location code format for 9333 devices is described on the previous page and in 9333 documentation.

Use the following example to identify these two-character pairs: AB-CD-EF-GH.

Pair	Value	Description
AB	00	Workstation-type system unit.
	00	CPU drawer or enclosure in a rack-type system unit.
	00	SCSI device drawer in a rack-type system unit.
	00	SCSI disk drawer in a rack-type system unit.
	01	Async expansion adapter in slot 1 of CPU drawer.
	02	Async expansion adapter in slot 2 of CPU drawer.
	03	Async expansion adapter in slot 3 of CPU drawer.
	04	Async expansion adapter in slot 4 of CPU drawer.
	05	Async expansion adapter in slot 5 of CPU drawer.
	06	Async expansion adapter in slot 6 of CPU drawer.
07	Async expansion adapter in slot 7 of CPU drawer.	
	08	This is not an invalid number. Slot 8 contains a standard SCSI adapter.
CD	00	CPU planar.
	00	Standard I/O planar.
	00	A device attached to the standard I/O planar.
	01	Adapter in slot 1 of the I/O planar.
	02	Adapter in slot 2 of the I/O planar.
	03	Adapter in slot 3 of the I/O planar.
	04	Adapter in slot 4 of the I/O planar.
	05	Adapter in slot 5 of the I/O planar.
	06	Adapter in slot 6 of the I/O planar.
	07	Adapter in slot 7 of the I/O planar.
	08	Adapter in slot 8 of the I/O planar.
	07	Rear Direct-Bus-Attach Disk Drive (7012).
	08	Front Direct-Bus-Attach Disk Drive (7012).
	10	Second I/O planar.
	11	Adapter in slot 1 of the second I/O planar or expansion cabinet.
	12	Adapter in slot 2 of the second I/O planar or expansion cabinet.
	13	Adapter in slot 3 of the second I/O planar or expansion cabinet.
	14	Adapter in slot 4 of the second I/O planar or expansion cabinet.
	15	Adapter in slot 5 of the second I/O planar or expansion cabinet.
	16	Adapter in slot 6 of the second I/O planar or expansion cabinet.
17	Adapter in slot 7 of the second I/O planar or expansion cabinet.	
18	Adapter in slot 8 of the second I/O planar or expansion cabinet.	
0J	Graphics adapter slot.	
0J	TCW memory module socket.	
0K	TCW memory module socket.	

Pair	Value	Description
CD	0A	Memory module/card in slot A on the system/CPU planar.
	0B	Memory module/card in slot B on the system/CPU planar.
	0C	Memory module/card in slot C on the system/CPU planar.
	0D	Memory module/card in slot D on the system/CPU planar.
	0E	Memory module/card in slot E on the system/CPU planar.
	0F	Memory module/card in slot F on the system/CPU planar.
	0G	Memory module/card in slot G on the system/CPU planar.
	0H	Memory module/card in slot H on the system/CPU planar.
	AA	Serial Optic Converter in slot AA of system/CPU planar.
	AB	Serial Optic Converter in slot AB of system/CPU planar.
EF	0P	CPU card located in slot P.
	0Q	CPU card located in slot Q.
	0R	CPU card located in slot R.
	0S	CPU card located in slot S.
	00	Does not have a connector or software was not able to identify the connector number.
	01	The number of the connector on an adapter card, distribution box, or planar. If needed, see Chapter 8 for the connector numbering on your adapter.
	02	
	03	
	04	
	0D	Internal diskette connector on the standard I/O planar.
0E	Built-in Ethernet adapter.	
0K	Keyboard connector.	
0M	Mouse connector.	
0P	Parallel printer connector.	
0S	Built-in SCSI adapter.	
0T	Tablet connector.	
S1	Serial port 1 connector.	
S2	Serial port 2 connector.	
S3	Serial Port 3 connector.	
1A	Port A of the Serial Optic Converter in slot AA of the CPU planar.	
1B	Port B of the Serial Optic Converter in slot AA of the CPU planar.	
2A	Port A of the Serial Optic Converter in slot AB of the CPU planar.	
2B	Port B of the Serial Optic Converter in slot AB of the CPU planar.	
11	Remote async node 1 on line 1.	
12	Remote async node 2 on line 1.	
13	Remote async node 3 on line 1.	
14	Remote async node 4 on line 1.	
21	Remote async node 1 on line 2.	
22	Remote async node 2 on line 2.	
23	Remote async node 3 on line 2.	
24	Remote async node 4 on line 2.	

Pair	Value	Description
GH GH or GHH or G,HHH	01	Memory module in location 1 on the memory card.
	02	Memory module in location 2 on the memory card.
	03	Memory module in location 3 on the memory card.
	04	Memory module in location 4 on the memory card.
	05	Memory module in location 5 on the memory card.
	06	Memory module in location 6 on the memory card.
	07	Memory module in location 7 on the memory card.
	08	Memory module in location 8 on the memory card.
	09	Memory module in location 9 on the memory card.
	10	Memory module in location 10 on the memory card.
	11	Memory module in location 11 on the memory card.
	12	Memory module in location 12 on the memory card.
	13	Memory module in location 13 on the memory card.
	14	Memory module in location 14 on the memory card.
	15	Memory module in location 15 on the memory card.
	16	Memory module in location 16 on the memory card.
	0A	Video RAM in slot A of the graphics adapter.
	0B	Video RAM in slot B of the graphics adapter.
	0C	Video RAM in slot C of the graphics adapter.
	0D	Video RAM in slot D of the graphics adapter.
	0E	Video RAM in slot E of the graphics adapter.
	0F	Video RAM in slot F of the graphics adapter.
	0G	Video RAM in slot G of the graphics adapter.
	0H	Video RAM in slot H of the graphics adapter.
	0J	Video RAM in slot J of the graphics adapter.
	0K	Video RAM in slot K of the graphics adapter.
	00	For devices other than those listed here
00 thru 15	Port addresses for 8-port async, 16-port async, and 16-port concentrator distribution boxes.	
01	Diskette drive 1	
00 thru FF	SCSI address and logical unit number of the device.	
000 thru FFF	SCSI address and logical unit number of the device shown in hexadecimal.	
0,000 thru F,255	SCSI address and logical unit number of the device shown in decimal. Note: When a comma appears between the G and H, digits appearing to the right of the comma are represented in decimal.	
NOTE: See the Appendix A to determine physical location.		

Description of the Service Request Number List (SRN Listing)

The service request number (SRN) list is in numerical sequence by the SRN.

The SRNs listed in this chapter are for all systems and devices for which this version of the diagnostic programs can produce an SRN.

The columns in the table are used as follows:

Service Request Number

Usually a six-digit number (9333 uses four digits) representing a specific failure of a specific function.

Source of SRN

SRN source codes identify the program or procedure that produced the SRN:

- A** The SRN is from a *steady* number in the operator panel display.
- B** The SRN is from a MAP callout.
- C** The SRN was due to a missing resource at configuration time .
- D** The SRN is from a diagnostic test after complete isolation testing.
- E** The SRN is from a POST failure.
- F** The SRN is from a diagnostic test after partial isolation testing.
- G** The SRN is from the Error Log Analysis program.
- H** The SRN is from a diagnostic message after a flashing *888*.
- J** The SRN is from built-in ROM diagnostics.
- K** The SRN is from off-line diagnostics.

Failing Function Codes

These numbers represent functional areas of the system unit. The "Failing Function Code List" in Chapter 3 identifies the FRU that contains this function for each specific system unit.

Failure Percent (%)

The numbers in this column show probability percentages of failing functions. The total in this column may exceed more than 100% because some functions may be in more than one option.

Description and Action

This column lists a brief description of the failure this SRN represents. It also contains instructions as to what to do to continue the problem analysis.

How to Use the Service Request Number List

The service request number list is in numerical sequence by the SRN.

1. Find your SRN in the table.
2. Record the code letter for the Source of SRN.
3. Record the failing function codes in the order listed.
4. Perform the action shown in the Action column.
5. Perform the action shown in the Action column. If more than one FFC is indicated, perform the action on one component at a time, starting from the first one.

Notes:

- a. If you cannot find SRN information in the "Service Request Number List," check for the existence of supplemental material supporting the device for which the SRN was generated.
- b. x in an SRN represents any digit or character.
- c. If the Description and Action column of an SRN directs you to use the diskette package, and if the system does not have a diskette drive or the SRN was obtained using the diskette package, use the MAP and failing function codes listed in the SRN.

Service Request Number List

Replace FRU parts in the order by which the "Failing Function Codes" are listed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
01xx			Description: Diagnostics detected a problem with the 9333 subsystem. Action: See "Drawer/Deskside Unit Documentation" under "Service Hints" in Chapter 1 to choose the appropriate 9333 service guide; then go to that 9333 service guide, and continue.
02xx			Description: Diagnostics detected a problem with the 9333 subsystem. Action: See "Drawer/Deskside Unit Documentation" under "Service Hints" in Chapter 1 to choose the appropriate 9333 service guide; then go to that 9333 service guide, and continue.
03xx			Description: Diagnostics detected a problem with the 9333 subsystem. Action: See "Drawer/Deskside Unit Documentation" under "Service Hints" in Chapter 1 to choose the appropriate 9333 service guide; then go to that 9333 service guide, and continue.
04xx			Description: Diagnostics detected a problem with the 9333 subsystem. Action: See "Drawer/Deskside Unit Documentation" under "Service Hints" in Chapter 1 to choose the appropriate 9333 service guide; then go to that 9333 service guide, and continue.
05xx			Description: Diagnostics detected a problem with the 9333 subsystem. Action: See "Drawer/Deskside Unit Documentation" under "Service Hints" in Chapter 1 to choose the appropriate 9333 service guide; then go to that 9333 service guide, and continue.
Axxx			Description: Diagnostics detected a problem with the 9333 subsystem. Action: See "Drawer/Deskside Unit Documentation" under "Service Hints" in Chapter 1 to choose the appropriate 9333 service guide; then go to that 9333 service guide, and continue.
Bxxx			Description: Diagnostics detected a problem with the 9333 subsystem. Action: See "Drawer/Deskside Unit Documentation" under "Service Hints" in Chapter 1 to choose the appropriate 9333 service guide; then go to that 9333 service guide, and continue.
Cxxx			Description: Diagnostics detected a problem with the 9333 subsystem. Action: See "Drawer/Deskside Unit Documentation" under "Service Hints" in Chapter 1 to choose the appropriate 9333 service guide; then go to that 9333 service guide, and continue.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
Dxxx			Description: Diagnostics detected a problem with the 9333 subsystem. Action: See "Drawer/Deskside Unit Documentation" under "Service Hints" in Chapter 1 to choose the appropriate 9333 service guide; then go to that 9333 service guide, and continue.
Fxxx			Description: Diagnostics detected a problem with the 9333 subsystem. Action: Substitute SRN 0xxx for SRN Fxxx, where xxx is the last three digits of the SRN. See "Drawer/Deskside Unit Documentation" under "Service Hints" in Chapter 1 to choose the appropriate 9333 service guide; then go to that 9333 service guide, and continue.
10112			Description: Format Degraded. A Format operation has been ended before it has completed. Action: Refer to the Service Guide for the unit containing the disk drive.
1XXXX			Description: Disk drive module error. Action: Refer to the Service Guide for the unit containing the disk drive. Note: In this SRN, an X represents a digit 0 through F.
20PAA			Description: An open SSA loop has been detected. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
21PAA to 29PAA			Description: An SSA 'Threshold exceeded' link error has been detected. Action: Go to the Intermittent Link Error MAP in the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
2A002			Description: Async code 02 has been received. Probably, a software error has occurred. Action: Refer to the Service Guide for the unit containing the disk drive.
2A003			Description: Async code 03 has been received. Probably, a software error has occurred. Action: Refer to the Service Guide for the unit containing the disk drive.
2A004			Description: Async code 04 has been received. Probably, a software error has occurred. Action: Refer to the Service Guide for the unit containing the disk drive.
2A005			Description: Async code 05 has been received. This code indicates that a disk drive module has detected the loss of redundant power or cooling. Action: Refer to the Service Guide for the unit containing the disk drive.
2A006			Description: Async code 06 has been received. This code indicates that a disk drive module has detected the loss of redundant power or cooling. Action: Refer to the Service Guide for the unit containing the disk drive.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
2A106			Description: Async code 06 has been received. This code indicates that multiple disk drive modules have detected the loss of redundant power or cooling. Action: Refer to the Service Guide for the unit containing the disk drives.
2A206			Description: A disk drive module has detected that one of its SSA links has failed the POSTs. Action: Refer to the Service Guide for the unit containing the disk drive.
2FFFF			Description: An async code that is not valid has been received. Action: Refer to the Service Guide for the unit containing the disk drive.
300C0			Description: A disk drive module has detected the loss of redundant power or cooling. Action: Refer to the Service Guide for the unit containing the disk drive.
301C0			Description: Multiple disk drive modules have detected the loss of redundant power or cooling. Action: Refer to the Service Guide for the unit containing the disk drives.
303FF			Description: An SCSI status that is not valid has been received. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
31000			Description: The disk drive has been reset by the adapter. The disk drive might be going to fail. Action: Refer to the Service Guide for the unit containing the disk drive.
40000			Description: The SSA adapter card has failed. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
40004			Description: A 4 MB DRAM module in adapter card slot 0 has failed. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
40008			Description: An 8 MB DRAM module in adapter card slot 0 has failed. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
40016			Description: A 16 MB DRAM module in adapter card slot 0 has failed. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
40032			Description: A 32 MB DRAM module in adapter card slot 0 has failed. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
40064			Description: A 6 MB DRAM module in adapter card slot 0 has failed. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
40128			Description: A 128 MB DRAM module in adapter card slot 0 has failed. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
41004			Description: A 4 MB DRAM module in adapter card slot 1 has failed. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
41008			Description: An 8 MB DRAM module in adapter card slot 1 has failed. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
41016			Description: A 16 MB DRAM module in adapter card slot 1 has failed. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
41032			Description: A 32 MB DRAM module in adapter card slot 1 has failed. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
41064			Description: A 64 MB DRAM module in adapter card slot 1 has failed. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
41128			Description: A 128 MB DRAM module in adapter card slot 1 has failed. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
42000			Description: The SSA adapter has detected that both DRAM modules are failing. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
42200			Description: Other adapters on the SSA loop are using levels of microcode that are not compatible. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
42500			Description: An SSA adapter has detected a failure in its fast-write cache. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
42510			Description: Not enough DRAM available to run an SSA fast-write cache. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
42515			Description: An SSA adapter is attempting to use its fast-write cache, but a fast-write cache card is not installed. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
42520			Description: An SSA fast-write cache failure has been detected. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
42521			Description: An SSA fast-write cache failure has been detected. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
42522			Description: An SSA fast-write cache failure has been detected. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
42523			Description: A incorrect version number has been detected in an SSA resource. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
42524			Description: An SSA write-cache resource is not available. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
42525			Description: An incorrect SSA write-cache resource has been identified. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
42526			Description: This adapter does not support the SSA Fast-Write Cache Option. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
42527			Description: A dormant SSA fast-write cache entry exists. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
42528			Description: A fast-write SSA disk drive has been detected that was previously unsynchronized, but has since been configured on a different adapter. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
43PAA			Description: An SSA device on the loop is preventing the completion of the loop configuration. Action: Refer to the Service Guide for the unit containing the device.
44PAA			Description: A disk drive module has a 'Failed' status. Action: Refer to the Service Guide for the unit containing the disk drive.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
45PAA			Description: The SSA adapter has detected an open SSA loop. This problem is caused either by a disk drive module that is failing, or by a disk drive module that has been turned off from another using system on the same SSA loop. (That using system has itself been turned off.) Action: Refer to the Service Guide for the unit containing the disk drive.
46000			Description: A RAID array is the Offline state because more than one disk drive is not available. At least one member disk drive of the array is present, but more than one member disk drive is missing. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
46500			Description: A member disk drive is missing from a SSA array. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
47000			Description: An attempt has been made to store in the SSA adapter the details of more than 32 RAID arrays. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
47500			Description: Part of the RAID array data might have been lost. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
48000			Description: The SSA adapter has detected a link configuration that is not valid. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
48600			Description: Member disk drives of an SSA array are not all on the same SSA loop, in a multiple-host-system configuration. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
48700			Description: Two or more member disk drives of an SSA array are on different loops. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
48800			Description: The SSA RAID strip table is not valid. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
48900			Description: An SSA array is not available; a multiple-device error has occurred. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
48950			Description: An SSA disk drive has failed during a building operation. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
49000			Description: A RAIDiant array is in the Degraded state because a disk drive is not available to the array, and a write command has been sent to that array. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
49100			Description: A RAID array is in the Exposed state because a disk drive is not available to the array. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
49500			Description: No hot spare disk drives are available for a RAID array that is configured for hot spare disk drives. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
49700			Description: The parity for the RAID array is not complete. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
4A100			Description: The adapter cannot initialize an SSA disk drive. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
4BPAA			Description: An SSA disk drive at PAA cannot be configured, because its UID cannot be read. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
50000			Description: The SSA adapter failed to respond to the device driver. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
50001			Description: A data parity error has occurred. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
50002			Description: An SSA adapter DMA error has occurred. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
50004			Description: Channel check. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
50005			Description: A software error has occurred. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
50006			Description: A channel check has occurred. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
50007			Description: The IOCC detected an internal error. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
50008			Description: Unable to read or write the POS registers. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
50010			Description: An SSA adapter or device-driver protocol error has occurred. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
50012			Description: The SSA adapter microcode has hung. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
50013			Description: The SSA adapter card has failed. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
50100			Description: An attempt was made to log an error against a pdisk that is not available to the using system. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
50200			Description: Duplicate SSA cluster number detected. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
50411			Description: SSA adapter has detected an SS_SIC_CLASS1 error. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
50425			Description: SSA adapter has detected an SS_LINK_CONFIG_FAILED error. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
504XX			Description: The SSA adapter microcode has hung. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
60000			Description: The SSA adapter is missing from the expected configuration. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
60200			Description: The SSA unit cannot be turned on. Action: Refer to the Service Guide for the unit.
60210			Description: A disk drive module has its Check light on. Action: Refer to the Service Guide for the unit containing the disk drive.
60220			Description: A fan-and-power-supply assembly has its Check light on. Action: Refer to the Service Guide for the unit containing the device that the error was reported against.
60230			Description: The SSA unit has an unexpected Check light on. Action: Refer to the Service Guide for the unit.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
60240			Description: An SSA configuration problem has occurred. An SSA device cannot be configured. Action: Refer to the Service Guide for the unit containing the device.
7XXXX			Description: An SSA disk drive is missing from the expected configuration of the SSA loop. Action: Refer to the Service Guide for the unit containing the disk drive. Note: In this SRN, an X represents a digit 0 through F.
D0000			Description: The using system cannot configure the disk drive module. Action: Refer to the Service Guide for the unit containing the disk drive.
D0100			Description: Unable to clear a disk drive module reservation. Action: Refer to the Service Guide for the unit containing the disk drive.
D0101			Description: The disk drive module has been reserved since the diagnostics started. Action: Refer to the Service Guide for the unit containing the disk drive.
D0200			Description: The disk drive module timed out while the diagnostics were running. Action: Refer to the Service Guide for the unit containing the disk drive.
D0300			Description: The disk drive module failed the diagnostic test. Action: Refer to the Service Guide for the unit containing the disk drive.
D0400			Description: The disk drive module is not ready while the diagnostics are running. Action: Refer to the Service Guide for the unit containing the disk drive.
D0450			Description: The Format operation that was started on this disk drive module has not yet finished. Action: Refer to the Service Guide for the unit containing the disk drive.
D0460			Description: A Format operation has been degraded. Action: Refer to the Service Guide for the unit containing the disk drive.
D4000			Description: The diagnostics cannot configure the SSA adapter. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
D4100			Description: The diagnostics cannot open the SSA adapter. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
D4300			Description: The diagnostics have detected an SSA adapter POST failure. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
D44XX			Description: The diagnostics have detected that the SSA adapter has corrupted the microcode, but cannot download a new version of the microcode. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> . Note: In this SRN, an X represents a digit 0 through F.
DFFFF			Description: A command or parameter that has been sent or received is not valid. This problem is caused either by the SSA adapter, or by an error in the microcode. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
B08-098	J	B08 852	Description: Ethernet twisted-pair transceiver failed.
B08-099	J	B08 887	Description: Ethernet twisted-pair transceiver failed.
B09-098	J	B09 852	Description: Ethernet thin transceiver failed.
B09-099	J	B09 887	Description: Ethernet thin transceiver failed.
B38-097	J	B38 214	Description: IPLROS detected a problem with memory module pair. Action: Exchange the memory module pair. Use MAP 0210.
B38-098	J	B38 214	Description: IPLROS detected a problem with the memory memory module. If exchanging the indicated memory module does not resolve the problem, exchange the other memory module in the pair before exchanging the planar.
B39-097 to B39-098	J	B39 214	Description: IPLROS detected a problem with the memory memory module pair. Action: Exchange the memory module pair. If exchanging the indicated memory module does not resolve the problem, exchange the other memory module in the pair before exchanging the planar. Use MAP 0210.
B49-098	J	E07 227	Description: Automatic solid-state circuit breaker (PTC device) is open. Remove electrical short on SCSI device or cable, or system planar. Wait at least three minutes, and then retest.
B49-099	J	227 B08/B09	Description: Automatic solid-state circuit breaker (PTC device) is open. Remove electrical short on Ethernet device or system planar. Wait at least three minutes, and then retest.
B58-099	J	B58 B41 227	Description: The POWER Gt3i adapter test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
B59-099	J	B59 B41 227	Description: The POWER Gt4e adapter test failed.
C99-098	J	C99 221	Description detected a problem with the FDDI Dual Ring Upgrade adapter. Note: Determine Dual Ring Upgrade adapter type (copper or fiber) and use FRU of same type.
C99-099	J	C99 221	Description: IPLROS detected a problem with the FDDI adapter. Note: Determine adapter type (copper or fiber) and use FRU of same type.
100-099	J	721 711 868	Description: An unknown device/adapter was not detected. The location code indicates the failing device/adapter.
101-100	A	210 223	Description: Testing stopped when BIST passed control to POST.
101-101	A	210 169 223	Description: Starting BIST from Reset button.
101-102	A	223	Description: Starting BIST after turning the system unit's power on.
101-103 to 101-104	A	210 223	Description: BIST could not determine the system model number or could not find the CBA.
101-105	A	216 223	Description: BIST could not read from the OCS EPROM.
101-106 to 101-113	A	210 223	Description: BIST detected a module failure, could not log the checkstop results, or the checkstop count was greater than 1.
101-120	A	223	Description: Starting CRC check on 875X EPROM.
101-121 to 101-122	A	210 223	Description: The BIST detected a bad CRC on the OCS EPROM.
101-123 to 101-124	A	814	Description: The BIST detected a bad CRC on the OCS NVRAM.
101-125	A	814 152	Description: The BIST detected a bad CRC on the time of day NVRAM.
101-126	A	814	Description: The BIST detected a bad CRC on the time of day NVRAM.
101-127	A	223	Description: The BIST detected a bad CRC on the 8752 EPROM.
101-130	A	210 169 223	Description: Starting BIST after pressing the Reset button.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
101-140 to 101-154	A	210 223	Description: The BIST failed.
101-162	A		Description: The system hangs with a 162 displayed. Action: Enable the BUMP console to display the results to a tty display (if not already enabled) and read the BUMP console screen for further details on the failure.
101-165	A		Description: System hung while testing memory. Suspect a memory card, system planar, or CPU card. Action: Use MAP 1540 to isolate the problem.
101-180	A	210 223	Description: The BIST logout failed.
101-185	A	210 D01 223	Description: BIST checkstop. Refer to the following note regarding FFC D01. Note: Some systems may not have D01 installed. If this is the case the FFCs for this SRN are 210 and 223.
101-186 to 101-187	A	C27	Description: System logic or Graphics-generated checkstop.
101-195	A	210	Description: The BIST logout failed.
101-200	A	168 816	Description: POST detected the key mode switch in the Secure position. Action: Check the key mode switch. If it is in the Secure position, switch it to Service position and start over. If not, use MAP 0210 and the FFCs listed.
101-201	A	210	Description: POST initialization checkstop. Action: Run diagnostics from diskettes or CD-ROM. Start with MAP 0020 Step 14. If the diagnostics run correctly from diskette or CD-ROM, the problem may be damaged data on the disk. Contact the Software Support Center. If a different problem occurs, correct that problem. If SRN 101-201 is still received, use failing functional code 210, and go to MAP 0210.
101-209	A	B24	Description: POST is executing floating or fixed point tests.
101-20c	A	D01 210	Description: L2 cache POST failed.
101-210	A	B24	Description: POST is executing floating or fixed point tests.
101-211	A	217	Description: POST IPL ROM CRC error.
101-212	A	214	Description: Memory configuration error or no memory found.
101-213	A	131 214	Description: The POST of the memory failed while looking for 1M-bytes of good memory. Action: Use MAP 0310.
101-214	A	816 218	Description: The power-status register test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
101-215	A	152 816	Description: A low voltage condition was sensed. Action: Check the voltage at the customer's outlet. Check for loose cable connectors. If no problem found, use MAP 0210.
101-216	A	131	Description: The system hangs while uncompressing ROM into memory. Action: Unidentified memory error. Check all memory modules to be present and properly installed. Check all memory modules to be the same, as shown in Appendix C. If no discrepancy is found then replace the memory module in the location called out by the flashing 888 LEDs. Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
101-217	A	218	Description: The system was unable to continue through the boot list.
101-218 to 101-219	A	131	Description: The POST of the memory failed while looking for 1M bytes of good memory, generating a bit map or control block. Action: Use MAP 0310. Note: For 7012/G series, 7013/J series, and 7015/R30 system units, use FFC221 and MAP 0210.
101-21c	A	D01 210	Description: L2 cache POST failed.
101-220	A	131	Description: The POST of the memory failed while looking for 1M bytes of good memory, generating a bit map or control block. Action: Use MAP 0310. Note: For 7012/G series, 7013/J series, and 7015/R30 system units, use FFC 221 and MAP 0210.
101-221	A		Description: The NVRAM was bad during normal IPL. Action: Set the key mode switch to Service and load the diagnostic programs again. Note: For 7012/G series, 7013/J series, and 7015/R30 system units, use FFC 814 and MAP 0210.
101-222	A	828 227 210	Description: The system hangs while trying to IPL from a SCSI device.
101-223	A	B88 or E07 227 210	Description: The system hangs while trying to IPL from a SCSI device. Action: Use the <i>SCSI Subsystem diagnostic</i> diskettes or CD-ROM based diagnostics. Go to MAP 0020 Step 14. If no problem is detected, use MAP 0210 and the listed FFC(s). Note: The problem may be caused by incorrect jumper settings for external SCSI devices or by the use of an incorrect SCSI terminator.
101-224	A		Description: Normal mode IPL problem. Action: Use the Start MAP in the 9333 service guide.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
101-225	A	950 227 210	Description: The system hangs while trying to IPL from a SCSI device. Note: This SRN can occur on a 7012 if diagnostics are being run with damaged disk data. Solve this problem by formatting the disk using diagnostic diskettes or diagnostic CD-ROM and then reinstalling the system.
101-226	A	E03 221	Description: The system hangs while attempting to IPL from the Ethernet adapter.
101-227	A	E04 221	Description: The system hangs while attempting to IPL from the Token-Ring.
101-228 to 101-229	A	218	Description: The system was unable to restart from an expansion code or restart from devices specified in the NVRAM.
101-230	A		Description: The system hangs while attempting to IPL from ROM scan code. Action: Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
101-231	A	E03 221	Description: The system hangs while attempting to IPL from the Ethernet adapter.
101-232	A	828 227 210	Description: The system hangs while trying to IPL from a SCSI device.
101-233	A	B88 or E07	Description: The system hangs while trying to IPL from a SCSI device. Action: Use the <i>SCSI Subsystem</i> diagnostic diskettes. Go to MAP 0020 Step 14. If this error occurs while using the diskettes or you cannot use the diskettes, use MAP 0210 and the listed FFC(s).
101-234	A		Description: Normal mode IPL problem. Action: Use the Start MAP in the 9333 service guide.
101-235	A	950 227 210	Description: The system hangs while trying to IPL from a SCSI device. Note: This SRN can occur on a 7012 if diagnostics are being run with damaged disk data. Solve this problem by formatting the disk using the diagnostic diskettes or diagnostic CD-ROM and then reinstalling the system.
101-236	A	E03 221	Description: The system hangs while attempting to IPL from the Ethernet adapter.
101-237 to 101-238	A	E04 221	Description: The system hangs while attempting to IPL from the Token-Ring.
101-239	A	218	Description: The system was unable to restart from a device specified by the user.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
101-240	A		Description: The system hangs while attempting to IPL from ROM scan code. Action: Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
101-242	A	828 227 210	Description: The system hangs while trying to IPL from a SCSI device.
101-243	A	B88 or E07	Description: The system hangs while trying to IPL from a SCSI device. Action: Use the <i>SCSI Subsystem</i> diagnostic diskettes. Go to MAP 0020 Step 14. If this error occurs while using the diskettes or you cannot use the diskettes, use MAP 0210 and the listed FFC(s).
101-244	A		Description: Service mode IPL problem. Action: Use the Start MAP in the 9333 service guide.
101-245	A	950 227 210	Description: The system hangs while trying to IPL from a SCSI device. Note: This SRN can occur on a 7012 if diagnostics are being run with damaged disk data. Solve this problem by formatting the disk using the diagnostic diskettes or diagnostic CD-ROM and then reinstalling the system.
101-246	A	E03 221	Description: The system hangs while attempting to IPL from the Ethernet adapter. Note: Ensure that the system is not still trying to IPL from a server over a network. It is not uncommon for the three-digit display to display the value associated with this SRN for longer than three minutes. You must determine the type of Ethernet adapter.
101-247	A	E04 221	Description: The system hangs while attempting to IPL from the Token-Ring.
101-248 to 101-249	A	218	Description: The system was unable to restart from an expansion code or restart from devices specified in the NVRAM.
101-250	A		Description: The system hangs while attempting to IPL from ROM scan code. Action: Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
101-251	A	E03 221	Description: The system hangs while attempting to IPL from the Ethernet adapter. Note: Ensure that the system is not still trying to IPL from a server over a network. It is not uncommon for the three-digit display to display the value associated with this SRN for longer than three minutes.
101-252	A	828 227 210	Description: The system hangs while trying to IPL from diskette.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
101-253	A	B88 or E07	Description: The system hangs while trying to IPL from a SCSI device. Action: Use the <i>SCSI Subsystem</i> diagnostic diskettes. Go to MAP 0020 Step 14. If this error occurs while using the diskettes or you cannot use the diskettes, use MAP 0210 and the listed FFC(s).
101-254	A		Description: Service mode IPL problem. Action: Use the Start MAP in the 9333 service guide.
101-255	A	950 227 210	Description: The system hangs while trying to IPL from a SCSI device. Note: This SRN can occur on a 7012 if diagnostics are being run with damaged disk data. Solve this problem by formatting the disk using the diagnostic diskettes or diagnostic CD-ROM and then reinstalling the system.
101-256	A	E03 221	Description: The system hangs while attempting to IPL from the Ethernet Note: Ensure that the system is not still trying to IPL from a server over a network. It is not uncommon for the three-digit display to display the value associated with this SRN for longer than three minutes. You must determine the type of Ethernet adapter.
101-257 to 101-258	A	E04 221	Description: The system hangs while attempting to IPL from the Token-Ring. Note: Ensure that the system is not still trying to IPL from a server over a network. It is not uncommon for the three-digit display to display the value associated with this SRN for longer than three minutes. You must determine the type of Token-Ring adapter.
101-259 to 101-25c	A	C99	Description: The system hangs while attempting to IPL from FDDI. Note: Ensure that the system is not still trying to IPL from a server over a network. It is not uncommon for the three-digit display to display the value associated with this SRN for longer than three minutes.
101-262	A	B31 821	Description: The keyboard was not detected. Action: Determine the keyboard type, and then use MAP 0210. Note: Check for blown planar fuses or for a corrupted boot record on disk drive.
101-263	A		Description: The system hangs while attempting to IPL from ROM scan code. Action: Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
101-269	A		Description: IPL failed. Boot record could not be loaded. Note: This problem can be caused by a corrupted boot record, a boot list that does not contain the correct boot device, SCSI device addressing, SCSI terminators, open PTC, or SCSI cable. On the 7013/J30 this problem can be caused by a loose or faulty flex cable. Action: Go to MAP 1540 in the system unit's service guide.
101-271	A	B29 168	Description: The POST for the mouse port failed.
101-272	A	B29	Description: The POST for the tablet port failed.
101-276	A	794 227	Description: 10/100 Mbps MCA Ethernet Adapter POST failed.
101-277	A	850 210	Description: The Auto Token-Ring LANstreamer MC 32 Adapter POST is executing.
101-278	A		Description: The POST from Video ROM Scan has failed. Action: Go to Map 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
101-279	A	C99 227	Description: The FDDI POST is executing.
101-280	A	852 227	Description: The 3com POST is executing.
101-281	A	B31 B29	Description: The keyboard POST is executing.
101-282 to 101-283	A	B29	Description: The parallel or serial port POST is executing.
101-284	A	880 B29	Description: The display adapter POST is executing.
101-285	J	see NOTE 227 214	Description: The display adapter POST is executing. Note: This SRN is valid for FFC 877, B58, or B59
101-286	A	850 227	Description: The Token-Ring POST is executing.
101-287	A	887 227	Description: The Ethernet POST is executing.
101-288	A	227 221 C90	Description: The system hangs while executing an adapter POST. Action: For 7012/G series, 7013/J series, and 7015/R30 system units, use listed FFCs and MAP 0210. For all other system units, go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
101-289	A	871 227	Description: The POWER GT0 POST is executing.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
101-290	A	218 227	Description: The POST of the IOCC failed.
101-291	A	828	Description: The POST of the standard I/O failed.
101-292	A		Description: SCSI adapter POST failed. Note: This problem is normally caused by a defective or improperly seated SCSI adapter or an open PTC on the SCSI adapter. An open PTC can be caused by a short on the SCSI bus. Action: Go to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
101-293	A	950 227	Description: The POST of the direct-attached disk drive failed.
101-294	A	B19	Description: The TCW memory module failed.
101-295	A	872 874	Description: The grayscale graphics adapter failed or the color graphics adapter failed.
101-296	A		Description: The system halted while running a POST of an adapter installed in an I/O slot. Action: Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
101-297	A	217	Description: The ROS model and type number does not match the system model and type number. Action: Check for compatibility problems with the processor complex. If you do not find a problem, use MAP 0210.
101-298	A		Description: Error during a software IPL. Action: Set the system unit power switch to Off, wait 30 seconds, and set it to On again.
101-299	A	132 210	Description: Error when control passed to IPL program. Action: Attempt to IPL the system from another boot device. If the system completes IPL, the boot program on the original device may be corrupted. If the boot attempt fails on the second boot device use FFC 210 and go to MAP 0210.
101-301	A	210	Description: Flash Utility ROM test failed, or checkstop occurred. Action: Run diagnostics from diskette or CD ROM. Start with MAP 0020 Step 14. If the diagnostics run correctly from diskette or CD ROM, the problem may be damaged data on the disk. Contact the Software Support Center. If a different problem occurs, correct that problem. If SRN 101-301 is still received, use Failing Function Code 210, and go to MAP 0210.
101-304	A	218 227	Description: The POST of the IOCC failed.
101-305	A	828	Description: The POST of the standard I/O failed.
101-306	A	828 227 210	Description: The system hangs while trying to IPL from diskette.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
101-307	A	217	Description: The ROM model and type number does not match the system model and type number. Action: Check for compatibility problems with the processor module. If no problem is found, use MAP 0210.
101-309	A	132	Description: Error when control passed to IPL program. Action: Check the IPL media. If no problem is found, IPL from another device.
101-311	A	217	Description: POST IPL ROM CRC error.
101-312	A	214	Description: Memory configuration error or no memory found.
101-313	A	131 214	Description: The POST of the memory failed while looking for good memory. Action: Use MAP 0310.
101-314	A	816 218	Description: The power status register test failed.
101-315	A	152 816	Description: A low voltage is being sensed. Action: Check the voltage at the customer's outlet. Check for loose connectors. If no problem is found, use MAP 0210.
101-318 to 101-319	A	131	Description: The POST failed while it was generating the memory bit map. Action: Use MAP 0310.
101-322	A	132	Description: CRC error on media Flash Image. Action: Check the IPL media. If no problem is found, obtain another copy of the diskette.
101-323 to 101-324	A	217	Description: CRC error on ROM Flash Image.
101-500 to 101-508	A		Description: The system hung while configuring the adapters. The rightmost digit of the SRN identifies the slot number of the adapter. Action: Use MAP 0270.
101-510	A		Description: System configuration problem Action: Use MAP 1540, run diagnostics in standalone mode. If the problem persists, suspect a software problem.
101-511	A		Description: System configuration problem Action: Use MAP 1540, run diagnostics in standalone mode. If the problem persists, suspect a software problem.
101-512	A		Description: System configuration problem Action: Use MAP 1540, run diagnostics in standalone mode. If the problem persists, suspect a software problem.
101-513	A		Description: System configuration problem Action: Use MAP 1540, run diagnostics in standalone mode. If the problem persists, suspect a software problem.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
101-516	A		Description: System configuration problem Action: Use MAP 1540, run diagnostics in standalone mode. If the problem persists, suspect a software problem.
101-517	A		Description: System configuration problem Action: Use MAP 1540, run diagnostics in standalone mode. If the problem persists, suspect a software problem.
101-518	A		Description: CD-ROM read problems after boot. Note: The boot record was read from the CD-ROM disk. However, errors occurred when trying to mount the CD-ROM file system. This problem can be caused by SCSI device addressing, SCSI terminator, open PTC, SCSI cable, etc. Action: Go to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
101-521 to 101-538	A		Description: The configuration manager detected an error. Action: If you are running the diagnostics from a disk, try running the diagnostics from diskettes or CD-ROM. If the diagnostics run correctly from diskettes or CD-ROM, the problem may be damaged data on the disk. Contact your software support facility. If a different problem occurs when you run the diagnostics from diskette or CD-ROM, correct that problem. If you were running from diskettes or CD-ROM at first, go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
101-540 to 101-543	A		Description: The system hung while configuring the adapters in the async expansion drawer. The rightmost digit of the SRN identifies the slot number of the adapter being configured. Action: Use MAP 0270.
101-544	A		Description: Disk read problems occurred after booting. Note: The boot record was read from the disk. However, errors occurred when trying to open the disk drive. This problem can be caused by SCSI device addressing, SCSI terminator, open PTC, SCSI cable, etc. Action: Go to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
101-545 to 101-548	A		Description: The system hung while configuring the adapters in the async expansion drawer. The rightmost digit of the SRN identifies the slot number of the adapter being configured. Action: Use MAP 0270.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
101-551 to 101-557	A		Description: The system hung while loading the software. This can be caused by a hardware or software problem. Action: Run diagnostics from diskette or CD-ROM. Start at MAP 0020, Step 14. If the diagnostics run correctly from diskette or CD-ROM, the problem may be damaged disk data. Consider having the customer contact Software Support before reinstalling the operating system on the disk. If you still get the same SRN, go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
101-558	A		Description: There is not enough memory to execute diagnostics. Action: There must be a minimum of 16MB of installed memory. If the system has 16MB or more of memory installed, suspect a problem with a memory card.
101-559 to 101-599	A		Description: The system hung while loading the software. This can be caused by a hardware or software problem. Action: Run diagnostics from diskette or CD-ROM. Start at MAP 0020, Step 14. If the diagnostics run correctly from diskette or CD-ROM, the problem may be damaged disk data. Consider having the customer contact Software Support before reinstalling the operating system on the disk. If you still get the same SRN, go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
101-711 to 101-726	A		Description: The system hung while trying to configure an unknown resource. Action: Run diagnostics from diskette or CD-ROM. Start at MAP 0020, Step 14. If you still get the same SRN, refer to "Failing Function Code List" on page 23-4, and find the FFC that matches the last three digits of the SRN. Suspect the device adapter or device itself. If more than one adapter or device is installed, isolate the failing resource by removing the adapters or devices one at a time and checking if the system stops with the same value in the three-digit display.
101-727	A		Description: The system hung while trying to configure an asynchronous adapter. Action: Use MAP 1540 in the installation and service guide for this system unit or drawer. Suspect a problem with one of the async adapters.
101-728 to 101-730	A		Description: The system hung while trying to configure an unknown resource. Action: Run diagnostics from diskette or CD-ROM. Start at MAP 0020, Step 14. If you still get the same SRN, refer to "Failing Function Code List" on page 23-4, and find the FFC that matches the last three digits of the SRN. Suspect the device adapter or device itself. If more than one adapter or device is installed, isolate the failing resource by removing the adapters or devices one at a time and checking if the system stops with the same value in the three-digit display.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
101-80c	A		Description: The system hung while trying to configure an SSA adapter. Action: Refer to the <i>SSA Adapters: User's Guide and Maintenance Information</i> .
101-811 to 101-858	A		Description: The system hung while configuring a resource. The rightmost three digits of the SRN identify the failing function code for the resource being configured. Action: Use MAP 0260.
101-859	A	859/997	Description: The system hung while configuring an adapter; you must determine which of the listed FFCs is failing. Action: Use MAP 0260.
101-860 to 101-868	A		Description: The system hung while configuring a resource. The rightmost three digits of the SRN identify the failing function code for the resource being configured. Action: Use MAP 0260.
101-869	A	B88	Description: The system hung while configuring a SCSI adapter; you must determine the adapter type. Action: Use MAP 0260.
101-870	A		Description: The system hung while configuring a resource. The rightmost three digits of the SRN identify the failing function code for the resource being configured. Action: Use the Start MAP in the 9333 Service Guide.
101-871 to 101-876	A		Description: The system hung while configuring a resource. The rightmost three digits of the SRN identify the failing function code for the resource being configured. Action: Use MAP 0260.
101-877	A	877 or 878 or B58	Description: The system hung while configuring a resource. Note: You must determine which adapter is installed in the system. It is possible that different types are installed in the system, and you may have to remove one to isolate the problem. Action: Use MAP 0260.
101-878 to 101-887	A		Description: The system hung while configuring a resource. The rightmost three digits of the SRN identify the failing function code for the resource being configured. Action: Use MAP 0260.
101-888	A	223 152 C23	Description: The BIST could not start.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
101-889 to 101-948	A		Description: The system hung while configuring a resource. The rightmost three digits of the SRN identify the failing function code for the resource being configured. Action: Use MAP 0260.
101-949	A	949 189	Description: The system hung while configuring a direct bus attached drive. Note: You must determine the type of direct bus attached drive. Action: Use MAP 0260.
101-950 to 101-999	A		Description: The system hung while configuring a resource. The rightmost three digits of the SRN identify the failing function code for the resource being configured. Action: Use MAP 0260.
101-c32	D		Description: The system hung while indicating that a direct-attached display was selected as the console. Action: Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure. Suspect the graphics adapter being used for the display console first.
101-c33	D		Description: The system hung while indicating that a TTY terminal is the system console. Action: Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure. Suspect the graphics adapter being used for the display console first.
101-FFF	A	210	Description: Invalid three-digit display value.
101-xxx	A	xxx 227	Description: The system hung while configuring a resource. The last three digits identify the failing function code for the resource being configured. Action: Use MAP 0260.
103-151	D	151	Description: The time-of-day battery failed.
103-202 to 103-210	H		Description: Unexpected interrupt. Action: Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
104-c0c	H	173	Description: POST detected an unsynchronized memory problem. Action: Examine the system for a missing memory card or for a memory card installed in the wrong slot.
104-108	H	173	Description: POST detected a memory module problem. Action: Use MAP 0240.
104-109	H	174	Description: POST detected a memory module problem. Action: Use MAP 0240.
104-110	H	187	Description: POST detected a memory module problem. Action: Use MAP 0240.
104-111	H	177	Description: POST detected a memory module problem. Action: Use MAP 0240.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
104-208 to 104-209	H	171	Description: POST detected a memory card problem. Action: Use MAP 0240.
104-210	H	180	Description: POST detected a memory card problem. Action: Use MAP 0240.
104-211	H	178	Description: POST detected a memory card problem. Action: Use MAP 0240.
105-101 to 105-102	H	221	Description: POST detected a memory module problem.
105-103	H	B38 221	Description: POST detected a memory module problem.
105-104	H	B39 221	Description: POST detected a memory module problem.
105-105	H	C31 221	Description: POST detected a memory module problem.
105-106	H	C32 221	Description: POST detected a memory module problem.
106-004	H	177	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-008	H	176	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-028	H	187	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-200	H	131	Description: POST detected an invalid memory type. Action: Check the memory for compatible modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.
106-205 to 106-207	H	182	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-208	H	154	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-209	H	172	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-210	H	154	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-211	H	172	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-224	H	182	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-225	H	175	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-226	H	182	Description: POST detected a memory module problem. Action: Use MAP 0240.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
106-227	H	175	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-240	H	182	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-241	H	179	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-242	H	182	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-243	H	179	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-244	H	182	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-245	H	179	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-246	H	182	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-247	H	179	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-263 to 106-300	H	131	Description: POST detected an invalid memory type. Action: Check the memory for compatible modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.
106-301	H	C30	Description: POST detected a memory module problem. Action: Check the memory for compatible modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.
106-305 to 106-307	H	182	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-308	H	154	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-309	H	172	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-310	H	154	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-311	H	172	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-324	H	182	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-325	H	175	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-326	H	182	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-327	H	175	Description: POST detected a memory module problem. Action: Use MAP 0240.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
106-340	H	182	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-341	H	179	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-342	H	182	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-343	H	179	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-344	H	182	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-345	H	179	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-346	H	182	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-347	H	179	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-363	H	131	Description: POST detected an invalid memory type. Action: Check the memory for compatible modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.
106-400	H	131	Description: POST detected an invalid memory type. Action: Check the memory for compatible modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.
106-401	H	D64	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-405	H	D63	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-408	H	C42	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-409	H	D62	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-463	H	131	Description: POST detected an invalid memory type. Action: Check the memory for compatible modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.
106-500	H	131	Description: POST detected an invalid memory type. Action: Check the memory for compatible modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.
106-501	H	D64	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-505	H	D63	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-508	H	C42	Description: POST detected a memory module problem. Action: Use MAP 0240.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
106-509	H	D62	Description: POST detected a memory module problem. Action: Use MAP 0240.
106-563	H	131	Description: POST detected an invalid memory type. Action: Check the memory for compatible modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.
106-c0c	H		Description: POST detected an unsynchronized memory problem. Action: Examine the memory card for missing or incorrectly installed memory modules. Also ensure that all memory modules are of the same type.
107-004 to 107-008	H	178	Description: POST detected a memory card problem. Action: Use MAP 0240.
107-028	H	180	Description: POST detected a memory card problem. Action: Use MAP 0240.
107-200	H	131 214	Description: POST detected an invalid memory type. Action: Check the memory for compatible memory modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.
107-201 to 107-262	H	157 210	Description: POST detected a memory card problem. Action: Use MAP 0240.
107-263 to 107-300	H	131 214	Description: POST detected an invalid memory type. Action: Check the memory for compatible memory modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.
107-301 to 107-362	H	157 210	Description: POST detected a memory card problem. Action: Use MAP 0240.
107-363	H	131 214	Description: POST detected an invalid memory type. Action: Check the memory for compatible memory modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.
107-400	H	131 214	Description: POST detected an invalid memory type. Action: Check the memory for compatible memory modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.
107-401 thru 107-462	H	157 210	Description: POST detected a memory module problem. Action: Use MAP 0240.
107-463	H	131 214	Description: POST detected an invalid memory type. Action: Check the memory for compatible memory modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.
107-500	H	131 214	Description: POST detected an invalid memory type. Action: Check the memory for compatible memory modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
107-501 thru 107-562	H	157 210	Description: POST detected a memory module problem. Action: Use MAP 0240.
107-563	H	131 214	Description: POST detected an invalid memory type. Action: Check the memory for compatible memory modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.
107-c0c	H		Description: POST detected an unsynchronized memory problem. Action: Examine the memory card for missing or incorrectly installed memory modules. Also ensure that all memory modules are of the same type.
108-200 thru 108-363	H	157	Description: POST detected an invalid memory type. Action: Check the memory for compatible memory modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.
108-400 thru 108-463	H	131	Description: POST detected an invalid memory type. Action: Check the memory for compatible memory modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.
108-500 thru 108-563	H	157 131	Description: POST detected an invalid memory type. Action: Check the memory for compatible memory modules and cards. If a problem is not found, replace the part that is called out. Use MAP 0240.
109-200	B		Description: The system crashed while being run by the customer. Action: Use MAP 0020, and get a new SRN.
110-101	C		Description: The diagnostics did not detect an installed resource. Action: Use MAP 0290.
110-908	D	908 C33 C36	Description: The system halted while diagnostics were executing.
110-921 to 110-926	D	xxx 812	Description: The system halted while diagnostics were executing. Note: xxx corresponds to the last three digits of the SRN.
110-931	D	931 812	Description: The system halted while diagnostics were executing.
110-935	D	935 812	Description: The system halted while diagnostics were executing.
110-937 to 110-938	D	xxx 812	Description: The system halted while diagnostics were executing. Note: xxx corresponds to the last three digits of the SRN.
110-946	D	946 227	Description: The system halted while diagnostics were executing.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
110-951 to 110-955	D	xxx B88	Description: The system halted while diagnostics were executing. Note: xxx corresponds to the last three digits of the SRN.
110-957 and 110-958	D	xxx 189 227	Description: The system halted while diagnostics were executing. Note: xxx corresponds to the last three digits of the SRN.
110-959	D	959 B88	Description: The system halted while diagnostics were executing.
110-970 to 110-972	D	xxx 812	Description: The system halted while diagnostics were executing. Note: xxx corresponds to the last three digits of the SRN.
110-974	D	974 B88	Description: The system halted while diagnostics were executing.
110-xxx	D	xxx 227	Description: The system halted while diagnostics were executing. Note: xxx corresponds to the last three digits of the SRN. If your 110 SRN is not listed above, substitute the last three digits of the SRN for xxx, then proceed to the FFC table using the substituted digits as your failing function code.
111-B31	B	B31 821	Description: The keyboard attached to the system does not respond. Note: You must determine the correct keyboard type. Action: Use MAP 0280.
111-B58	B	B58	Description: Cannot display readable information on the display. Action: Use MAP 0280.
111-B59	B	B59	Description: Cannot display readable information on the display. Action: Use MAP 0280.
111-101	B	133	Description: Cannot load the diagnostics programs from the diskettes or CD-ROM. Action: Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure. Note: This SRN can be caused by a bad diagnostic diskette or CD-ROM disc. Verify that the diskettes or CD-ROM disc are good before proceeding.
111-102	B	169 816	Description: Cannot detect the key mode switch in Service mode. Action: Use MAP 280.
111-103	B	B88 721	Description: The customer was unable to load diagnostics from disk. Action: Use MAP 0020, and get a new SRN.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
111-104			Description: The customer did not wish to run diagnostics from diskette or CD-ROM, but does have a problem. Action: Use MAP 0020, and get a new SRN.
111-105	B	227	Description: Characters other than 888 are flashing in the three-digit display. Action: Use MAP 0280.
111-106	B	221 210	Description: System unable to IPL. Action: Use MAP 0280.
111-113	B		Description: There is a problem with power to the resource. Action: Ask the customer for the Problem Summary Form, then do problem determination on the failing resource.
111-116	B		Description: There is a problem with alternating numbers in the three-digit display. Action: Ask the customer for the Problem Summary Form, then perform a hardware problem determination.
111-117	B		Description: There is a problem with the system being inactive. Action: Ask the customer for the Problem Summary Form, then do hardware problem determination.
111-118	B		Description: There is a problem with a local area network. Action: Ask the customer for a Problem Summary Form, then do hardware problem determination.
111-121	B		Description: There is a display problem. Action: Ask the customer for the Problem Summary Form, then do hardware problem determination on the failing display.
111-122	B		Description: There is a system problem. Action: Ask the customer for the Problem Summary Form, then do hardware problem determination.
111-128	B	128 879 876 220	Description: Cannot display readable information on the display. Action: Use MAP 0280.
111-152	B	152	Description: The system unit's power-on light does not come on. Action: Go to the power MAP in the system unit installation and service guide for this system unit.
111-259	B	259 252 261 D49 826	Description: Cannot display readable information on a terminal. Action: Use MAP 0280.
111-710	B	710	Description: Graphics subsystem problem Action: Use MAP 0280.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
111-725	B	725	Description: Cannot display readable information on the display. Note: Suspect the display adapter attached to the console display. Action: Use MAP 0280.
111-871	B	112 or 115 111 114	Description: Cannot display readable information on the display. Action: Use MAP 0280.
111-872	B	872 227	Description: Cannot display readable information on the display. Action: Use MAP 0280.
111-874	B	874 220 227	Description: Cannot display readable information on the display. Action: Use MAP 0280.
111-877	B	877 B01 227	Description: Cannot display readable information on the display. Action: Use MAP 0280.
111-878	B	878 119 227	Description: Cannot display readable information on the display. Action: Use MAP 0280.
111-880	B	880	Description: Cannot display readable information on the display. Action: Use MAP 0280.
111-898	B	898	Description: Cannot display readable information on the display. Action: Use MAP 0280.
111-908	B	908	Description: Cannot display readable information on the display. Action: Use MAP 0280.
111-921	B	921 821	Description: The keyboard does not respond. Action: Use MAP 0280.
111-922	B	922 821	Description: The keyboard does not respond. Action: Use MAP 0280.
111-923	B	923 821	Description: The keyboard does not respond. Action: Use MAP 0280.
111-942	B	942 227	Description: Cannot display readable information on the display. Action: Use MAP 0280.
120-0xx	H	210 223	Description: BIST detected an error. Action: Use MAP 0280.
123-700	H	B21	Description: Testing stopped when BIST passed control to POST.
123-701	H	B21 B26	Description: Starting BIST from reset.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
123-702 to 123-727	H	B21	Description: Starting BIST after turning the system unit's power on, or BIST detected an error.
123-730	H	B21 B26	Description: Starting BIST after pressing the Reset button.
123-740 to 123-795	H	B21	Description: The BIST failed.
123-800	H	B20	Description: Testing stopped when BIST passed control to POST.
123-801	H	B20 B26	Description: Starting BIST from reset.
123-802 to 123-827	H	B20	Description: Starting BIST after turning the system unit's power on, or BIST detected an error.
123-830	H	B20 B26	Description: Starting BIST after pressing the Reset button.
123-840 to 123-895	H	B20	Description: The BIST failed.
123-960	H	B26	Description: The EPOW connector is indicated as not connected. Note: Ensure that the connector is securely connected before replacing parts.
123-987	H	B21	Description: BIST detected an error.
125-700	H	C78	Description: Testing stopped when BIST passed control to POST.
125-701	H	C78 B87	Description: Starting BIST from reset.
125-702 to 125-727	H	C78	Description: Starting BIST after turning the system unit's power on, or BIST detected an error.
125-730	H	C78 B87	Description: Starting BIST after pressing the Reset button.
125-740 to 125-795	H	C78	Description: The BIST failed.
125-800	H	C79	Description: Testing stopped when BIST passed control to POST.
125-801	H	C79 B87	Description: Starting BIST from reset.
125-802 to 125-827	H	C79	Description: Starting BIST after turning the system unit's power on, or BIST detected an error.
125-830	H	C79 B87	Description: Starting BIST after pressing the Reset button.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
125-840 to 125-895	H	C79	Description: The BIST failed.
125-901	H	D09 B87	Description: Starting BIST from reset.
125-902 to 125-927	H	D09	Description: Starting BIST after turning the system unit's power on, or BIST detected an error.
125-930	H	D09 B87	Description: Starting BIST after pressing the Reset button.
125-940 to 125-995	H	D09	Description: The BIST failed.
126-300	H	B23	Description: Testing stopped when BIST passed control to POST.
126-301	H	B23 B28	Description: Starting BIST from reset.
126-302 to 126-327	H	B23	Description: Starting BIST after turning the system unit's power on, or BIST detected an error.
126-330	H	B23 B28	Description: Starting BIST after pressing the Reset button.
126-340 to 126-395	H	B23	Description: The BIST detected a problem or failed .
126-400	H	B84	Description: Testing stopped when BIST passed control to POST.
126-401	H	B84 B28	Description: Starting BIST from reset.
126-402 to 126-427	H	B84	Description: Starting BIST after turning the system unit's power on, or the BIST detected an error.
126-430	H	B84 B28	Description: Starting BIST after pressing the Reset button.
126-440 to 126-495	H	B84	Description: The BIST failed.
126-600	H	B85	Description: Testing stopped when BIST passed control to POST.
126-601	H	B85 B86	Description: Starting BIST from reset.
126-602 to 126-627	H	B85	Description: Starting BIST after turning the system unit's power on, or the BIST detected an error.
126-630	H	B85 B28	Description: Starting BIST after pressing the Reset button.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
126-640 to 126-695	H	B85	Description: The BIST failed.
126-700	H	B92	Description: Testing stopped when BIST passed control to POST.
126-701	H	B92 B86	Description: Starting BIST from reset.
126-702 to 126-727	H	B92	Description: Starting BIST after turning the system unit's power on, or the BIST detected an error.
126-730	H	B92 B28	Description: Starting BIST after pressing the Reset button.
126-740 to 126-795	H	B92	Description: The BIST failed.
127-000	H	C54	Description: Testing stopped when BIST passed control to POST.
127-001	H	C54 B86	Description: Starting BIST from reset.
127-002 to 127-027	H	C54	Description: Starting BIST after turning the system unit's power on, or the BIST detected an error.
127-030	H	C54 B28	Description: Starting BIST after pressing the Reset button.
127-040 to 127-054	H	C54	Description: The BIST failed.
127-060	H	152 C57	Description: The EPOW connector indicates not being connected. Note: Ensure the connector is properly connected.
127-080 to 127-095	H	C54	Description: The BIST failed.
127-100	H	C56	Description: Testing stopped when BIST passed control to POST..
127-101	H	C56 B28	Description: Starting BIST from reset.
127-102 to 127-127	H	C56	Description: Starting BIST after turning the system unit's power on, or the BIST detected an error.
127-130	H	C56 B28	Description: Starting BIST after pressing the Reset button.
127-140 to 127-154	H	C56	Description: The BIST failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
127-160	H	152 C57	Description: The EPOW connector indicates not being connected. Note: Ensure the connector is properly connected.
127-180 to 127-195	H	C56	Description: The BIST failed.
127-200	H	C77	Description: Testing stopped when BIST passed control to POST.
127-201	H	C77 C83	Description: Starting BIST from reset.
127-202 to 127-227	H	C77	Description: Starting BIST after turning the system unit's power on, or the BIST detected an error.
127-230	H	C77 B28	Description: Starting BIST after pressing the Reset button.
127-240 to 127-254	H	C77	Description: The BIST failed.
127-260	H	152 C57	Description: The EPOW connector is indicating that it may not be connected. Note: Ensure the connector is properly connected.
127-280 to 127-295	H	C77	Description: The BIST failed.
127-500	H	B90	Description: Testing stopped when BIST passed control to POST.
127-501	H	B90 B87	Description: Starting BIST from reset.
127-502 to 127-527	H	B90	Description: Starting BIST after turning the system unit's power on, or the BIST detected an error.
127-530	H	B90 B87	Description: Starting BIST after pressing the Reset button.
127-540 to 127-595	H	B90	Description: The BIST failed.
127-600	H	B89	Description: Testing stopped when BIST passed control to POST.
127-601	H	B89 B87	Description: Starting BIST from reset.
127-602 to 127-627	H	B89	Description: Starting BIST after turning the system unit's power on, or the BIST detected an error.
127-630	H	B89 B87	Description: Starting BIST after pressing the reset button.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
127-640 to 127-695	H	B89	Description: The BIST failed.
127-700	H	B91	Description: Testing stopped when BIST passed control to POST.
127-701	H	B91 B87	Description: Starting BIST from reset.
127-702 to 127-727	H	B91	Description: Starting BIST after turning the system unit's power on, or the BIST detected an error.
127-730	H	B91 B87	Description: Starting BIST after pressing the Reset button.
127-740 to 127-795	H	B91	Description: The BIST failed.
127-900	H	D79	Description: Testing stopped when BIST passed control to POST.
127-901	H	D79 B86	Description: Starting BIST from reset.
127-902 to 127-927	H	D79	Description: Starting BIST after turning the system unit's power on, or the BIST detected an error.
127-930	H	D79 221	Description: Starting BIST after pressing the Reset button.
127-940 to 127-954	H	D79	Description: The BIST failed.
127-960	H	152 221	Description: The EPOW connector indicates not being connected. Note: Ensure the connector is properly connected.
127-980 to 127-995	H	D79	Description: The BIST failed.
128-000	H	C53	Description: Testing stopped when BIST passed control to POST
128-001	H	C53 B28	Description: Starting BIST from reset.
128-002 to 128-027	H	C53	Description: Starting BIST after turning the system unit's power on, or the BIST detected an error.
128-030	H	C53 B28	Description: Starting BIST after pressing the Reset button.
128-040 to 128-054	H	C53	Description: The BIST failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
128-060	H	152 C58	Description: The EPOW connector indicates not being connected. Note: Ensure the connector is properly connected.
128-080 to 128-084	H	C53	Description: The BIST failed.
128-085	H	C53	Description: BIST checkstop occurred.
128-087	H	C53	Description: DD level not detected in logout data.
128-095	H	C53	Description: The BIST logout failed.
128-100	H	E01	Description: Testing stopped when BIST passed control to POST. Action: Refer to the <i>RS/6000 Scaleable POWERparallel Systems Maintenance Information Volume 2: MAPs and Parts Catalog</i> .
128-101	H	E01 E02	Description: Starting BIST from reset. Action: Refer to the <i>RS/6000 Scaleable POWERparallel Systems Maintenance Information Volume 2: MAPs and Parts Catalog</i> .
128-102 to 128-127	H	E01	Description: Starting BIST after turning the system unit's power on, or the BIST detected an error. Action: Refer to the <i>RS/6000 Scaleable POWERparallel Systems Maintenance Information Volume 2: MAPs and Parts Catalog</i> .
128-130	H	C53 B28	Description: Starting BIST after pressing the Reset button. Action: Refer to the <i>RS/6000 Scaleable POWERparallel Systems Maintenance Information Volume 2: MAPs and Parts Catalog</i> .
128-140 to 128-142	H	C53	Description: The BIST failed. Action: Refer to the <i>RS/6000 Scaleable POWERparallel Systems Maintenance Information Volume 2: MAPs and Parts Catalog</i> .
128-143	H	C53	Description: Illegal memory configuration Action: Refer to the <i>RS/6000 Scaleable POWERparallel Systems Maintenance Information Volume 2: MAPs and Parts Catalog</i> .
128-144 to 128-154	H	C53	Description: The BIST failed. Action: Refer to the <i>RS/6000 Scaleable POWERparallel Systems Maintenance Information Volume 2: MAPs and Parts Catalog</i> .
128-160	H	152 C58	Description: The EPOW connector indicates not being connected. Note: Ensure the connector is properly connected. Action: Refer to the <i>RS/6000 Scaleable POWERparallel Systems Maintenance Information Volume 2: MAPs and Parts Catalog</i> .

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
128-180 to 128-184	H	C53	Description: The BIST failed. Action: Refer to the <i>RS/6000 Scaleable POWERparallel Systems Maintenance Information Volume 2: MAPs and Parts Catalog</i> .
128-185	H	C53	Description: BIST checkstop occurred. Action: Refer to the <i>RS/6000 Scaleable POWERparallel Systems Maintenance Information Volume 2: MAPs and Parts Catalog</i> .
128-187	H	C53	Description: DD level not detected in logout data. Action: Refer to the <i>RS/6000 Scaleable POWERparallel Systems Maintenance Information Volume 2: MAPs and Parts Catalog</i> .
128-195	H	C53	Description: The BIST logout failed. Action: Refer to the <i>RS/6000 Scaleable POWERparallel Systems Maintenance Information Volume 2: MAPs and Parts Catalog</i> .
128-200	H	C76	Description: Testing stopped when BIST passed control to POST.
128-201	H	C76 C82	Description: Starting BIST from reset.
128-202 to 128-227	H	C76	Description: Starting BIST after turning the system unit's power on, or the BIST detected an error.
128-230	H	C76 B28	Description: Starting BIST after pressing the Reset button.
128-240 to 127-254	H	C76	Description: The BIST failed.
128-260	H	152 C57	Description: The EPOW connector is indicating that it may not be connected. Note: Ensure the connector is properly connected.
128-280 to 128-295	H	C76	Description: The BIST failed.
128-523 to 128-524	H	221	Description: The BIST detected a bad CRC on the OCS EPROM.
128-525	H	221 152	Description: The BIST detected a bad CRC on the time-of-day NVRAM.
128-526	H	221	Description: The BIST detected a bad CRC on the time-of-day NVRAM.
128-560	H	221	Description: The EPOW connector is indicating that it may not be connected. Note: Ensure that the connector is securely connected before replacing parts.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
128-564 to 128-569	H	221 210	Description: Error reading NVRAM.
128-623 to 128-624	H	221	Description: The BIST detected a bad CRC on the OCS EPROM.
128-625	H	221 152	Description: The BIST detected a bad CRC on the time-of-day NVRAM.
128-626	H	221	Description: The BIST detected a bad CRC on the time-of-day NVRAM.
128-660	H	221	Description: A power supply connector leading to the system planar may not be connected. Note: Ensure that the connector is securely connected before replacing parts.
128-664 to 128-669	H	221 210	Description: Error reading NVRAM.
128-723 to 128-724	H	221	Description: The BIST detected a bad CRC on the OCS EPROM.
128-725	H	221 152 fans (166, 167, 170)	Description: The BIST detected a bad CRC on the time-of-day NVRAM.
128-726	H	221	Description: The BIST detected a bad CRC on the time-of-day NVRAM.
128-760	H	221	Description: The EPOW connector is indicating that it may not be connected. Note: Ensure that the connector is securely connected before replacing parts.
128-764 to 128-769	H	221 210	Description: Error reading NVRAM.
128-823 to 128-824	H	221	Description: The BIST detected a bad CRC on the OCS EPROM.
128-825	H	221 152	Description: The BIST detected a bad CRC on the time-of-day NVRAM.
128-826	H	221	Description: The BIST detected a bad CRC on the time-of-day NVRAM.
128-860	H	221	Description: The EPOW connector is indicating that it may not be connected. Note: Ensure that the connector is securely connected before replacing parts.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
128-864 to 128-869	H	221 210	Description: Error reading NVRAM.
128-900	H	E01	Description: Testing stopped when BIST passed control to POST.
128-901	H	E01 E02	Description: Starting BIST from reset.
128-902 to 128-927	H	E01	Description: Starting BIST after turning the system unit's power on, or the BIST detected an error.
128-930	H	C54 B28	Description: Starting BIST after pressing the Reset button.
128-940 to 128-942	H	C54	Description: The BIST failed.
128-943	H	C54	Description: Illegal memory configuration
128-944 to 128-954	H	C54	Description: The BIST failed.
128-960	H	152 B28	Description: The EPOW connector indicates not being connected. Note: Ensure the connector is properly connected.
128-980 to 128-984	H	C54	Description: The BIST failed.
128-985	H	C54	Description: BIST checkstop occurred.
128-987	H	C54	Description: DD level not detected in logout data.
128-995	H	C54	Description: The BIST logout failed.
129-300	H	E01	Description: Testing stopped when BIST passed control to POST.
129-301	H	E01 E02	Description: Starting BIST from reset.
129-302 to 129-327	H	E01	Description: Starting BIST after turning the system unit's power on, or the BIST detected an error.
129-330	H	C54 B28	Description: Starting BIST after pressing the Reset button.
129-340 to 129-342	H	C54	Description: The BIST failed.
129-343	H	C54	Description: Illegal memory configuration
129-344 to 129-354	H	C54	Description: The BIST failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
129-360	H	152 B28	Description: The EPOW connector indicates not being connected. Note: Ensure the connector is properly connected.
129-380 to 129-384	H	C54	Description: The BIST failed.
129-385	H	C54	Description: BIST checkstop occurred.
129-387	H	C54	Description: DD level not detected in logout data.
129-395	H	C54	Description: The BIST logout failed.
129-400	H	E01	Description: Testing stopped when BIST passed control to POST.
129-401	H	E01 E02	Description: Starting BIST from reset.
129-402 to 129-427	H	E01	Description: Starting BIST after turning the system unit's power on, or the BIST detected an error.
129-430	H	C54 B28	Description: Starting BIST after pressing the Reset button.
129-440 to 129-442	H	C54	Description: The BIST failed.
129-443	H	C54	Description: Illegal memory configuration
129-444 to 129-454	H	C54	Description: The BIST failed.
129-460	H	152 B28	Description: The EPOW connector indicates not being connected. Note: Ensure the connector is properly connected.
129-480 to 129-484	H	C54	Description: The BIST failed.
129-485	H	C54	Description: BIST checkstop occurred.
129-487	H	C54	Description: DD level not detected in logout data.
129-495	H	C54	Description: The BIST logout failed.
14x-x11 to 14x-x12	H	210	Description: POST IPL ROS CRC, memory configuration or no memory found error. Notes: a. x-x refers to the CPU ID number located in FFC 210. b. When x-x = 81 refer to <i>RS/6000 Scalable POWERparallel Systems Maintenance Information Volume 2: MAPs and Parts Catalog</i> .

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
14x-x14	H	221 210	Description: The power status register failed. Notes: a. x-x refers to the CPU ID number located in FFC 210. b. When x-x = 81 refer to <i>RS/6000 Scalable POWERparallel Systems Maintenance Information Volume 2: MAPs and Parts Catalog.</i>
14x-x15	H	152 221	Description: A low voltage condition was sensed. Action: Check the voltage at the customer's outlet. Check for loose connectors. If no discrepancy is found, use MAP 0210. Note: When x-x = 81 refer to <i>RS/6000 Scalable POWERparallel Systems Maintenance Information Volume 2: MAPs and Parts Catalog.</i>
14x-x90	H	210 221	Description: The POST of the IOCC failed. Notes: a. x-x refers to the CPU ID number located in FFC 210. b. When x-x = 81 refer to <i>RS/6000 Scalable POWERparallel Systems Maintenance Information Volume 2: MAPs and Parts Catalog.</i>
14x-x97	H	210	Description: The ROS model and type number do not match the system model and type number. Notes: a. x-x refers to the CPU ID number located in FFC 210. b. When x-x = 81 refer to <i>RS/6000 Scalable POWERparallel Systems Maintenance Information Volume 2: MAPs and Parts Catalog.</i>
201-xxx	H	210	Description: Checkstop during ROS IPL. xxx is the three-digit display code being displayed when the error occurred.
202-20c	H		Description: Machine check during cache POST. Action: Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
202-201	B	210	Description: Machine check during IPL ROM test.
202-211 to 202-214	H	210	Description: Machine check during ROS CRC or CPU test. Unexpected interrupt during ROM IPL.
202-215	H	227 210	Description: Unexpected interrupt during IPL tests.
202-216 to 202-217	H	227 210	Description: Unexpected interrupt during IPL tests.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
202-218	H	131 D01 214	Description: Machine check during memory tests or memory initialization.
202-21c	H		Description: Machine check during cache POST. Action: Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
202-220	H	131 D01 214	Description: Machine check during memory tests or memory initialization.
202-221	H	210	Description: Unexpected interrupt during ROM IPL.
202-222 to 202-224	H	828 227 210 B88 or E07	Description: Unexpected interrupt during ROM IPL while trying to load from diskette, or SCSI device. Replace the SCSI adapter that is used for the IPL.
202-225	H	949 227 210	Description: Unexpected interrupt during ROM IPL while trying to load from a direct-attached fixed disk. Replace the disk that is used for the IPL.
202-226	H	227 210	Description: Unexpected interrupt during IPL tests while trying to load from Ethernet.
202-227	H	850 227 210	Description: Unexpected interrupt during IPL tests while trying to load from a Token-Ring.
202-228 to 202-229	H	227 210	Description: Unexpected interrupt during IPL tests while trying to load from expansion code or any device.
202-230	H		Description: Unexpected interrupt during IPL tests while trying to load from ROM scan. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
202-231 to 202-232	H	868 227 210	Description: Unexpected interrupt during IPL tests while trying to load from a SCSI device or diskette.
202-233 to 202-234	H	B88 or E07 227 210	Description: Unexpected interrupt during ROM IPL while trying to load from a SCSI device. Replace the SCSI adapter that is used for the IPL.
202-235	H	949 227 210	Description: Unexpected interrupt during ROM IPL while trying to load from a direct-attached fixed disk. Replace the disk that is used for the IPL.
202-236	H	227 210	Description: Unexpected interrupt during IPL tests while trying to load from Ethernet.
202-237 to 202-238	H	850 227 210	Description: Unexpected interrupt during IPL tests while trying to load from a Token-Ring.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
202-239	H	210 227	Description: Unexpected interrupt during IPL tests.
202-240	H		Description: Unexpected interrupt during IPL tests while trying to load from ROM scan. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
202-242	H	828 227 210	Description: Unexpected interrupt during ROM IPL while trying to load from diskette.
202-243 to 202-244	H	B88 or E07 227 210	Description: Unexpected interrupt during ROM IPL while trying to load from a SCSI device. Replace the SCSI adapter that is used for the IPL.
202-245	H	949 227 210	Description: Unexpected interrupt during ROM IPL while trying to load from a direct-attached fixed disk. Replace the disk that is used for the IPL.
202-246	H	227 210	Description: Unexpected interrupt during IPL tests while trying to load from Ethernet.
202-247	H	850 227 210	Description: Unexpected interrupt during IPL tests while trying to load from a Token-Ring.
202-248 to 202-249	H	227 210	Description: Unexpected interrupt during IPL tests while trying to load from expansion code or any device.
202-250	H		Description: Unexpected interrupt during IPL tests while trying to load from ROM scan. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
202-251	H	852 227 210	Description: Unexpected interrupt during IPL tests while trying to load from Ethernet.
202-252	H	828 227 210	Description: Unexpected interrupt during ROM IPL while trying to load from diskette.
202-253 to 202-255	H	B88 or E07 227 210	Description: Unexpected interrupt during ROM IPL while trying to load from a SCSI device or a direct-attached fixed disk. Replace the SCSI adapter that is used for the IPL.
202-256	H	227 210	Description: Unexpected interrupt during IPL tests while trying to load from Ethernet.
202-257 to 202-258	H	850 227 210	Description: Unexpected interrupt during IPL tests while trying to load from a Token-Ring.
202-260 to 202-262	H	227 210	Description: Unexpected interrupt during IPL tests while trying to load from any device.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
202-263	H		Description: Unexpected interrupt during IPL tests while trying to load from ROM scan. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
202-271 to 202-272	H	227 210	Description: Unexpected interrupt during IPL tests of the mouse or tablet POST.
202-276	H	794 227 210	Description: Unexpected interrupt during IPL tests of the 10/100Mbps MCA Ethernet Adapter.
202-277	H	850 227 210	Description: Unexpected interrupt during IPL tests of the Auto Token-Ring LANstreamer MC 32 Adapter.
202-280	H	852 210 221	Description: Unexpected interrupt during IPL tests of the 3-COMM adapter.
202-281	H	B31 227 210	Description: Unexpected interrupt during IPL tests of the keyboard POST.
202-282 to 202-283	H	227 210	Description: Unexpected interrupt during IPL tests of the parallel or serial port POST.
202-284	H	880 227 210	Description: Unexpected interrupt during IPL tests of the POWER Gt1.
202-285	H	xxx 210	Description: IPLROS detected a problem while running the POST for the Power Gtx adapter. Note: Substitute 877, 878, or B01 for xxx, depending upon the type of adapter installed.
202-286 to 202-287	H	850 227 210	Description: Unexpected interrupt during IPL tests of the Token-Ring or ethernet.
202-288	H		Description: Unexpected interrupt during IPL tests while polling all adapters. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
202-289	H	871 227 210	Description: Unexpected interrupt during IPL tests of the graphics subsystem adapter.
202-290	H	227 210	Description: Unexpected interrupt during I/O support POST.
202-291	H	828 227 210	Description: Unexpected interrupt during standard I/O planar POST.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
202-292	H	B88 or E07 227 210	Description: Unexpected interrupt during IPL tests of the SCSI POST. Replace the SCSI adapter that is used for the IPL.
202-293	H	949 or 950 227 210	Description: Unexpected interrupt during disk drive POST. Replace the disk drive. Note: You must determine if the drive is a SCSI type (FFC 950) or a direct-attached drive type (FFC 949).
202-294	H		Description: Unexpected interrupt during disk drive POST. Action: Use the Start MAP in the 9333 service guide.
202-295	H	874 210 221	Description: Unexpected interrupt during IPL-tests of the Graphics Display adapter.
202-296	H		Description: Unexpected interrupt during IPL tests while polling all adapters. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
202-297	H	210	Description: The ROS model and type number does not match the system model and type number. Action: Check for compatibility problems with the processor complex. If you do not find a problem, use MAP 0210.
202-298	H		Description: Error during a software IPL. Action: Set the system unit power switch to Off, wait 30 seconds, and set it to On again.
202-299	H	132 210	Description: Machine check when control is passed to the IPL program. Action: Be sure there is a valid IPL program on the IPL device. If there is, exchange the media or the device. Use MAP 0210.
202-301 to 202-303	H	210	Description: Machine check during Flash Utility ROM test.
202-304	H	218 221 131	Description: Machine check during IOCC POST. Action: Use MAP 0310 for FFC 131, otherwise use MAP 0210.
202-305	H	221 218 131	Description: Machine check during built-in diskette adapter POST. Action: Use MAP 0310 for FFC 131, otherwise use MAP 0210.
202-306	H	132 131 214	Description: Machine check during built-in diskette adapter POST. Action: Check the IPL media. If no problem is found, IPL from another device. For FFC 131 use MAP 0310.
202-307	H	210	Description: Machine check during Flash Utility ROM test.
202-308	H	218 221 131	Description: Machine check during IOCC POST. Action: Use MAP 0310 for FFC 131, otherwise use MAP 0210.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
202-309	H	132 131 214	Description: Machine check when control is passed to loaded code. Action: Check the IPL media . If no problem is found, IPL from another device. For FFC 131, use MAP 0310.
202-311	H	210	Description: Machine check when calculating Flash ROM CRC.
202-312 to 202-313	H	214 131	Description: Machine check when configuring memory. Action: Use MAP 0310 for FFC 131, otherwise use MAP 0210.
202-314 to 202-315	H	816 218	Description: Machine check when testing the power status register.
202-318 to 202-325	H	214 131	Description: Machine check when testing for good memory or updating flash ROM. Action: Use MAP 0310 for FFC 131, otherwise use MAP 0210.
203-100	H	227 210	Description: Unexpected data storage interrupt during IPL tests.
203-201 to 203-214	H	210	Description: Unexpected data storage interrupt during IPL ROM, or ROS CRC test. Unexpected data storage interrupt during CPU test, or cache POST.
203-215	H	227 210	Description: Unexpected data storage interrupt during IPL tests.
203-216 to 203-217	H	227 210	Description: Unexpected data storage interrupt during IPL tests.
203-218 to 203-221	H	210	Description: Unexpected data storage interrupt during ROM IPL.
203-222	H	828 227 210	Description: Unexpected data storage interrupt during ROM IPL while trying to load from diskette.
203-223 to 203-224	H	B88 or E07 227 210	Description: Unexpected data storage interrupt during ROM IPL while trying to load from a SCSI device. Replace the SCSI adapter that is used for the IPL.
203-225	H	949 227 210	Description: Unexpected data storage interrupt during ROM IPL while trying to load from a direct-attached fixed disk. Replace the disk that is used for the IPL.
203-226	H	227 210	Description: Unexpected data storage interrupt during IPL tests while trying to load from Ethernet.
203-227	H	850 227 210	Description: Unexpected data storage interrupt during IPL tests while trying to load from a Token-Ring.
203-228 to 203-229	H	227 210	Description: Unexpected data storage interrupt during IPL tests while trying to load from expansion code or any device.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
203-230	H		Description: Unexpected data storage interrupt during IPL tests while trying to load from ROM scan. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
203-231	H	868 227 210	Description: Unexpected data storage interrupt during IPL tests while trying to load from a SCSI device.
203-232	H	828 227 210	Description: Unexpected data storage interrupt during ROM IPL while trying to load from diskette.
203-233 to 203-234	H	B88 or E07 227 210	Description: Unexpected data storage interrupt during ROM IPL while trying to load from a SCSI device. Replace the SCSI adapter that is used for the IPL.
203-235	H	949 227 210	Description: Unexpected data storage interrupt during ROM IPL while trying to load from a direct-attached fixed disk. Replace the disk that is used for the IPL.
203-236	H	227 210	Description: Unexpected data storage interrupt during IPL tests while trying to load from Ethernet.
203-237 to 203-238	H	850 227 210	Description: Unexpected data storage interrupt during IPL tests while trying to load from a Token-Ring.
203-239	H	210 227	Description: Unexpected data storage interrupt during IPL tests.
203-240	H		Description: Unexpected data storage interrupt during IPL tests while trying to load from ROM scan. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
203-242	H	828 227 210	Description: Unexpected data storage interrupt during ROM IPL while trying to load from diskette.
203-243 to 203-244	H	B88 or E07 227 210	Description: Unexpected data storage interrupt during ROM IPL while trying to load from a SCSI device. Replace the SCSI adapter that is used for the IPL.
203-245	H	949 227 210	Description: Unexpected data storage interrupt during ROM IPL while trying to load from a direct-attached fixed disk. Replace the disk that is used for the IPL.
203-246	H	227 210	Description: Unexpected data storage interrupt during IPL tests while trying to load from Ethernet.
203-247	H	850 227 210	Description: Unexpected data storage interrupt during IPL tests while trying to load from a Token-Ring.
203-248 to 203-249	H	227 210	Description: Unexpected data storage interrupt during IPL tests while trying to load from expansion code any device.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
203-250	H		Description: Unexpected data storage interrupt during IPL tests while trying to load from ROM scan. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
203-251	H	852 227 210	Description: Unexpected data storage interrupt during IPL tests while trying to load from Ethernet.
203-252	H	828 227 210	Description: Unexpected data storage interrupt during ROM IPL while trying to load from diskette.
203-253 to 203-254	H	B88 or E07 227 210	Description: Unexpected data storage interrupt during ROM IPL while trying to load from a SCSI device. Replace the SCSI adapter that is used for the IPL.
203-255	H	949 227 210	Description: Unexpected data storage interrupt during ROM IPL while trying to load from a direct-attached fixed disk. Replace the disk that is used for the IPL.
203-256	H	227 210	Description: Unexpected data storage interrupt during IPL tests while trying to load from Ethernet.
203-257 to 203-258	H	850 227 210	Description: Unexpected data storage interrupt during IPL tests while trying to load from a Token-Ring.
203-260 to 203-262	H	227 210	Description: Unexpected data storage interrupt during IPL tests while trying to load from any device.
203-263	H		Description: Unexpected data storage interrupt during IPL tests while trying to load from ROM scan. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
203-271 to 203-272	H	227 210	Description: Unexpected data storage interrupt during IPL tests of the mouse or tablet POST.
203-276	H	794 227 210	Description: Unexpected data storage interrupt during IPL tests of the 10/100Mbps MCA Ethernet Adapter.
203-277	H	850 227 210	Description: Unexpected data storage interrupt during IPL tests of the Auto Token-Ring LANstreamer MC 32 Adapter.
203-278	H		Description: Unexpected data storage interrupt during IPL tests while trying to load from video ROM scan. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
203-279	H	854 227 210	Description: Unexpected interrupt during IPL tests of the 3270 connection.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
203-280	H	852 210 221	Description: Unexpected data storage interrupt during IPL tests of the 3-COMM adapter.
203-281	H	B31 227 210	Description: Unexpected data storage interrupt during IPL tests of the keyboard POST.
203-282 to 203-283	H	227 210	Description: Unexpected data storage interrupt during IPL tests of the parallel or serial port POST.
203-284	H	880 227 210	Description: Unexpected data storage interrupt during IPL tests of the POWER Gt1.
203-285	H	xxx 210	Description: IPLROS detected a problem while running the POST for the Power Gtx adapter. Note: Substitute 877, 878, or B01 for xxx, depending upon the type of adapter installed.
203-286	H	850 227 210	Description: Unexpected data storage interrupt during IPL tests of the Token-Ring.
203-287	H	887 227 210	Description: Unexpected data storage interrupt during IPL tests of the ethernet.
203-288	H		Description: Unexpected data storage interrupt during IPL tests while polling all adapters. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
203-289	H	871 227 210	Description: Unexpected data storage interrupt during IPL tests of the subsystem adapter.
203-290	H	227 210	Description: Unexpected data storage interrupt during I/O support POST.
203-291	H	828 227 210	Description: Unexpected data storage interrupt during standard I/O planar POST.
203-292	H	B88 or E07 227 210	Description: Unexpected data storage interrupt during SCSI Subsystem POST. Isolate and replace the failing SCSI Controller.
203-293	H	949 or 950 227 210	Description: Unexpected data storage interrupt during disk drive POST. Replace the disk drive. Note: You must determine if the drive is a SCSI type (FFC 950) or a direct-attach drive type (FFC 949).
203-294	H		Description: Unexpected data storage interrupt during disk drive POST. Action: Use the Start MAP in the 9333 service guide.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
203-295	H	874 210 221	Description: Unexpected data storage interrupt during IPL-tests of the Graphics Display adapter.
203-296	H		Description: Unexpected data storage interrupt during IPL tests while polling all adapters. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
203-297	H	210	Description: The ROS model and type number does not match the system model and type number. Action: Check for compatibility problems with the processor complex. If you do not find a problem, use MAP 0210.
203-298	H		Description: Error during a software IPL. Action: Set the system unit power switch to Off, wait 30 seconds, and set it to On again.
203-299	H	132 210	Description: Unexpected data storage interrupt when control is passed to the IPL program. Be sure there is a valid IPL program on the IPL device. If there is, exchange the media or the device.
203-301 to 203-303	H	210	Description: Data Storage Interrupt during Flash Utility ROM test.
203-304	H	218 221	Description: Data Storage Interrupt during IOCC POST.
203-305	H	812 221	Description: Data Storage Interrupt during built-in diskette adapter POST.
203-306	H	812 210	Description: Data Storage Interrupt during built-in diskette adapter POST.
203-307	H	210	Description: Data Storage Interrupt during Flash Utility ROM test.
203-308	H	218 221 131	Description: Data Storage Interrupt during IOCC POST. Action: Use MAP 0310 for FFC 131 otherwise use MAP 0210.
203-309	H	132 131 214	Description: Data Storage Interrupt when control is passed to loaded code. Action: Check the IPL media. If no problem is found, IPL from another device. Use MAP 0310 for FFC131.
203-311	H	210	Description: Data Storage Interrupt when calculating Flash ROM CRC.
203-312 to 203-313	H	214 131	Description: Data Storage Interrupt when configuring memory. Use MAP 0310 for FFC 131.
203-314 to 203-315	H	816 218	Description: Data Storage Interrupt when testing the power status register.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
203-318 to 203-319	H	214 131	Description: Data Storage Interrupt when testing for good memory. Use MAP 0310 for FFC 131.
203-322 to 203-325	H	214	Description: Data Storage Interrupt when updating flash ROM.
204-200 to 204-298	H	210	Description: Unexpected instruction storage interrupt during ROS IPL.
204-299	H	132 210	Description: Unexpected instruction storage interrupt when control is passed to the IPL program. Be sure there is a valid IPL program on the IPL device. If there is, exchange the media or the device.
204-301 to 204-325	H	210	Description: Instruction Storage Interrupt during Flash Update Utility.
205-20c	H	210	Description: Unexpected external interrupt during cache POST.
205-201	B	210	Description: Unexpected external interrupt during IPL ROM check.
205-211 to 205-213	H	210	Description: Unexpected external interrupt during ROS CRC, CPU test or ROM IPL. Note: On systems with minimum memory, this SRN may be caused by a defective memory module 1 or a defective memory card. The memory module can be checked by swapping it with another memory SIMM on the card.
205-215	H	227 210	Description: Unexpected external interrupt during IPL tests.
205-216 to 205-217	H	210 131	Description: Unexpected external interrupt during IPL tests.
205-218 to 205-221	H	210	Description: Unexpected external interrupt during ROM IPL or cache POST. Note: On systems with minimum memory, this SRN may be caused by a defective memory module 1 or a defective memory card. The memory module can be checked by swapping it with another memory SIMM on the card.
205-222	H	828 227 210	Description: Unexpected external interrupt during ROM IPL while trying to load from diskette.
205-223 to 205-224	H	B88 or E07 227 210	Description: Unexpected external interrupt during ROM IPL while trying to load from a SCSI device. Exchange the SCSI adapter for the IPL device.
205-225	H	949 227 210	Description: Unexpected external interrupt during ROM IPL while trying to load from a direct-attached disk drive. Exchange the direct-attached disk drive being used as an IPL device.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
205-226	H	227 210	Description: Unexpected external interrupt during IPL tests while trying to load from ethernet.
205-227	H	850 227 210	Description: Unexpected external interrupt during IPL tests while trying to load from a Token-Ring.
205-228 to 205-229	H	227 210	Description: Unexpected external interrupt during IPL tests while trying to load from expansion code or any device.
205-230	H		Description: Unexpected external interrupt during IPL tests while trying to load from ROM scan. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
205-231	H	227 210	Description: Unexpected external interrupt during IPL tests while trying to load from Ethernet.
205-232	H	828 227 210	Description: Unexpected external interrupt during ROM IPL while trying to load from diskette.
205-233 to 205-234	H	B88 or E07 227 210	Description: Unexpected external interrupt during ROM IPL while trying to load from a SCSI device. Exchange the SCSI adapter or disk that is used for the IPL.
205-235	H	949 227 210	Description: Unexpected external interrupt during ROM IPL while trying to load from a direct-attached disk drive. Exchange the direct-attached disk drive being used as an IPL device.
205-236	H	227 210	Description: Unexpected external interrupt during IPL tests while trying to load from ethernet.
205-237 to 205-238	H	850 227 210	Description: Unexpected external interrupt during IPL tests while trying to load from a Token-Ring.
205-239	H	210 227	Description: Unexpected external interrupt during IPL tests.
205-240	H		Description: Unexpected external interrupt during IPL tests while trying to load from ROM scan. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
205-242	H	828 227 210	Description: Unexpected external interrupt during ROM IPL while trying to load from diskette.
205-243 to 205-244	H	B88 or E07 227 210	Description: Unexpected external interrupt during ROM IPL while trying to load from a SCSI device. Exchange the SCSI adapter for the IPL device.
205-245	H	949 227 210	Description: Unexpected external interrupt during ROM IPL while trying to load from a direct-attached disk drive. Exchange the direct-attached disk drive being used as an IPL device.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
205-246	H	227 210	Description: Unexpected external interrupt during IPL tests while trying to load from ethernet.
205-247	H	850 227 210	Description: Unexpected external interrupt during IPL tests while trying to load from a Token-Ring.
205-248 to 205-249	H	227 210	Description: Unexpected external interrupt during IPL tests while trying to load from expansion code or any device.
205-250	H		Description: Unexpected external interrupt during IPL tests while trying to load from ROM scan. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
205-251	H	227 210	Description: Unexpected external interrupt during IPL tests while trying to load from Ethernet.
205-252	H	828 227 210	Description: Unexpected external interrupt during ROM IPL while trying to load from diskette.
205-253 to 205-254	H	B88 or E07 227 210	Description: Unexpected external interrupt during ROM IPL while trying to load from a SCSI device. Replace the disk that is used for IPL.
205-255	H	949 227 210	Description: Unexpected external interrupt during ROM IPL while trying to load from a direct-attached disk drive. Exchange the direct-attached disk drive being used as an IPL device.
205-256	H	227 210	Description: Unexpected external interrupt during IPL tests while trying to load from Ethernet.
205-257 to 205-258	H	850 227 210	Description: Unexpected external interrupt during IPL tests while trying to load from a Token-Ring.
205-260 to 205-262	H	227 210	Description: Unexpected external interrupt during IPL tests while trying to load from any device.
205-263	H		Description: Unexpected external interrupt during IPL tests while trying to load from ROM scan. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
205-271 to 205-272	H	227 210	Description: Unexpected external interrupt during IPL tests of the mouse or tablet POST.
205-276	H	794 227 210	Description: Unexpected external interrupt during IPL tests of the 10/100Mbps MCA Ethernet Adapter.
205-277	H	850 227 210	Description: Unexpected external interrupt during IPL tests of the Auto Token-Ring LANstreamer MC 32 Adapter.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
205-280	H	852 210 221	Description: Unexpected external interrupt during IPL-tests of the 3-COMM adapter.
205-281	H	B31 227 210	Description: Unexpected external interrupt during IPL tests of the keyboard POST.
205-282 to 205-283	H	227 210	Description: Unexpected external interrupt during IPL tests of the parallel or serial port POST.
205-284	H	880 227 210	Description: Unexpected external interrupt during IPL tests of the POWER Gt1.
205-285	H	877 227 210	Description: Unexpected external interrupt during IPL tests of the POWER Gt3.
205-286	H	850 227 210	Description: Unexpected external interrupt during IPL tests of the Token-Ring.
205-287	H	B29 227 210	Description: Unexpected external interrupt during IPL tests of the ethernet.
205-288	H		Description: Unexpected external interrupt during IPL tests while trying to load from ROM scan. Action: Go to MAP 1540 in the service guide or the installation and service guide for this system unit, drawer, or enclosure.
205-289	H	871 227 210	Description: Unexpected external interrupt during IPL tests of the graphics subsystem adapter.
205-290	H	227 210	Description: Unexpected external interrupt during I/O support POST.
205-291	H	828 227 210	Description: Unexpected external interrupt during standard I/O planar POST.
205-292	H	B88 or E07 227 210	Description: Unexpected external interrupt during IPL tests of the SCSI POST. Replace the SCSI adapter that is used for the IPL.
205-293	H	950 227 210	Description: Unexpected external interrupt during disk drive POST. Exchange the disk drive.
205-295	H	874 210 221	Description: Unexpected external interrupt during IPL-tests of the Graphics Display adapter.
205-299	H	132 210	Description: Unexpected external interrupt when control is passed to the IPL program. Be sure there is a valid IPL program on the IPL device. If there is, exchange the media or the device.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
205-301 to 205-303	H	210	Description: External Interrupt during Flash Utility ROM test.
205-304	H	218 221	Description: External Interrupt during IOCC POST.
205-305	H	812 221	Description: External Interrupt during built-in diskette adapter POST.
205-306	H	812 210	Description: External Interrupt during built-in diskette adapter POST.
205-307	H	210	Description: External Interrupt during Flash Utility ROM test.
205-308	H	218 221 131	Description: External Interrupt during IOCC POST. Use MAP 0310 for FFC 131.
205-309	H	132 131 214	Description: External Interrupt when control is passed to loaded code. Action: Check the IPL media. If no problem is found, IPL from another device. Use MAP 0310 for FFC 131.
205-311	H	210	Description: External Interrupt when calculating Flash ROM CRC.
205-312 to 205-313	H	214 131	Description: External Interrupt when configuring memory. Use MAP 0310 for FFC 131.
205-314 to 205-315	H	816 218	Description: External Interrupt when testing the power status register.
205-318 to 205-319	H	214 131	Description: External Interrupt when testing for good memory Use MAP 031 for FFC 131.
205-322 to 205-325	H	214	Description: External Interrupt when updating Flash ROM.
206-200 to 206-298	H	210	Description: Unexpected alignment interrupt during ROS IPL.
206-299	H	132 210	Description: Unexpected alignment interrupt when control is passed to the IPL code. Be sure there is a valid IPL program on the IPL device. If there is, exchange the media or the device.
206-301 to 206-325	H	210	Description: Alignment Interrupt during Flash Update Utility.
207-200 to 207-298	H	210	Description: Unexpected program exception interrupt during ROS IPL.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
207-299	H	132 210	Description: Unexpected program exception interrupt when control is passed to IPL program. Be sure there is a valid IPL program on the IPL device. If there is, exchange the media or the device.
207-301 to 207-325	H	210	Description: Program exception during Flash Update Utility.
208-200 to 208-298	H	210	Description: Unexpected floating-point unavailable exception during ROS IPL. Action: Use MAP 0260.
208-299	H	132 210	Description: Unexpected floating-point unavailable exception when control is passed to IPL program. Be sure there is a valid IPL program on the IPL device. If there is, exchange the media or the device.
208-301 to 208-325	H	210	Description: Floating point exception during Flash Update Utility.
209-200 to 209-298	H	210	Description: Unexpected supervisor call during ROS IPL.
209-299	H	132 210	Description: Unexpected supervisor call when control is passed to the IPL program. Be sure there is a valid IPL program on the IPL device. If there is, exchange the media or the device.
209-301 to 209-325	H	210	Description: Supervisor exception during Flash Update Utility.
210-200 to 210-298	H	210	Description: Unexpected supervisor call during ROS IPL.
210-299	H	132 210	Description: Unexpected supervisor call when control is passed to the IPL program. Be sure there is a valid IPL program on the IPL device. If there is, exchange the media or the device.
210-301 to 210-325	H	210	Description: Supervisor exception during Flash Update Utility.
409-000	K	C59 C90 C61	Description: I/O Card vital part FATAL ERROR.
409-001	K		Description: JTAG chain check fails before ASICs initialization FATAL ERROR. Action: Go to MAP 1540 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure.
409-002	K	B48 C61	Description: Main memory data lines FATAL ERROR.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
409-003	K	C61 B48	Description: Main memory address lines FATAL ERROR. Note: This problem can be caused by a loose memory card or memory connector problem on the memory card or system planar. If more than one memory card is installed suspect the system planar. If only one memory card is installed suspect either the memory card or the system planar.
409-004	K	C61 B48	Description: Main memory boards decoding FATAL ERROR.
409-005	K	169 B48 C68	Description: Main memory basic accesses FATAL ERROR.
409-006	K	B48 C61	Description: No 2MB available in MM. Memory common access FATAL ERROR.
409-007	K	C68 C61	Description: No valid CPU. FATAL ERROR.
409-008	K	B48 B94 C64 D28	Description: No configured memory. Check that memory boards are not deconfigured. If they are, configure them; otherwise, use the indicated FFC and perform the listed action. Action: Use MAP 0210.
409-010	H	C59 C90 E25	Description: The flex cable test is failing.
409-020	K	C68	Description: No configured CPU in the configuration table. FATAL ERROR.
409-021	K	C68	Description: Already checked CPU failed FATAL ERROR.
409-022	K	C68 C61 C59	Description: No response from any of the present CPUs. Note: Location codes of missing or deconfigured modules are not displayed. Action: Replace the faulty parts indicated by the FFC. If more than one CPU module is present, it is recommended to begin the substitution with the other listed FFCs. If the symptom does not change, go to MAP 1540.
409-023	K	Install Error	Description: A "hole" between two memory cards (ie. cards in slot A and C, no card in slot B) or before the first installed memory card (no card in slot A) was found. FATAL ERROR. Note: The displayed location codes are those of the empty slots. Action: Reinstall memory cards in the correct slots: the first card in slot A, the second card in slot B, the third card in slot C, and the fourth card in slot D. If the symptom does not change go to MAP 1540.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
409-024	K	Install Error	Description: Not allowed CPU mix. Note: It is not allowed to install CPU cards supporting different PowerPc. CPU cards installed must be homogeneous. For example: if you have one C1D card installed in slot 0, you must fill any other free slot with C1D cards only. Action: Reinstall the CPU cards to have them homogeneous. If the symptom does not change go to MAP 1540.
409-025	K	Install Error	Description: No memory card is physically present. Action: Install memory cards.
409-026	K	C68 C61 C59 C90	Description: Initialization of L2 cache error. Note: Location codes of missing or deconfigured modules are not displayed. Action: Replace the faulty parts indicated by the FFC. If more than one CPU module is present, it is recommended to begin the substitution with the other listed FFCs. If the symptom does not change, go to MAP 1540.
409-027	K	C68 C61 C59 C90	Description: Memory clear error. Note: Location codes of missing or deconfigured modules are not displayed. Action: Replace the faulty parts indicated by the FFC. If more than one CPU module is present, it is recommended to begin the substitution with the other listed FFCs. If the symptom does not change, go to MAP 1540.
409-028	K	C68 C61 C59 C90	Description: Checkstop on one CPU and no other valid CPU. Note: Location codes of missing or deconfigured modules are not displayed. Action: Replace the faulty parts indicated by the FFC. If more than one CPU module is present, it is recommended to begin the substitution with the other listed FFCs. If the symptom does not change, go to MAP 1540.
409-050	K	See Note	Note: This is a firmware error code, refer to the firmware error codes in your system's service guide.
409-051	K	See Note	Note: This is a firmware error code, refer to the firmware error codes in your system's service guide.
409-060	K	B94 B96 B97	Description: Main memory Knaizuk-Hartmann test error.
409-070	H	D21	Description: CPU fan (fan 10) failed.
409-072	K	B48	Description: Different voltage among present memory boards.
409-073	H	D19	Description: Over temperature on power supply 2.
409-074	H	D58	Description: Power Supply 2 fan (fan 4) failed.
409-075	H	D22	Description: Media fan (fan 5) failed.
409-076	H	D22	Description: Media fan (fan 6) failed.
409-077	H	D22	Description: Media fan (fan 7) failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
409-078	H	D21	Description: CPU fan (fan 8) failed.
409-079	H	D21	Description: CPU fan (fan 9) failed.
409-080	K	C59 165 C88 C89	Description: BUMP access to OPP or OPP access to SIB failed.
409-081	K	C59 C88 C89	Description: BUMP access to SIB failed.
409-082	K	C59 165	Description: Operator panel cannot access the BUMP. Note: This problem can be caused by an incorrectly installed CEC.
409-083	K	165	Description: OP microcontroller not working.
409-084	K		Description: The AC failed, and the System Configuration Table was corrupted, or the NVRAM is not valid. Standby is displayed on the LCD. Action: In case of the NVRAM not being valid (eg. CPU module removed and then reinserted), it is only a warning and no action is required. For all other circumstances, check all units for power. Check switches and power cords. If one of the units is dead, go to MAP 1520 in either the service guide or the installation and service guide for this system unit, drawer, or enclosure. If all system units are powered, it may have been only temporary AC failure, turn the system unit off then on again.
409-085	K		Description: Bad VPD was detected on the board indicated by the acronym following the SRN. For acronym definition refer to the parts section of the system unit's service guide. The number following the acronym indicates the system unit. Action: Correct the VPD or replace the FRU with the bad VPD.
409-086	K	C68 C61	Description: VPD could not be read on the board indicated by the acronym following the SRN. Action: Replace the FRU indicated by the acronym.
409-087	K	C68	Description: The power supply is not compatible with the CPU cards. Action: Check that the correct power supply and CPU cards are installed.
409-088	K	C68	Description: Incoherent CPU cycle time or CPU voltage among the present CPU cards.
409-089	K	C68	Description: A VPD problem was detected. Note: For systems with pre-BUMP-17.0 firmware, go to MAP 0230. For systems with BUMP-17.0 firmware or greater, check that the correct CPU cards and system planar are installed.
409-090 to 409-091	K	C88 C89	Description: No SIB reply on the power-on command.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
409-092	K	C59	Description: No valid Flash EPROM/EPROM.
409-093	H	152 C88	Description: Power Supply Fan failed.
409-094	H	D16 D19 C88	Description: Main Fan or fan 1 of power supply 1 failed. Note: The character following the SRN indicates the unit that contains the fault.
409-095	H	D18 D40 D19 C88	Description: Disk fan or MCA fan , or fan 2 of power supply 1 failed.
409-096	H	D17 D41 D58 C88	Description: MCA Fan, or CPU/Memory/Disk fan failed, or Power Supply 2 (fan3) failed.
409-097	K	152	Description: Loss of primary power unit #X. Action: Check the expansion unit's main switch and power cable. If the problem is not solved, use FFC 152 and MAP 0210.
409-098	K	C88 C61 152 C93	Description: System unit appears to have no electrical power. Note: Before replacing the indicated FRUs, double check that the cover and front access plate have been closed correctly. If the cover and front access plate are closed correctly then first suspect the cover switch. Refer to the appendices in the system unit's service guide for more information about diagnosing the switch. Refer to the parts chapter in the system unit's service guide for the switch FRU part number.
409-099	K	946 152	Description: Broadcast power off caused by the MCA expansion unit not being powered on. Action: First, check that the flex cable is well inserted. If the problem is still present, replace the faulty part(s) indicated by the FFC. At last, refer to MAP 1540. Note: If the expansion unit has been disconnected, the system unit must be reconfigured to exclude the expansion unit.
409-101	K	169 221	Description: MPB jtag test failure
409-102	K	169 221	Description: ASIC jtag test failure
409-103	K	169 221	Description: MFG jtag test failure
409-104	K	C68 210	Description: CPU jtag test failure
409-Axy	K	152	Description: Power failure. This can be caused by the power supply (power supply #1) or a shorted load. Action: Use MAP 1520.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
409-Bxy	K	D58	Description: Power failure. This can be caused by the power supply (power supply #2) or a shorted load. Action: Use MAP 1520.
650-xxx	D	650	Description: Disk drive configuration failed. Note: xxx represents any last three digits of the SRN
678-098	J	678	Description: Tape drive indicates an error.
678-099	J	678 B88	Description: Tape drive not found.
678-101	D	678	Description: Timeout while attempting to communicate with SCSI device.
678-102	D	678	Description: The SCSI device indicates busy.
678-103	D	678	Description: The SCSI device indicates a reservation conflict.
678-104	D	678	Description: The SCSI device indicates a check condition.
678-105	D	678	Description: An error is detected in request sense data.
678-107	D	678	Description: Sense data from the SCSI drive has unexpected data.
678-110	D	678	Description: The Reserve command failed.
678-111	D	678	Description: Invalid condition from the drive after a reserve.
678-112	D	678	Description: The write protect sensor test failed.
678-113	D	678	Description: Invalid condition from drive after a request sense.
678-114	D	678	Description: Timeout while attempting to communicate with the SCSI device.
678-120	D	678	Description: The Inquiry command failed.
678-130	D	678 media	Description: The Load command failed.
678-134	D	B88 software	Description: The adapter failed to configure.
678-135	D	678 media	Description: The Unload command failed.
678-140	D	678	Description: The Mode Select command failed.
678-150	D	678 media	Description: The Test Unit Ready command failed.
678-160	D	678 media	Description: The Send Diagnostic command failed.
678-161	D	678 B88	Description: Invalid condition from the drive after a reserve.
678-163	D	678 B88	Description: Invalid condition from the drive after a request sense.
678-164	D	678 B88	Description: Timeout while attempting to communicate with the SCSI device.
678-165	D	678 B88 276	Description: Write, Read and Compare Test failed.
678-166	D	678 B88 software	Description: Unable to configure the device.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
678-167	D	678 B88	Description: An unexpected SCSI error occurred.
678-168	D	B88 software	Description: The adapter failed to configure.
678-169	D	678 media	Description: The send diagnostic command failed.
678-170	D	678 B88 media	Description: The Read, Write and Compare test failed.
678-180	D	678 media	Description: The Load command failed.
678-185	D	678 media	Description: The Unload command failed.
678-190	D	678	Description: The Mode Select command failed.
678-200	D	678 media	Description: The Test Unit Ready command failed.
678-201	G	678 B88	Description: Error diagnosed from error log analysis.
678-210	D	678 B88	Description: The device configuration failed.
678-211	D	678 B88	Description: The device open failed.
678-220	D	678	Description: The Release command failed.
678-230	D	678	Description: The Request Sense command failed.
678-240	D	678	Description: The Openx command failed.
678-260	D	678	Description: The device configuration failed.
678-261	D	678	Description: The device open failed.
678-300	D	678 software	Description: The device configuration failed.
678-310	D	B88 678 software	Description: SCSI adapter configuration failed.
678-320	G	678 media	Description: Error log analysis indicates a failure.
678-411 to 678-423	D	678 B88 software	Description: A reservation conflict occurred.
678-511 to 678-523	D	678 B88	Description: The drive returned bad or non-extended sense data.
678-611 to 678-623	D	678 B88 software	Description: An adapter or bus I/O error occurred.
678-711 to 678-723	D	678 B88 software	Description: A device timeout error occurred.
679-098	J	679 B88	Description: The disk drive indicates an error.
679-099	J	679 B88	Description: The disk drive not found.
679-102	D	679	Description: An unrecoverable media error occurred.
679-104	D	679	Description: The motor failed to restart.
679-105	D	679	Description: The drive did not become ready.
679-106	D	679	Description: The electronics card test failed.
679-108	D	679	Description: The bus test failed.
679-110	D	679	Description: The media format is corrupted.
679-112	D	679	Description: The diagnostic test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
679-114	D	679	Description: An unrecoverable hardware error.
679-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
679-117	D	679	Description: A write protect error occurred.
679-118	D	679 B88	Description: A SCSI command time-out occurred.
679-120	D	679	Description: A SCSI busy or command error.
679-122	D	679	Description: A SCSI reservation conflict error.
679-124	D	679	Description: A SCSI check condition error occurred.
679-126	D	679 B88	Description: A software error was caused by a hardware failure.
679-128	G	679	Description: The error log analysis indicates a hardware failure.
679-129	G	D50 679 B88 software	Description: Error log analysis indicates a SCSI bus problem.
679-130	G	679	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
679-132	D	679	Description: A disk drive hardware error occurred.
679-134	D	B88 software	Description: The adapter failed to configure.
679-135	D	679 B88 software	Description: The device failed to configure.
679-136	D	679	Description: The certify operation failed. save
679-137	D	679 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
680-00x	D	680	Description: GXT800M Graphics Adapter Note: The x represents any character displayed on the LED or display.
680-016	D	680 Monitor	Description: GXT800M Graphics Adapter Monitor/Display cable
680-100	D	680	Description: GXT800M Graphics Adapter
680-315	D	297 680	Description: GXT800M DIMM in slot 0, 1, 2, 3, or 4 GXT800M Graphics Adapter
680-505	D	297 680	Description: GXT800M DIMM in slot 0, 1, 2, 3, or 4 GXT800M Graphics Adapter
680-510	D	297 680	Description: GXT800M DIMM in slot 0 GXT800M Graphics Adapter
680-511	D	297 680	Description: GXT800M DIMM in slot 1 GXT800M Graphics Adapter

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
680-512	D	297 680	Description: GXT800M DIMM in slot 2 GXT800M Graphics Adapter
680-513	D	297 680	Description: GXT800M DIMM in slot 3 GXT800M Graphics Adapter
680-514	D	297 680	Description: GXT800M DIMM in slot 4 GXT800M Graphics Adapter
680-515	D	297 680	Description: GXT800M DIMM in slot 0, 1, 2, 3, or 4 GXT800M Graphics Adapter
680-c10	D	297 680	Description: GXT800M DIMM in slot 0 GXT800M Graphics Adapter
680-c11	D	297 680	Description: GXT800M DIMM in slot 1 GXT800M Graphics Adapter
680-c12	D	297 680	Description: GXT800M DIMM in slot 2 GXT800M Graphics Adapter
680-c13	D	297 680	Description: GXT800M DIMM in slot 3 GXT800M Graphics Adapter
680-c14	D	297 680	Description: GXT800M DIMM in slot 4 GXT800M Graphics Adapter
680-u10	D	297 680	Description: GXT800M DIMM in slot 0 GXT800M Graphics Adapter
680-u11	D	297 680	Description: GXT800M DIMM in slot 1 GXT800M Graphics Adapter
680-u12	D	297 680	Description: GXT800M DIMM in slot 2 GXT800M Graphics Adapter
680-u13	D	297 680	Description: GXT800M DIMM in slot 3 GXT800M Graphics Adapter
680-u14	D	297 680	Description: GXT800M DIMM in slot 4 GXT800M Graphics Adapter
681-098	J	681 B88	Description: The disk drive indicates an error.
681-099	J	681 B88	Description: The disk drive not found.
681-102	D	681	Description: An unrecoverable media error occurred.
681-104	D	681	Description: The motor failed to restart.
681-105	D	681	Description: The drive did not become ready.
681-106	D	681	Description: The electronics card test failed.
681-108	D	681	Description: The bus test failed.
681-110	D	681	Description: The media format is corrupted.
681-112	D	681	Description: The diagnostic test failed.
681-114	D	681	Description: An unrecoverable hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
681-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
681-117	D	681	Description: A write protect error occurred.
681-118	D	681 B88	Description: A SCSI command time-out occurred.
681-120	D	681	Description: A SCSI busy or command error.
681-122	D	681	Description: A SCSI reservation conflict error.
681-124	D	681	Description: A SCSI check condition error occurred.
681-126	D	681 B88	Description: A software error was caused by a hardware failure.
681-128	G	681	Description: The error log analysis indicates a hardware failure.
681-129	G	D50 681 B88 software	Description: Error log analysis indicates a SCSI bus problem.
681-130	G	681	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
681-132	D	681	Description: A disk drive hardware error occurred.
681-134	D	B88 software	Description: The adapter failed to configure.
681-135	D	681 B88 software	Description: The device failed to configure.
681-136	D	681	Description: The certify operation failed.
681-137	D	681 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
682-098	J	682 B88 221	Description: IPLROS detected a problem with the CDROM drive.
682-099	J	682 B88	Description: IPLROS detected a problem with the CDROM drive.
682-111	D	682 B88	Description: Unable to reserve device.
682-112	D	682 B88	Description: Unable to do configuration.
682-113	D	682 B88	Description: Unable to open the device driver.
682-121	D	682	Description: The CD-ROM drive indicates an error.
682-122	D	682	Description: The CD-ROM drive indicates an error.
682-123	D	682	Description: The CD-ROM drive indicates an error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
682-125	D	682 B88	Description: The CD-ROM drive indicates an error.
682-126	D	682	Description: The CD-ROM drive indicates an error.
682-127	D	682	Description: The CD-ROM drive indicates an error.
682-128	D	682	Description: The CD-ROM drive indicates an error.
682-129	D	682	Description: The CD-ROM drive indicates an error.
682-150	D	Media 682	Description: A media error was detected.
682-151	D	682 D88	Description: A command timeout was detected.
682-152	D	682	Description: A command reservation conflict was detected.
682-162	D	682	Description: The CD-ROM drive indicates an error.
682-171	D	682	Description: Unable to reserve device.
682-172	D	682	Description: Unable to do configuration.
682-173	D	682	Description: Unable to open device driver.
682-175	D	682	Description: The CD-ROM drive indicates an error.
682-198	D	682 B88	Description: Undefined error detected.
682-199	D	682	Description: Undefined error detected.
682-281	D	682	Description: No tone during audio test.
682-301	G	682	Description: Errors found during ELA.
682-302	G	682 B88	Description: Errors found during ELA.
689-098	J	689 B88	Description: The disk drive indicates an error.
689-099	J	689 B88	Description: The disk drive not found.
689-102	D	689	Description: An unrecoverable media error occurred.
689-104	D	689	Description: The motor failed to restart.
689-105	D	689	Description: The drive did not become ready.
689-106	D	689	Description: The electronics card test failed.
689-108	D	689	Description: The bus test failed.
689-110	D	689	Description: The media format is corrupted.
689-112	D	689	Description: The diagnostic test failed.
689-114	D	689	Description: An unrecoverable hardware error.
689-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
689-117	D	689	Description: A write protect error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
689-118	D	689 B88	Description: A SCSI command time-out occurred.
689-120	D	689	Description: A SCSI busy or command error.
689-122	D	689	Description: A SCSI reservation conflict error.
689-124	D	689	Description: A SCSI check condition error occurred.
689-126	D	689 B88	Description: A software error was caused by a hardware failure.
689-128	G	689	Description: The error log analysis indicates a hardware failure.
689-129	G	D50 689 B88 software	Description: Error log analysis indicates a SCSI bus problem.
689-130	G	689	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
689-132	D	689	Description: A disk drive hardware error occurred.
689-134	D	B88 software	Description: The adapter failed to configure.
689-135	D	689 B88 software	Description: The device failed to configure.
689-136	D	689	Description: The certify operation failed.
689-137	D	689 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
690-098	J	690 B88	Description: The disk drive indicates an error.
690-099	J	690 B88	Description: The disk drive not found.
690-102	D	690	Description: An unrecoverable media error occurred.
690-104	D	690	Description: The motor failed to restart.
690-105	D	690	Description: The drive did not become ready.
690-106	D	690	Description: The electronics card test failed.
690-108	D	690	Description: The bus test failed.
690-110	D	690	Description: The media format is corrupted.
690-112	D	690	Description: The diagnostic test failed.
690-114	D	690	Description: An unrecoverable hardware error.
690-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
690-117	D	690	Description: A write protect error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
690-118	D	690 B88	Description: A SCSI command time-out occurred.
690-120	D	690	Description: A SCSI busy or command error.
690-122	D	690	Description: A SCSI reservation conflict error.
690-124	D	690	Description: A SCSI check condition error occurred.
690-126	D	690 B88	Description: A software error was caused by a hardware failure.
690-128	G	690	Description: The error log analysis indicates a hardware failure.
690-129	G	D50 690 B88 software	Description: Error log analysis indicates a SCSI bus problem.
690-130	G	690	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
690-132	D	690	Description: A disk drive hardware error occurred.
690-134	D	B88 software	Description: The adapter failed to configure.
690-135	D	690 B88 software	Description: The device failed to configure.
690-136	D	690	Description: The certify operation failed.
690-137	D	690 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
692-110	D	692	Description: The Reserve command failed.
692-120	D	692	Description: The Inquiry command failed.
692-130	D	692 media	Description: The Load command failed.
692-135	D	692 media	Description: The Unload command failed.
692-140	D	692	Description: The Mode Select command failed.
692-150	D	692 media	Description: The Test Unit Ready command failed.
692-160	D	692 media	Description: The Send Diagnostic command failed.
692-169	D	692 media	Description: The send diagnostic command failed.
692-170	D	692 B88 media	Description: The Read, Write and Compare test failed.
692-180	D	692 media	Description: The Load command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
692-185	D	692 media	Description: The Unload command failed.
692-190	D	692	Description: The Mode Select command failed.
692-200	D	692 media	Description: The Test Unit Ready command failed.
692-210	D	692 B88	Description: The device configuration failed.
692-220	D	692	Description: The Release command failed.
692-230	D	692	Description: The Request Sense command failed.
692-240	D	692	Description: The Openx command failed.
692-300	D	692 software	Description: The device configuration failed.
692-310	D	B88 692 software	Description: SCSI adapter configuration failed.
692-320	G	692 media	Description: Error log analysis indicates a failure.
692-411 to 692-423	D	692 B88 software	Description: A reservation conflict occurred.
692-511 to 692-523	D	692 B88	Description: The drive returned bad or non-extended sense data.
692-611 to 692-623	D	692 B88 software	Description: An adapter or bus I/O error occurred.
692-711 to 692-723	D	692 B88 software	Description: A device timeout error occurred.
694-100	D	694 227	Description: Adapter open failed.
694-101	D	694 227	Description: Adapter config register test failed.
694-102	D	694 227	Description: Adapter reset failed.
694-103	D	694 227	Description: Adapter I/O register test failed.
694-104	D	694 227	Description: Adapter microcode download test failed.
694-105	D	694 227	Description: Adapter internal wrap test failed.
694-106	D	694 227	Description: Adapter close failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
700-099	J	700 B88 221	Description: IPLROS detected a problem with a SCSI disk drive
700-102 to 700-114	D	700	Description: 1.1GB single-ended disk drive problem.
700-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, application software to be sure they are all compatible. If you do not find a problem, call your support person.
700-117	D	700	Description: A write protect error occurred.
700-118	D	700 B88	Description: A SCSI command time-out.
700-120 to 700-124	D	700	Description: A SCSI error.
700-126	D	700 B88	Description: A software error was caused by a hardware failure.
700-128	G	700	Description: The error log analysis indicates a hardware failure.
700-129	G	D50 700 B88 software	Description: Error log analysis indicates a SCSI bus problem.
700-130	G	700	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
700-132	D	700	Description: A disk drive hardware error occurred.
700-134	D	B88 software	Description: The device failed to configure.
700-135	D	700 B88 software	Description: The device failed to configure.
700-136	D	700	Description: The certify operation failed.
700-137	D	700 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
701-099	J	701 B88 221	Description: IPLROS detected a problem with a SCSI disk drive
701-102 to 701-114	D	701	Description: 1.1GB 16-bit single-ended disk drive problem.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
701-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
701-117	D	701	Description: A write protect error occurred.
701-118	D	701 B88	Description: A SCSI command time-out.
701-120 to 701-124	D	701	Description: A SCSI error.
701-126	D	701 B88	Description: A software error was caused by a hardware failure.
701-128	G	701	Description: The error log analysis indicates a hardware failure.
701-129	G	D50 701 B88 software	Description: Error log analysis indicates a SCSI bus problem.
701-130	G	701	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
701-132	D	701	Description: A disk drive hardware error occurred.
701-134	D	B88 software	Description: The adapter failed to configure.
701-135	D	701 B88 software	Description: The device failed to configure.
701-136	D	701	Description: The certify operation failed.
701-137	D	701 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
702-099	J	702 B88 221	Description: IPLROS detected a problem with a SCSI disk drive
702-102 to 702-114	D	702	Description: 1.1GB 16-bit differential disk drive problem.
702-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
702-117	D	702	Description: A write protect error occurred.
702-118	D	702 B88	Description: A SCSI command time-out.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
702-120 to 702-124	D	702	Description: A SCSI error.
702-126	D	702 B88	Description: A software error was caused by a hardware failure.
702-128	G	702	Description: The error log analysis indicates a hardware failure.
702-129	G	D50 702 B88 software	Description: Error log analysis indicates a SCSI bus problem.
702-130	G	702	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
702-132	D	702	Description: A disk drive hardware error occurred.
702-134	D	B88 software	Description: The adapter failed to configure.
702-135	D	702 B88 software	Description: The device failed to configure.
702-136	D	702	Description: The certify operation failed.
702-137	D	702 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
703-099	J	703 B88 221	Description: IPLROS detected a problem with a SCSI disk drive
703-102 to 703-114	D	703	Description: 2.2GB single-ended disk drive problem.
703-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
703-117	D	703	Description: A write protect error occurred.
703-118	D	703 B88	Description: A SCSI command time-out.
703-120 to 703-124	D	703	Description: A SCSI error.
703-126	D	703 B88	Description: A software error was caused by a hardware failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
703-128	G	703	Description: The error log analysis indicates a hardware failure.
703-129	G	D50 703 B88 software	Description: Error log analysis indicates a SCSI bus problem.
703-130	G	703	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
703-132	D	703	Description: A disk drive hardware error occurred.
703-134	D	B88 software	Description: The adapter failed to configure.
703-135	D	703 B88 software	Description: The device failed to configure.
703-136	D	703	Description: The certify operation failed.
703-137	D	703 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
704-099	J	704 B88 221	Description: IPLROS detected a problem with a SCSI disk drive
704-102 to 704-114	D	704	Description: 2.2GB 16-bit single-ended disk drive problem.
704-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
704-117	D	704	Description: A write protect error occurred.
704-118	D	704 B88	Description: A SCSI command time-out.
704-120 to 704-124	D	704	Description: A SCSI error.
704-126	D	704 B88	Description: A software error was caused by a hardware failure.
704-128	G	704	Description: The error log analysis indicates a hardware failure.
704-129	G	D50 704 B88 software	Description: Error log analysis indicates a SCSI bus problem.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
704-130	G	704	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
704-132	D	704	Description: A disk drive hardware error occurred.
704-134	D	B88 software	Description: The adapter failed to configure.
704-135	D	704 B88 software	Description: The device failed to configure.
704-136	D	704	Description: The certify operation failed.
704-137	D	704 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
705-099	J	705 B88 221	Description: IPLROS detected a problem with a SCSI disk drive
705-102 to 705-114	D	705	Description: 2.2GB 16-bit differential disk drive problem.
705-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
705-117	D	705	Description: A write protect error occurred.
705-118	D	705 B88	Description: A SCSI command time-out.
705-120 to 705-124	D	705	Description: A SCSI error.
705-126	D	705 B88	Description: A software error was caused by a hardware failure.
705-128	G	705	Description: The error log analysis indicates a hardware failure.
705-129	G	D50 705 B88 software	Description: Error log analysis indicates a SCSI bus problem.
705-130	G	705	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
705-132	D	705	Description: A disk drive hardware error occurred.
705-134	D	B88 software	Description: The adapter failed to configure.
705-135	D	705 B88 software	Description: The device failed to configure.
705-136	D	705	Description: The certify operation failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
705-137	D	705 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
706-099	J	706 B88 221	Description: IPLROS detected a problem with a SCSI disk drive
706-102 to 706-114	D	706	Description: 4.5GB 16-bit single-ended disk drive problem
706-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
706-117	D	706	Description: A write protect error occurred.
706-118	D	706 B88	Description: A SCSI command time-out.
706-120 to 706-124	D	706	Description: A SCSI error.
706-126	D	706 B88	Description: A software error was caused by a hardware failure.
706-128	G	706	Description: The error log analysis indicates a hardware failure.
706-129	G	D50 706 B88 software	Description: Error log analysis indicates a SCSI bus problem.
706-130	G	706	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
706-132	D	706	Description: A disk drive hardware error occurred.
706-134	D	B88 software	Description: The adapter failed to configure.
706-135	D	706 B88 software	Description: The device failed to configure.
706-136	D	706	Description: The certify operation failed.
706-137	D	706 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
707-099	J	707 B88 221	Description: IPLROS detected a problem with a SCSI disk drive

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
707-102 to 707-114	D	707	Description: Any of the following may have occurred: an unrecoverable media error, motor failed to restart, the drive did not become ready, electronics card test failed, bus test failed, media format failed, or diagnostic test failed.
707-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, application software to be sure they are all compatible. If you do not find a problem, call your support person.
707-117	D	707	Description: A write protect error occurred.
707-118	D	707 B88	Description: A SCSI command time-out.
707-120 to 707-124	D	707	Description: A SCSI error.
707-126	D	707 B88	Description: A software error was caused by a hardware failure.
707-128	G	707	Description: The error log analysis indicates a hardware failure.
707-129	G	D50 707 B88 software	Description: Error log analysis indicates a SCSI bus problem.
707-130	G	707	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
707-132	D	707	Description: A disk drive hardware error occurred.
707-134	D	B88 software	Description: The adapter failed to configure.
707-135	D	707 B88 software	Description: The device failed to configure.
707-136	D	707	Description: The certify operation failed.
707-137	D	707 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
709-101	D	709	Description: Cannot run the test because the device driver detected a hardware error.
709-111	D	709 221	Description: Could not do the test because the device driver detected a hardware error.
709-112	D	709 221	Description: Unable to determine the type of adapter from the VPD.
709-113	D	709	Description: The VPD verification test failed.
709-114	D	709	Description: The register verification test failed.
709-115	D	709	Description: The VPD verification test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
709-116	D	D57 709	Description: The 128-port controller line test failed.
709-117	D	684	Diagnostics: Remote Async Node test failed.
709-118	D	837	Description: Remote async node test failed.
709-119	F	709	Description: Sync line termination test failed.
709-151	D	837	Description: Could not perform because the device driver detected a hardware error.
709-152	D	837 836	Description: The data wrap communication test failed.
709-153	D	837	Description: The modem control line test failed.
709-154	D	684 709	Diagnostics: Cannot run the test because the device driver detected a hardware error.
709-155	D	684 709 152	Diagnostics: The data wrap communications test failed.
709-161	D	266	Description: Could not perform because the device driver detected a hardware error.
709-162	D	266	Description: The data wrap communication test failed.
709-163	D	266	Description: The modem control line test failed.
709-164	D	D06	Description: The data wrap communication test failed.
709-171	D	259	Description: Could not perform because the device driver detected a hardware error.
709-172	D	259	Description: The data wrap communication test failed.
709-173	D	259	Description: The modem control line test failed.
709-174	D	263	Description: Cannot run the test because the device driver detected a hardware error while running the Printer/Terminal cable wrap test.
709-175	D	263	Description: The data wrap communications test failed while running the Printer/Terminal cable wrap test.
709-181	D	261	Description: Could not perform because the device driver detected a hardware error.
709-182	D	261	Description: The data wrap communication test failed.
709-183	D	261	Description: The modem control line test failed.
709-251	D	709 837	Description: Could not perform because the device driver detected a hardware error.
709-252	D	709 837	Description: The data wrap communication test failed.
709-253	D	709 837	Description: The modem control line test failed.
709-254	D	709 684	Diagnostics: Cannot run the test because the device driver detected a hardware error while running the Remote Async Node wrap test.
709-255	D	709 684	Diagnostics: The data wrap communications test failed while running the Remote Async Node wrap test.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
709-271	D	709 837	Description: Could not perform because the device driver detected a hardware error.
709-272	D	709 837	Description: The data wrap communication test failed.
709-273	D	709 837	Description: The modem control line test failed.
709-274	D	709 684	Diagnostics: Cannot run the test because the device driver detected a hardware error while running the Printer/Terminal cable wrap test.
709-275	D	709 684	Diagnostics: The data wrap communications test failed while running the Printer/Terminal cable wrap test.
709-281	D	709 837	Description: Could not perform because the device driver detected a hardware error.
709-282	D	709 837	Description: The data wrap communication test failed.
709-283	D	709 837	Description: The modem control line test failed.
709-481	D	D56	Description: Could not do the test because the device driver detected a hardware error.
709-482	D	D56	Description: The data wrap communication test failed.
709-483	D	D56	Description: The modem control line test failed.
709-901 to 709-920	D	software 709	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1 with a FFC of 709; otherwise, suspect a software problem.
709-921	D	709 software	Description: The adapter failed to configure
709-922 to 709-924	D	software 709	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1 with a FFC of 709; otherwise, suspect a software problem.
709-925	D	709 software	Description: The adapter failed to configure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
709-926 to 709-943	D	software 709	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1 with a FFC of 709; otherwise, suspect a software problem.
710-130 to 710-994	D	710	Description: POWER GXT150M Graphics Subsystem problem.
713-101 to 713-103	D	713 C94 C95	Description: Coprocessor platform test failure.
713-104	D	C94 713 C95	Description: Coprocessor platform dynamic random access memory (DRAM) test failure.
713-105 to 713-106	D	713 C94 C95	Description: Coprocessor platform memory protection or debug port test failure.
713-107	D	C95 713 C97	Description: AIB card wrap test failure.
713-110	D	C94 713 C95	Description: Coprocessor platform download diagnostics test failure.
713-123	D	C95 C98 C97	Description: AIB non-wrap test failure.
713-150 to 713-151	D	713 software 227	Description: Device configuration or hardware failure.
713-152	D	713	Description: Failure and error in determining which type of coprocessor platform.
713-153	D	713 227 C94 software	Description: Error log analysis indicates a coprocessor platform failure. Action: Use errpt command to check error log.
713-154	D	C94 713 C95	Description: Coprocessor platform initialization failure.
713-155	D	713 C94 C95	Description: Coprocessor platform initialization failure.
713-156	D	C95 713 C94	Description: Coprocessor platform initialization failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
713-157	D	C98 C97 C95	Description: Cable wrap test failure.
714-101	D	714 software	Description: Open diagex and initialize device failed.
714-102 to 714-105	D	714	Description: Video I/O Adapter failed.
714-106	D	D11 714	Description: Video setup test failed.
714-107 to 714-109	D	714	Description: Video I/O Adapter failed.
714-110 to 714-112	D	D11 714	Description: Video I/O Adapter failed.
714-113 to 714-114	D	714	Description: Video I/O Adapter failed.
714-115	D	software	Description: Closing diagex/device failed.
714-120	D	714	Description: Analysis of the error log indicates a problem with the hardware.
715-101	D	715 software	Description: Ultimedia audio adapter failed
715-102 to 715-106	D	715	Description: Ultimedia audio adapter failed
716-001	E	C59 B98	Description: I/O Card test failed.
716-011	K	C62 B98	Description: CPU card test failed.
716-012	E	C63 B98	Description: CPU card test failed.
716-021	G	C62	Description: Checkstop or machine checks. Action: Contact your support person.
716-022	G	C63 or C65	Description: Checkstop or machine checks. Action: Contact your support person.
716-101	E	B36	Description: A memory module was found to be defective during IPL.
716-147	E	B96	Description: A memory module was found to be defective during IPL. Action: Use MAP 0240.
716-148	E	D33	Description: A memory module was found to be defective during IPL. Action: Use MAP 0240.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
716-149	E	D33	Description: A memory module was found to be defective during IPL. Action: Use MAP 0240.
716-158	E	D34	Description: A memory module was found to be defective during IPL. Action: Use MAP 0240.
716-159	E	D34	Description: A memory module was found to be defective during IPL. Action: Use MAP 0240.
716-167	E	B97	Description: A memory module was found to be defective during IPL. Action: Use MAP 0240.
716-168	E	D35	Description: A memory module was found to be defective during IPL. Action: Use MAP 0240.
716-169	E	D35	Description: A memory module was found to be defective during IPL. Action: Use MAP 0240.
716-179	E	E05	Description: A memory module was found to be defective
716-201	E	B48	Description: A memory card was found to be defective during IPL.
716-247	E	B94 169	Description: A memory card was found to be defective during IPL. Action: Use MAP 0240.
716-248	E	D32 C61	Description: A memory card was found to be defective during IPL. Action: Use MAP 0240.
716-249	E	D27 C61	Description: A memory card was found to be defective during IPL. Action: Use MAP 0240.
716-258	E	D32 C61	Description: A memory card was found to be defective during IPL. Action: Use MAP 0240.
716-259	E	D27 C61	Description: A memory card was found to be defective during IPL. Action: Use MAP 0240.
716-267	E	C64 169	Description: A memory card was found to be defective during IPL. Action: Use MAP 0240.
716-268	E	D32 C61	Description: A memory card was found to be defective during IPL. Action: Use MAP 0240.
716-269	E	D27 C61	Description: A memory card was found to be defective during IPL. Action: Use MAP 0240.
716-279	E	D27	Description: A memory card was found to be defective during IPL

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
716-301	E	B48 B36 B36	Description: A memory card and 2 memory modules were found to be defective during IPL.
716-347	E	B94 B96	Description: A memory card and 2 memory modules were found to be defective during IPL. Action: Use MAP 0240.
716-348	E	D32 D33 D33	Description: A memory card and 2 memory modules were found to be defective during IPL. Action: Use MAP 0240.
716-349	E	D27 D33 D33	Description: A memory card and 2 memory modules were found to be defective during IPL. Action: Use MAP 0240.
716-358	E	D32 D34 D34	Description: A memory card and 2 memory modules were found to be defective during IPL. Action: Use MAP 0240.
716-359	E	D27 D34 D34	Description: A memory card and 2 memory modules were found to be defective during IPL. Action: Use MAP 0240.
716-367	E	C64 B97	Description: A memory card and 2 memory modules were found to be defective during IPL. Action: Use MAP 0240.
716-368	E	D32 D35 D35	Description: A memory card and 2 memory modules were found to be defective during IPL. Action: Use MAP 0240.
716-369	E	D27 D35 D35	Description: A memory card and 2 memory modules were found to be defective during IPL. Action: Use MAP 0240.
716-379	E	D27 E05 E05	Description: A memory card and 2 memory modules were found to be defective during IPL.
716-401	E	B48 B36 B36 B36	Description: A memory card and 3 memory modules were found to be defective during IPL.
716-447	E	B94 B96	Description: A memory card and 3 memory modules were found to be defective during IPL. Action: Use MAP 0240.
716-448	E	D32 D33 D33 D33	Description: A memory card and 3 memory modules were found to be defective during IPL. Action: Use MAP 0240.
716-449	E	D27 D33 D33 D33	Description: A memory card and 3 memory modules were found to be defective during IPL. Action: Use MAP 0240.
716-458	E	D32 D34 D34 D34	Description: A memory card and 3 memory modules were found to be defective during IPL. Action: Use MAP 0240.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
716-459	E	D27 D34 D34 D34	Description: A memory card and 3 memory modules were found to be defective during IPL. Action: Use MAP 0240.
716-467	E	C64 B97	Description: A memory card and 3 memory modules were found to be defective during IPL. Action: Use MAP 0240.
716-468	E	D32 D35 D35 D35	Description: A memory card and 3 memory modules were found to be defective during IPL. Action: Use MAP 0240.
716-469	E	D27 D35 D35 D35	Description: A memory card and 3 memory modules were found to be defective during IPL. Action: Use MAP 0240.
716-479	E	D27 E05 E05 E05	Description: A memory card and 3 memory modules were found to be defective during IPL.
716-547	G	B94 B96x4	Description: Checkstop or machine checks.
716-567	G	C64 B97x4	Description: Checkstop or machine checks.
716-747	G	B96x4 B94	Description: Checkstop or machine checks.
716-767	G	B97x4 B64	Description: Checkstop or machine checks.
716-847	G	B96 B94	Description: Checkstop or machine checks.
716-867	G	B97 C64	Description: Checkstop or machine checks.
716-947	G	B96	Description: Checkstop or machine checks.
716-967	G	B97	Description: Checkstop or machine checks.
717-100	D	717	Description: Adapter Open Test Failed.
717-120	D	717	Description: Adapter Open Test Failed.
717-160	D	B08	Description: 10Base-T transceiver test failed
717-161	D	B09	Description: 10Base-2 transceiver test failed
717-162	D	D82	Description: Device configuration failed
717-201	D	717 169	Description: POS register test failed
717-202	D	717 169	Description: Register test failed
717-203	D	717 169	Description: Descriptor RAM test failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
717-204	D	717 169	Description: Vital product data test failed
717-205	D	717 169	Description: Internal loopback test failed
717-206	D	717 169	Description: Internal loopback test failed
717-207	D	717 169	Description: Internal loopback test failed
717-221	D	D81 169	Description: POS register test failed
717-222	D	D81 169	Description: Register test failed
717-223	D	D81 169	Description: Descriptor RAM test failed
717-224	D	D81 169	Description: Vital product data test failed
717-225	D	D81 169	Description: Internal loopback test failed
717-226	D	D81 169	Description: Internal loopback test failed
717-227	D	D81 169	Description: Internal loopback test failed
717-260	D	B08 717	Description: 10 Base-T transceiver test failed
717-261	D	B09 717	Description: 10 Base-2 transceiver test failed
717-300	D	717 External attach 169	Description: External loopback test failed
717-320	D	D81 External attach 169	Description: External loopback test failed
717-600	G	717	Description: Error log analysis indicates a hardware problem
717-620	G	D81	Description: Error log analysis indicates a hardware problem
717-700	G	717 External attach	Description: Error log analysis indicates a hardware problem
717-701	G	717 169	Description: Error log analysis indicates a hardware problem
717-702	G	717 169	Description: Error log analysis indicates a hardware problem

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
717-703	G	717 software	Description: Error log analysis indicates a hardware problem
717-710	G	717 169 software	Description: Error log analysis indicates a hardware problem
717-711	G	717 169 software	Description: Error log analysis indicates a hardware problem
717-720	G	D81 External attach	Description: Error log analysis indicates a hardware problem
717-721	G	D81 169	Description: Error log analysis indicates a hardware problem
717-722	G	D81 169	Description: Error log analysis indicates a hardware problem
717-723	G	D81 software	Description: Error log analysis indicates a hardware problem
717-730	G	D81 169 software	Description: Error log analysis indicates a hardware problem
717-731	G	D81 169 software	Description: Error log analysis indicates a hardware problem
718-101	D	718 227	Description: GXT500 Graphics Adapter
718-1AA	D	718 RGB Cable Display	Description: GXT500 Graphics Adapter
718-1xx	D	718	Description: GXT500 Graphics Adapter
718-201	D	D51 227	Description: GXT500D Graphics Adapter
718-2AA	D	D51 RGB Cable Display	Description: GXT500D Graphics Adapter
718-2xx	D	D51	Description: GXT500D Graphics Adapter
721-102 to 721-114	D	721	Description: Unknown SCSI or device error.
721-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
721-117	D	721	Description: A write protect error occurred.
721-118	D	721 B88	Description: A SCSI command time-out.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
721-120 to 721-124	D	721	Description: Unknown SCSI or device error.
721-126	D	721 B88	Description: A software error was caused by a hardware failure.
721-128	G	721	Description: The error log analysis indicates a hardware failure.
721-130	G	721 B88	Description: The error log analysis indicates a hardware failure.
721-132	D	721	Description: A disk drive hardware error occurred.
721-135	D	721 B88 software	Description: The device failed to configure.
722-xxx	D	722	Description: Unknown disk drive type is failing.
722-098	J	722 B88 221	Description: IPLROS detected a problem with the SCSI disk drive.
722-099	J	722 B88	Description: IPLROS detected a problem with the SCSI disk drive.
723-xxx	D	723	Description: Unknown CD-ROM type is failing.
723-098	J	723 B88 221	Description: IPLROS detected a problem with the SCSI CDROM.
723-099	J	723 B88	Description: IPLROS detected a problem with the SCSI CDROM.
724-xxx	D	724	Description: Unknown tape drive failure.
724-098	J	724 B88 221	Description: IPLROS detected a problem with the SCSI tape drive.
724-099	J	724 B88	Description: IPLROS detected a problem with the SCSI tape drive.
733-110 to 733-120	D	733	Description: The Reserve command failed, or the Inquiry command failed.
733-130 to 733-135	D	733 media	Description: The Load command failed, or the Unload command failed.
733-140	D	733	Description: The Mode Select command failed.
733-150 to 733-169	D	733 media	Description: The Test Unit Ready command failed, or the Send Diagnostic command failed.
733-170	D	733 B88 media	Description: The Read, Write and Compare test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
733-180 to 733-185	D	733 media	Description: The Load command failed, or the Unload command failed.
733-190	D	733	Description: The Mode Select command failed.
733-200	D	733 media	Description: The Test Unit Ready command failed.
733-210	D	733 B88	Description: The device configuration failed.
733-220 to 733-240	D	733	Description: 140GB 8mm tape drive failed.
733-300	D	733 software	Description: The device configuration failed.
733-310	D	B88 733 software	Description: SCSI adapter configuration failed.
733-320	D	733 media	Description: Error log analysis indicates a failure.
733-411 to 733-423	D	733 B88 software	Description: A reservation conflict occurred.
733-511 to 733-523	D	733 B88	Description: The drive returned bad or non-extended sense data.
733-611 to 733-723	D	733 B88 software	Description: An adapter, device, or bus I/O error occurred.
734-098	J	734 B88 221	Description: IPLROS detected a problem with the CDROM drive.
734-099	J	734 B88	Description: IPLROS detected a problem with the CDROM drive.
734-111	D	734 B88	Description: Unable to reserve device.
734-112	D	734 B88	Description: Unable to do configuration.
734-113	D	734 B88	Description: Unable to open the device driver.
734-121	D	734	Description: The CD-ROM drive indicates an error.
734-122	D	734	Description: The CD-ROM drive indicates an error.
734-123	D	734	Description: The CD-ROM drive indicates an error.
734-125	D	734 B88	Description: The CD-ROM drive indicates an error.
734-126	D	734	Description: The CD-ROM drive indicates an error.
734-127	D	734	Description: The CD-ROM drive indicates an error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
734-128	D	734	Description: The CD-ROM drive indicates an error.
734-129	D	734	Description: The CD-ROM drive indicates an error.
734-150	D	Media 734	Description: A media error was detected.
734-151	D	734 D88	Description: A command timeout was detected.
734-152	D	734	Description: A command reservation conflict was detected.
734-162	D	734	Description: The CD-ROM drive indicates an error.
734-171	D	734	Description: Unable to reserve device.
734-172	D	734	Description: Unable to do configuration.
734-173	D	734	Description: Unable to open device driver.
734-175	D	734	Description: The CD-ROM drive indicates an error.
734-198	D	734 B88	Description: Undefined error detected.
734-199	D	734	Description: Undefined error detected.
734-281	D	734	Description: No tone during audio test.
734-301	G	734	Description: Errors found during ELA.
734-302	G	734 B88	Description: Errors found during ELA.
736-101	D	821	Description: Unexpected adapter error occurred.
736-102	D	736 821	Description: An unexpected device or adapter error occurred.
736-103	D	736 821	Description: The keyboard reset failed.
736-104	D	736	Description: Unknown keyboard.
736-201	D	821	Description: Unexpected adapter error occurred.
736-202	D	736 821	Description: Unexpected device or adapter error occurred.
736-203	D	736	Description: Read keyboard ID test failed.
736-204	D	736	Description: Keyboard layout ID test failed.
736-205	D	736	Description: Keyboard echo test failed.
736-206	D	736	Description: Select scan code test failed.
736-301	D	821	Description: Unexpected adapter error occurred.
736-302	D	736	Description: Unexpected device or adapter error.
736-303	D	736	Description: Error occurred turning on lamps.
736-304	D	736	Description: Error occurred turning off lamps.
736-401	D	821	Description: Unexpected adapter error occurred.
736-402	D	736 821	Description: Unexpected device or adapter error.
736-403	D	736	Description: Cannot recognize the keyboard.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
736-404	D	736	Description: Failing keyboard.
736-601	D	821	Description: Unexpected adapter error occurred.
736-602	D	284 821	Description: Unexpected device or adapter error.
736-603	D	284 821	Description: Speaker test failed.
741-098	J	741	Description: Disk drive indicates an error.
741-099	J	741 B88 221	Description: IPLROS detected a problem with a SCSI disk drive.
741-102 to 741-114	D	741	Description: SCSI disk drive problems.
741-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
741-117	D	741	Description: A write protect error occurred.
741-118	D	741 B88	Description: A SCSI command time-out.
741-120 to 741-124	D	741	Description: SCSI disk drive problems.
741-126	D	741 B88	Description: A software error was caused by a hardware failure.
741-128	G	741	Description: The error log analysis indicates a hardware failure.
741-129	G	D50 741 B88 software	Description: Error log analysis indicates a SCSI bus problem.
741-130	G	741	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
741-132	D	741	Description: A disk drive hardware error occurred.
741-134	D	B88 software	Description: The adapter failed to configure.
741-135	D	741 B88 software	Description: The device failed to configure.
741-137	D	741 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
745-100	D	media 745	Description: Recovered error. Action: No action required.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
745-200	D	media 745	Description: Drive Not Ready Action: Install media, refer to the tape autoloader service guide.
745-300 to 745-350	D	media 745	Description: 4mm Tape Auto Loader problem. Action: Replace media, clean drive, refer to the tape autoloader service guide.
745-400	D	745 magazine media	Description: General Hardware Failure Action: Replace media, clean drive, refer to the tape autoloader service guide.
745-410 to 745-435	D	745 media	Description: Internal Hardware Failure Action: Replace drive, refer to the tape autoloader service guide.
745-440	D	745 SCSI Adapter	Description: SCSI Hardware Failure Action: Replace drive, refer to the tape autoloader service guide.
745-441 to 745-443	D	745 media	Description: 4mm Tape Auto Loader problem. Action: Replace drive, refer to the tape autoloader service guide.
745-444	D	745 environ- ment media	Description: Humidity too high Action: Lower humidity, replace media, refer to the tape autoloader service guide.
745-445	D	clean media drive	Description: Drive Requires Cleaning Action: Clean drive, replace media, refer to the tape autoloader service guide.
745-460 to 745-465	D	745 magazine media	Description: Magazine Movement Failure Action: Check magazine and media, clean rollers, refer to the tape autoloader service guide.
745-470 to 745-475	D	745 magazine media	Description: Media Insert/Eject Failure Action: Check clean magazine and media, clean rollers, refer to the tape autoloader service guide.
745-480 to 745-485	D	745 magazine media	Description: Drawer Open/Close Failure Action: Check magazine and media, refer to the tape autoloader service guide.
745-500	D	745 system	Description: Illegal request to drive Action: Software conflict, refer to the tape autoloader service guide.
745-600	D	745 system	Description: Unit Attention Action: Software conflict, media changed, refer to the tape autoloader service guide.
745-700	D	745 media	Description: Not Writeable Action: Check media for write protect, refer to the tape autoloader service guide.
745-800	D	745 media	Description: Blank Media Action: Check media, refer to the tape autoloader service guide.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
745-B00	D	745 SCSI Adapter	Description: SCSI Interface Failure Action: Check SCSI interface, refer to the tape autoloader service guide.
745-D00	D	745 media	Description: Tape Full Action: Check replace media, refer to the tape autoloader service guide.
749-xxx	D	749	Description: 7331 Model 205 Tape Library. Refer to the service documentation for this device.
757-110	D	757	Description: The Reserve command failed.
757-120	D	757	Description: The Inquiry command failed.
757-130	D	757 media	Description: The Load command failed.
757-135	D	757 media	Description: The Unload command failed.
757-140	D	757	Description: The Mode Select command failed.
757-150	D	757 media	Description: The Test Unit Ready command failed.
757-160	D	757 media	Description: The Send Diagnostic command failed.
757-169	D	757 media	Description: The Send Diagnostic command failed.
757-170	D	757 B88 media	Description: The Read, Write and Compare test failed.
757-180	D	757 media	Description: The Load command failed.
757-185	D	757 media	Description: The Unload command failed.
757-190	D	757	Description: The Mode Select command failed.
757-200	D	757 media	Description: The Test Unit Ready command failed.
757-210	D	757 B88	Description: The device configuration failed.
757-220	D	757	Description: The Release command failed.
757-230	D	757	Description: The Request Sense command failed.
757-240	D	757	Description: The Openx command failed.
757-300	D	757 software	Description: The device configuration failed.
757-310	D	B88 757 software	Description: SCSI adapter configuration failed.
757-320	D	757 media	Description: Error log analysis indicates a failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
757-411 to 757-423	D	757 B88 software	Description: A reservation conflict occurred.
757-511 to 757-523	D	757 B88	Description: The drive returned bad or non-extended sense data.
757-611 to 757-623	D	757 B88 software	Description: An adapter or bus I/O error occurred.
757-711 to 757-723	D	757 B88 software	Description: A device timeout error occurred.
772-098	J	772 B88	Description: Disk drive indicates an error.
772-099	J	772 B88	Description: Disk drive not found.
772-102	D	772	Description: An unrecoverable media error.
772-104	D	772	Description: The motor failed to restart.
772-105	D	772	Description: The drive did not become ready.
772-106	D	772	Description: The electronics card test failed.
772-108	D	772	Description: The bus test failed.
772-110	D	772	Description: The media format is corrupted.
772-112	D	772	Description: The diagnostic test failed.
772-114	D	772	Description: An unrecoverable hardware error.
772-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
772-117	D	772	Description: A write protect error occurred.
772-118	D	772 B88	Description: A SCSI command time-out.
772-120	D	772	Description: A SCSI busy or command error.
772-122	D	772	Description: A SCSI reservation conflict error.
772-124	D	772	Description: A SCSI check condition error.
772-126	D	772 B88	Description: A software error was caused by a hardware failure.
772-128	G	772	Description: The error log analysis indicates a hardware failure.
772-129	G	D50 772 B88 software	Description: Error log analysis indicates a SCSI bus problem.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
772-130	G	772	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
772-132	D	772	Description: A disk drive hardware error occurred.
772-134	D	B88 software	Description: The adapter failed to configure.
772-136	D	772	Description: The certify operation failed.
772-137	D	772 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
773-098	J	773 B88	Description: Disk drive indicates an error.
773-099	J	773 B88	Description: Disk drive not found.
773-102	D	773	Description: An unrecoverable media error.
773-104	D	773	Description: The motor failed to restart.
773-105	D	773	Description: The drive did not become ready.
773-106	D	773	Description: The electronics card test failed.
773-108	D	773	Description: The bus test failed.
773-110	D	773	Description: The media format is corrupted.
773-112	D	773	Description: The diagnostic test failed.
773-114	D	773	Description: An unrecoverable hardware error.
773-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
773-117	D	773	Description: A write protect error occurred.
773-118	D	773 B88	Description: A SCSI command time-out.
773-120	D	773	Description: A SCSI busy or command error.
773-122	D	773	Description: A SCSI reservation conflict error.
773-124	D	773	Description: A SCSI check condition error.
773-126	D	773 B88	Description: A software error was caused by a hardware failure.
773-128	G	773	Description: The error log analysis indicates a hardware failure.
773-129	G	D50 773 B88 software	Description: Error log analysis indicates a SCSI bus problem.
773-130	G	773	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
773-132	D	773	Description: A disk drive hardware error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
773-134	D	B88 software	Description: The adapter failed to configure.
773-136	D	773	Description: The certify operation failed.
773-137	D	773 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
774-098	J	774 B88	Description: Disk drive indicates an error.
774-099	J	774 B88	Description: Disk drive not found.
774-102	D	774	Description: An unrecoverable media error.
774-104	D	774	Description: The motor failed to restart.
774-105	D	774	Description: The drive did not become ready.
774-106	D	774	Description: The electronics card test failed.
774-108	D	774	Description: The bus test failed.
774-110	D	774	Description: The media format is corrupted.
774-112	D	774	Description: The diagnostic test failed.
774-114	D	774	Description: An unrecoverable hardware error.
774-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
774-117	D	774	Description: A write protect error occurred.
774-118	D	774 B88	Description: A SCSI command time-out.
774-120	D	774	Description: A SCSI busy or command error.
774-122	D	774	Description: A SCSI reservation conflict error.
774-124	D	774	Description: A SCSI check condition error.
774-126	D	774 B88	Description: A software error was caused by a hardware failure.
774-128	G	774	Description: The error log analysis indicates a hardware failure.
774-129	G	D50 774 B88 software	Description: Error log analysis indicates a SCSI bus problem.
774-130	G	774	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
774-132	D	774	Description: A disk drive hardware error occurred.
774-134	D	B88 software	Description: The adapter failed to configure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
774-135	D	774 B88 software	Description: The device failed to configure.
774-136	D	774	Description: The certify operation failed.
774-137	D	774 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
783-110	D	783	Description: The Reserve command failed.
783-120	D	783	Description: The Inquiry command failed.
783-130	D	783 media	Description: The Load command failed.
783-135	D	783 media	Description: The Unload command failed.
783-140	D	783	Description: The Mode Select command failed.
783-150	D	783 media	Description: The Test Unit Ready command failed.
783-160	D	783 media	Description: The Send Diagnostic command failed.
783-169	D	783 media	Description: The send diagnostic command failed.
783-170	D	783 B88 media	Description: The Read, Write and Compare test failed.
783-180	D	783 media	Description: The Load command failed.
783-185	D	783 media	Description: The Unload command failed.
783-190	D	783	Description: The Mode Select command failed.
783-200	D	783 media	Description: The Test Unit Ready command failed.
783-210	D	783 B88	Description: The device configuration failed.
783-220	D	783	Description: The Release command failed.
783-230	D	783	Description: The Request Sense command failed.
783-240	D	783	Description: The Openx command failed.
783-300	D	783 software	Description: The device configuration failed.
783-310	D	B88 783 software	Description: SCSI adapter configuration failed.
783-320	D	783 media	Description: Error log analysis indicates a failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
783-411 to 783-423	D	783 B88 software	Description: A reservation conflict occurred.
783-511 to 783-523	D	783 B88	Description: The drive returned bad or non-extended sense data.
783-611 to 783-623	D	783 B88 software	Description: An adapter or bus I/O error occurred.
783-711 to 783-723	D	783 B88 software	Description: A device timeout error occurred.
784-102	D	784	Description: An unrecoverable media error.
784-104	D	784	Description: The motor failed to restart.
784-105	D	784	Description: The drive did not become ready.
784-106	D	784	Description: The electronics card test failed.
784-108	D	784	Description: The bus test failed.
784-110	D	784	Description: The media format is corrupted.
784-112	D	784	Description: The diagnostic test failed.
784-114	D	784	Description: An unrecoverable hardware error.
784-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
784-117	D	784	Description: A write protect error occurred.
784-118	D	784 B88	Description: A SCSI command time-out.
784-120	D	784	Description: A SCSI busy or command error.
784-122	D	784	Description: A SCSI reservation conflict error.
784-124	D	784	Description: A SCSI check condition error.
784-126	D	784 B88	Description: A software error was caused by a hardware failure.
784-128	G	784	Description: The error log analysis indicates a hardware failure.
784-129	G	D50 784 B88 software	Description: Error log analysis indicates a SCSI bus problem.
784-130	G	784	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
784-132	D	784	Description: A disk drive hardware error occurred.
784-134	D	B88 software	Description: The adapter failed to configure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
784-136	D	784	Description: The certify operation failed.
784-137	D	784 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
789-101	D	789	Description: Failed to release the device.
789-102	D	789	Description: Failed to reserve the device.
789-103	D	789	Description: The device motor failed to start.
789-104	D	789	Description: Failed to make the device ready.
789-105	D	789	Description: Failed to get the inquiry data.
789-106	D	789	Description: The Prevent Media Removal command failed.
789-107	D	789	Description: The Allow Media Removal command failed.
789-200	D	789 Optical Disk	Description: The optical disk failed to load. Action: Change the media. Run diagnostics on the changed media in System Verification mode. If the error reoccurs use MAP 0210; otherwise, replace the media.
789-201	D	789 Optical Disk	Description: Failed to unload the optical disk. Action: Change the media. Run diagnostics on the changed media in System Verification mode. If the error reoccurs use MAP 0210; otherwise, replace the media.
789-202	D	789 Optical Disk	Description: The diagnostic test failed. Action: Change the media. Run diagnostics on the changed media in System Verification mode. If errors do not reoccur, replace the media; otherwise, run the drive cleaning procedures if applicable and rerun the diagnostics. If errors reoccur, or the drive does not support the cleaning procedures use MAP 0210.
789-204	D	789 B88	Description: The device failed to configure.
789-205	D	789 Optical Disk	Description: The Test Unit Ready command failed. Action: Change the media. Run diagnostics on the changed media in System Verification mode. If the error reoccurs, use MAP 0210; otherwise, replace the media.
789-206	D	789 Optical Disk	Description: The random write, read and compare test failed. Action: Change the media. Run diagnostics on the changed media in System Verification mode. If the errors do not reoccur, replace the media; otherwise, run the drive cleaning procedures if applicable, and rerun diagnostics. If the errors reoccur, or the drive does not support cleaning procedures, use MAP 0210.
789-207	D	789 Optical Disk	Description: A hardware error occurred. Action: Change the media. Run diagnostics on the changed media in System Verification mode. If the errors do not reoccur, replace the media; otherwise, run the drive cleaning procedures if applicable, and rerun diagnostics. If the errors reoccur, or the drive does not support cleaning procedures, use MAP 0210.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
789-208	D	789 Optical Disk	Description: The Mode Sense command failed. Action: Change the media. Run diagnostics on the changed media in System Verification mode. If the errors do not reoccur, replace the media; otherwise, run the drive cleaning procedures if applicable, and rerun diagnostics. If the errors reoccur, or the drive does not support cleaning procedures, use MAP 0210.
789-209	D	789 Optical Disk	Description: The Mode Select command failed. Action: Change the media. Run diagnostics on the changed media in System Verification mode. If the errors do not reoccur, replace the media; otherwise, run the drive cleaning procedures if applicable, and rerun diagnostics. If the errors reoccur, or the drive does not support cleaning procedures, use MAP 0210.
789-300	D	789 B88 software	Description: A SCSI reservation conflict has occurred.
789-400	D	789 B88 Cables software	Description: A SCSI command time out has occurred.
789-401	D	Optical Disk D50 B88 software	Description: An unknown error has occurred.
789-402	D	Optical Disk D50 B88 software	Description: Unit attention condition has occurred.
789-600	G	Optical Disk	Description: ELA indicates that the spare sectors on the disk are exhausted. Action: Backup the media and replace it. Note: Use the time when the error occurred and the "Spare Sector Availability" service aid to identify the disk that has the error.
789-700	G	789 Optical Disk	Description: The ELA indicates an equipment error. Action: Run diagnostics in System Verification mode to isolate the problem. If errors are reported use MAP 0210; otherwise, the the error is due to faulty media. Backup the media and then replace it. Note: Use the time when the error occurred to identify the faulty media.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
789-701	G	Optical Disk 789	Description: The ELA indicates an irrecoverable data error. Action: Run diagnostics on the device in System Verification mode. If errors are reported use MAP 0210; otherwise, the error is due to faulty media. Backup the media and then replace it. Note: Use the time when the error occurred to identify the faulty media.
789-702	G	Bridgebox 789 B88 Cables	Description: The ELA indicates that the adapter detected an error. Action: Use the installation and service guide for the device to check the bridgebox. If the bridgebox checks out to be good, use MAP 0210.
791-098	J	791 B88	Description: The disk drive indicates an error.
791-099	J	791 B88	Description: The disk drive not found.
791-102	D	791	Description: An unrecoverable media error occurred.
791-104	D	791	Description: The motor failed to restart.
791-105	D	791	Description: The drive did not become ready.
791-106	D	791	Description: The electronics card test failed.
791-108	D	791	Description: The bus test failed.
791-110	D	791	Description: The media format is corrupted.
791-112	D	791	Description: The diagnostic test failed.
791-114	D	791	Description: An unrecoverable hardware error.
791-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
791-117	D	791	Description: A write protect error occurred.
791-118	D	791 B88	Description: A SCSI command time-out occurred.
791-120	D	791	Description: A SCSI busy or command error.
791-122	D	791	Description: A SCSI reservation conflict error.
791-124	D	791	Description: A SCSI check condition error occurred.
791-126	D	791 B88	Description: A software error was caused by a hardware failure.
791-128	G	791	Description: The error log analysis indicates a hardware failure.
791-129	G	D50 791 B88 software	Description: Error log analysis indicates a SCSI bus problem.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
791-130	G	791	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
791-132	D	791	Description: A disk drive hardware error occurred.
791-134	D	B88 software	Description: The adapter failed to configure.
791-136	D	791	Description: The certify operation failed.
791-137	D	791 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
792-098	J	792 B88	Description: The disk drive indicates an error.
792-099	J	792 B88	Description: The disk drive not found.
792-102	D	792	Description: An unrecoverable media error occurred.
792-104	D	792	Description: The motor failed to restart.
792-105	D	792	Description: The drive did not become ready.
792-106	D	792	Description: The electronics card test failed.
792-108	D	792	Description: The bus test failed.
792-110	D	792	Description: The media format is corrupted.
792-112	D	792	Description: The diagnostic test failed.
792-114	D	792	Description: An unrecoverable hardware error.
792-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
792-117	D	792	Description: A write protect error occurred.
792-118	D	792 B88	Description: A SCSI command time-out occurred.
792-120	D	792	Description: A SCSI busy or command error.
792-122	D	792	Description: A SCSI reservation conflict error.
792-124	D	792	Description: A SCSI check condition error occurred.
792-126	D	792 B88	Description: A software error was caused by a hardware failure.
792-128	G	792	Description: The error log analysis indicates a hardware failure.
792-129	G	D50 792 B88 software	Description: Error log analysis indicates a SCSI bus problem.
792-130	G	792	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
792-132	D	792	Description: A disk drive hardware error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
792-134	D	B88 software	Description: The adapter failed to configure.
792-136	D	792	Description: The certify operation failed.
792-137	D	792 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
793-098	J	793 B88	Description: The disk drive indicates an error.
793-099	J	793 B88	Description: The disk drive not found.
793-102	D	793	Description: An unrecoverable media error occurred.
793-104	D	793	Description: The motor failed to restart.
793-105	D	793	Description: The drive did not become ready.
793-106	D	793	Description: The electronics card test failed.
793-108	D	793	Description: The bus test failed.
793-110	D	793	Description: The media format is corrupted.
793-112	D	793	Description: The diagnostic test failed.
793-114	D	793	Description: An unrecoverable hardware error.
793-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
793-117	D	793	Description: A write protect error occurred.
793-118	D	793 B88	Description: A SCSI command time-out occurred.
793-120	D	793	Description: A SCSI busy or command error.
793-122	D	793	Description: A SCSI reservation conflict error.
793-124	D	793	Description: A SCSI check condition error occurred.
793-126	D	793 B88	Description: A software error was caused by a hardware failure.
793-128	G	793	Description: The error log analysis indicates a hardware failure.
793-129	G	D50 793 B88 software	Description: Error log analysis indicates a SCSI bus problem.
793-130	G	793	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
793-132	D	793	Description: A disk drive hardware error occurred.
793-134	D	B88 software	Description: The adapter failed to configure.
793-136	D	793	Description: The certify operation failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
793-137	D	793 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
794-201	D	794 221	Description: The configuration registers test failed.
794-202	D	794 221	Description: The Input/Output (I/O) registers test failed.
794-203	D	794 221	Description: The adapter initialization test failed.
794-204	D	794 221	Description: The internal loopback test failed.
794-205	D	794 221	Description: The internal loopback test failed.
794-206	D	794 221	Description: The external loopback test failed.
794-207	D	794 221	Description: The internal loopback test failed.
794-208	D	794 221	Description: The external loopback test failed.
794-209	D	794 221	Description: The Program Option Select (POS) register test failed.
794-210	D	794 221	Description: The Vital Product Data (VPD) test failed.
794-700	D	794 221	Description: Error log analysis indicates a hardware failure.
794-701	D	794 221	Description: Error log analysis indicates a hardware failure.
797-001	D	software 797 221	Description: Device Driver open error
797-002	D	software 797 221	Description: Device configuration error
797-022	D	software 797 221	Description: Error in opening a file
797-024	D	software 797 221	Description: Device driver unconfigure error
797-100	D	software 797 221	Description: Error in opening a file
797-101	D	software 797 221	Description: Error in reading a file header

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
797-102	D	software 797 221	Description: Error in reading a section header
797-103	D	software 797 221	Description: Wrong type of file no load
797-104	D	software 797 221	Description: Error in seek operation
797-105	D	software 797 221	Description: Error in read operation
797-106	D	software 797 221	Description: Undefined symbol in symbol table
797-107	D	software 797 221	Description: Maximum number of external symbols exceeded
797-108	D	797 software 221	Description: Value did not match original
797-109	D	797 software 221	Description: ROSStatus completion
797-10a	D	797 software 221	Description: ConfigData found no AIB
797-10b	D	software 797 221	Description: Loader found no AIB Code
797-120	D	797 software 221	Description: Error in RICRead
797-121	D	797 software 221	Description: Error in RICWrite
797-122	D	797 software 221	Description: Error in RICReset
797-123	D	797 software 221	Description: Error in RICGetConfig
797-124	D	797 software 221	Description: Error in RICGetException
797-125	D	797 software 221	Description: Error in RICGetVersion

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
797-126	D	797 software 221	Description: Error in RICReadIO
797-127	D	797 software 221	Description: Error in RICWriteIO
797-128	D	797 software 221	Description: Error in RICLockMem
797-129	D	797 software 221	Description: Error in RICUnLockMem
797-12a	D	797 software 221	Description: Error in RICReadPOS
797-12b	D	797 software 221	Description: Error in RICWritePOS
797-12c	D	797 software 221	Description: Error in ioctl call for dd
797-130	D	software 797 221	Description: Invalid TU number
797-131	D	797 software 221	Description: JDC protocol failed, JDC returned JO_SYSERR
797-132	D	797 software 221	Description: JDC halted, never responded to SEND_INQR_JDC
797-133	D	software 797 221	Description: JDC returned unrecognized command, JDC returned JO_UNKNOWN
797-134	D	software 797 221	Description: Error loading jdc.dgx
797-135	D	797 software 221	Description: Error loading aibXXXX.dgx, where XXXX is the AIB ID
797-136	D	797 software 221	Description: Not a valid reply from JDC
797-137	D	797 software 221	Description: Interrupt ERR in Exception
797-138	D	software 797 221	Description: Invalid subcode of MICRO Test

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
797-139	D	797 software 221	Description: Memory allocation failed
797-13a	D	797 software 221	Description: TU called before TU 46 called
797-13b	D	software 797 221	Description: Not an instruction or info
797-13c	D	797 software 221	Description: RC_JO_ERR_RECEIVED
797-140	D	797 software 221	Description: Adapter download diag failed
797-141	D	797 software 221	Description: Adapter CPU test failed
797-142	D	797 software 221	Description: Adapter timer test failed
797-143	D	797 software 221	Description: Adapter micro channel test failed
797-144	D	797 software 221	Description: Adapter memory test failed
797-145	D	797 software 221	Description: Adapter memory protection test failed
797-146	D	797 software 221	Description: Adapter debug port test failed
797-147	D	797 software 221	Description: Adapter on-card wrap test failed
797-148	D	Wrap plug 797 software 221	Description: Adapter external wrap test failed
797-149	D	797 software 221	Description: JDC protocol reported failure
797-14a	D	797 software 221	Description: JDC protocol reported on card loopback failure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
797-14b	D	Wrap plug 797 software 221	Description: JDC protocol reported external wrap failure
798-001	D	software 798 221	Description: Device Driver open error
798-002	D	software 798 221	Description: Device configuration error
798-022	D	software 798 221	Description: Error in opening a file
798-024	D	software 880 221	Description: Device driver unconfigure error
798-100	D	software 798 221	Description: Error in opening a file
798-101	D	software 798 221	Description: Error in reading a file header
798-102	D	software 798 221	Description: Error in reading a section header
798-103	D	software 798 221	Description: Wrong type of file no load
798-104	D	software 798 221	Description: Error in seek operation
798-105	D	software 798 221	Description: Error in read operation
798-106	D	software 798 221	Description: Undefined symbol in symbol table
798-107	D	software 798 221	Description: Maximum number of external symbols exceeded
798-108	D	798 software 221	Description: Value did not match original
798-109	D	798 software 221	Description: ROSStatus completion

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
798-10a	D	798 software 221	Description: ConfigData found no AIB
798-10b	D	software 798 221	Description: Loader found no AIB Code
798-120	D	798 software 221	Description: Error in RICRead
798-121	D	798 software 221	Description: Error in RICWrite
798-122	D	798 software 221	Description: Error in RICReset
798-123	D	798 software 221	Description: Error in RICGetConfig
798-124	D	798 software 221	Description: Error in RICGetException
798-125	D	798 software 221	Description: Error in RICGetVersion
798-126	D	798 software 221	Description: Error in RICReadIO
798-127	D	798 software 221	Description: Error in RICWriteIO
798-128	D	798 software 221	Description: Error in RICLockMem
798-129	D	798 software 221	Description: Error in RICUnLockMem
798-12a	D	798 software 221	Description: Error in RICReadPOS
798-12b	D	798 software 221	Description: Error in RICWritePOS
798-12c	D	798 software 221	Description: Error in ioctl call for dd
798-130	D	software 798 221	Description: Invalid TU number

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
798-131	D	798 software 221	Description: JDC protocol failed, JDC returned JO_SYSERR
798-132	D	798 software 221	Description: JDC halted, never responded to SEND_INQR_JDC
798-133	D	software 798 221	Description: JDC returned unrecognized command, JDC returned JO_UNKNOWN
798-134	D	software 798 221	Description: Error loading jdc.dgx
798-135	D	798 software 221	Description: Error loading aibXXXX.dgx, where XXXX is the AIB ID
798-136	D	798 software 221	Description: Not a valid reply from JDC
798-137	D	798 software 221	Description: Interrupt ERR in Exception
798-138	D	software 798 221	Description: Invalid subcode of MICRO Test
798-139	D	798 software 221	Description: Memory allocation failed
798-13a	D	798 software 221	Description: TU called before TU 46 called
798-13b	D	software 798 221	Description: Not an instruction or info
798-13c	D	798 software 221	Description: RC_JO_ERR_RECEIVED
798-140	D	798 software 221	Description: Adapter download diag failed
798-141	D	798 software 221	Description: Adapter CPU test failed
798-142	D	798 software 221	Description: Adapter timer test failed
798-143	D	798 software 221	Description: Adapter micro channel test failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
798-144	D	798 software 221	Description: Adapter memory test failed
798-145	D	798 software 221	Description: Adapter memory protection test failed
798-146	D	798 software 221	Description: Adapter debug port test failed
798-147	D	798 software 221	Description: Adapter on-card wrap test failed
798-148	D	Wrap plug 798 software 221	Description: Adapter external wrap test failed
798-149	D	798 software 221	Description: JDC protocol reported failure
798-14a	D	798 software 221	Description: JDC protocol reported on card loopback failure
798-14b	D	Wrap plug 798 software 221	Description: JDC protocol reported external wrap failure
800-001	D	software 800 221	Description: Device Driver open error
800-002	D	software 800 221	Description: Device configuration error
800-022	D	software 800 221	Description: Error in opening a file
800-024	D	software 880 221	Description: Device driver unconfigure error
800-100	D	software 800 221	Description: Error in opening a file
800-101	D	software 800 221	Description: Error in reading a file header
800-102	D	software 800 221	Description: Error in reading a section header

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
800-103	D	software 800 221	Description: Wrong type of file no load
800-104	D	software 800 221	Description: Error in seek operation
800-105	D	software 800 221	Description: Error in read operation
800-106	D	software 800 221	Description: Undefined symbol in symbol table
800-107	D	software 800 221	Description: Maximum number of external symbols exceeded
800-108	D	800 software 221	Description: Value did not match original
800-109	D	800 software 221	Description: ROSStatus completion
800-10a	D	800 software 221	Description: ConfigData found no AIB
800-10b	D	software 800 221	Description: Loader found no AIB Code
800-120	D	800 software 221	Description: Error in RICRead
800-121	D	800 software 221	Description: Error in RICWrite
800-122	D	800 software 221	Description: Error in RICReset
800-123	D	800 software 221	Description: Error in RICGetConfig
800-124	D	800 software 221	Description: Error in RICGetException
800-125	D	800 software 221	Description: Error in RICGetVersion
800-126	D	800 software 221	Description: Error in RICReadIO

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
800-127	D	800 software 221	Description: Error in RICWriteIO
800-128	D	800 software 221	Description: Error in RICLockMem
800-129	D	800 software 221	Description: Error in RICUnLockMem
800-12a	D	800 software 221	Description: Error in RICReadPOS
800-12b	D	800 software 221	Description: Error in RICWritePOS
800-12c	D	800 software 221	Description: Error in ioctl call for dd
800-130	D	software 800 221	Description: Invalid TU number
800-131	D	800 software 221	Description: JDC protocol failed, JDC returned JO_SYSERR
800-132	D	800 software 221	Description: JDC halted, never responded to SEND_INQR_JDC
800-133	D	software 800 221	Description: JDC returned unrecognized command, JDC returned JO_UNKNOWN
800-134	D	software 800 221	Description: Error loading jdc.dgx
800-135	D	800 software 221	Description: Error loading aibXXXX.dgx, where XXXX is the AIB ID
800-136	D	800 software 221	Description: Not a valid reply from JDC
800-137	D	800 software 221	Description: Interrupt ERR in Exception
800-138	D	software 800 221	Description: Invalid subcode of MICRO Test
800-139	D	800 software 221	Description: Memory allocation failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
800-13a	D	800 software 221	Description: TU called before TU 46 called
800-13b	D	software 800 221	Description: Not an instruction or info
800-13c	D	800 software 221	Description: RC_JO_ERR_RECEIVED
800-140	D	800 software 221	Description: Adapter download diag failed
800-141	D	800 software 221	Description: Adapter CPU test failed
800-142	D	800 software 221	Description: Adapter timer test failed
800-143	D	800 software 221	Description: Adapter micro channel test failed
800-144	D	800 software 221	Description: Adapter memory test failed
800-145	D	800 software 221	Description: Adapter memory protection test failed
800-146	D	800 software 221	Description: Adapter debug port test failed
800-147	D	800 software 221	Description: Adapter on-card wrap test failed
800-148	D	Wrap plug 800 software 221	Description: Adapter external wrap test failed
800-149	D	800 software 221	Description: JDC protocol reported failure
800-14a	D	800 software 221	Description: JDC protocol reported on card loopback failure
800-14b	D	Wrap plug 800 software 221	Description: JDC protocol reported external wrap failure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
801-101 to 801-102	C		Description: The diagnostics did not detect an installed resource. Note: These SRNs are only valid for missing resources. If you obtain this SRN from running diagnostics on an ATM adapter use any other listed 801-xxx SRNs. Action: Ensure supplemental diskettes have been read, if applicable, then use MAP 0290.
802-718	C	718 D51	The diagnostics did not detect an installed resource.
802-794	C	794 221	Description: The diagnostics did not detect an installed resource.
802-849	C	849 C17	Description: The diagnostics did not detect an installed resource. Note: These SRNs are only valid for missing resources. If you obtain this SRN from running diagnostics on an ATM adapter use any other listed 802-xxx SRNs.
802-855	C	855 C16	Description: The diagnostics did not detect an installed resource. Note: These SRNs are only valid for missing resources. If you obtain this SRN from running diagnostics on an ATM adapter use any other listed 802-xxx SRNs.
802-xxx (except 802-849 802-855)	C	Use the xxx number	Description: The diagnostics did not detect an installed resource. Note: These SRNs are only valid for missing resources. If you obtain this SRN from running diagnostics on an ATM adapter use any other listed 802-xxx SRNs.
803-834	A		Description: An error occurred while running diagnostics. Action: This SRN will occur when an early level 64-Port Async Controller is installed in a system with a POWER Gt3 Graphics Adapter. If the 64-Port Async Controller is part number 00G1168, 31F4078, 59F2968 or 53F3372, refer to RETAIN to obtain an ECA number so that a new 64 Port Async Controller may be ordered. If a POWER Gt3 Graphics Adapter is installed with a 64-Port Async Adapter having one of the above part numbers, run diagnostics from the diskette package. If the same error occurs while running the diagnostic diskette package, use MAP 0250; otherwise suspect a software problem.
803-849	D	849 221 software	Description: An error occurred while running the diagnostics. Action: Run nondisk-based diagnostics where possible. If this SRN was generated from the nondisk-based diagnostic package, or it is not possible to use the nondisk-based package, go to MAP 0250. If the problem occurs only from disk- or server-based diagnostics, suspect a software problem.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
803-867	D	867 288 152	Description: The Async Expansion Adapter was not found. Action: Check if the power is On in the Async Expansion Drawer. If the power is not On, refer to the service guide for the expansion drawer. If the power is On, use FFCs 867 and 288.
803-869	D	B88 software	Description: An error occurred while running the diagnostics. Action: Use the <i>SCSI Subsystem</i> diagnostic diskettes. If this SRN is generated from the diskettes, use MAP 0210 and the listed FFC(s). If this error only occurs when using the online diagnostics, suspect a software problem.
803-877	D	877 or 878 or B58 or B59	Description: An error occurred while running the diagnostics. Note: If the SRN was obtained using concurrent diagnostics, execute diagnostics from the diskette package. If no problem is found using the diskette package, suspect a software problem. The failing function code may be 877, 878, B58, or B59 for this SRN. It is possible that more than one adapter type is installed in the same machine, and you may have to remove one to isolate the problem. Action: Use MAP 0250.
803-878	D	877 878	Description: An error occurred while running the diagnostics. Note: If the SRN was obtained using concurrent diagnostics, execute diagnostics from the diskette package. If no problem is found using the diskette package, suspect a software problem. The failing function code may be either 877 or 878 for this SRN. It is possible that both adapter types are installed in the same machine, and you may have to remove one to isolate the problem. Action: Use MAP 0250.
803-xxx (See note in Action column.)	D	Use the xxx number	Description: An error occurred while running the diagnostics. Action: Run nondisk-based diagnostics where possible. If this SRN was generated from the nondisk-based diagnostic package, or it is not possible to use the nondisk-based package, go to MAP 0250. If the problem occurs only from disk- or server-based diagnostics, suspect a software problem. Note: If your 803-xxx SRN is listed in this section, use the procedure for that SRN instead of this one.
804-111	D	804 B88	Description: Unable to reserve device.
804-112	D	804 B88	Description: Unable to do configuration.
804-113	D	804 B88	Description: Unable to open the device driver.
804-121	D	804	Description: The CD-ROM drive indicates an error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
804-122	D	804	Description: The CD-ROM drive indicates an error.
804-123	D	804	Description: The CD-ROM drive indicates an error.
804-125	D	804 B88	Description: The CD-ROM drive indicates an error.
804-126	D	804	Description: The CD-ROM drive indicates an error.
804-127	D	804	Description: The CD-ROM drive indicates an error.
804-128	D	804	Description: The CD-ROM drive indicates an error.
804-129	D	804	Description: The CD-ROM drive indicates an error.
804-150	D	Media 804	Description: A media error was detected.
804-151	D	804 D88	Description: A command timeout was detected.
804-152	D	804	Description: A command reservation conflict was detected.
804-162	D	804	Description: The CD-ROM drive indicates an error.
804-171	D	804	Description: Unable to reserve device.
804-172	D	804	Description: Unable to do configuration.
804-173	D	804	Description: Unable to open device driver.
804-175	D	804	Description: The CD-ROM drive indicates an error.
804-198	D	804 B88	Description: Undefined error detected.
804-199	D	804	Description: Undefined error detected.
804-211	D	804	Description: The LED test failed.
804-281	D	804	Description: No tone during audio test.
804-301	G	804	Description: Errors found during ELA.
804-302	G	804 B88	Description: Errors found during ELA.
804-xxx	H	Use the xxx number	Description: An unexpected halt occurred while running the diagnostics. Action: Use MAP 0250.
807-201	D	199 891	Description: Device configuration error
807-202	D	199 891	Description: Enclosure failed to open
807-203	D	199 891	Description: Enclosure failed to return inquiry data
807-204	D	152 166	Description: Redundant power supply or fan failure
807-205	D	152 166	Description: Redundant power supply or fan failure
80c-099	J	80c 227	Description: The SCSI adapter failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
810-101	E	C61	Description: Errors during IPL occurred and were logged by the BUMP.
810-102	E	C59	Description: Errors during IPL occurred and were logged by the BUMP.
810-103	E	C90	Description: Errors during IPL occurred and were logged by the BUMP.
810-104	E	165	Description: Errors during IPL occurred and were logged by the BUMP.
810-105	E	C62	Description: Errors during IPL occurred and were logged by the BUMP.
810-106	E	C65	Description: Errors during IPL occurred and were logged by the BUMP.
810-107	E	C63	Description: Errors during IPL occurred and were logged by the BUMP.
810-108	E	D54	Description: Errors during IPL occurred and were logged by the BUMP.
810-110	E	D52	Description: Errors found during IPL were logged by the BUMP
810-111	E	D45	Description: Errors found during IPL were logged by the BUMP
810-112	E	C68	Description: Errors found during IPL were logged by the BUMP
810-118	E	C59 C61	Description: Errors during IPL occurred and were logged by the BUMP.
810-119	E	C90 C61	Description: Errors during IPL occurred and were logged by the BUMP.
810-120	E	165 C61	Description: Errors during IPL occurred and were logged by the BUMP.
810-121	E	C62 C61	Description: Errors during IPL occurred and were logged by the BUMP.
810-122	E	C65 C61	Description: Errors during IPL occurred and were logged by the BUMP.
810-123	E	C63 C61	Description: Errors during IPL occurred and were logged by the BUMP.
810-124	E	D54 C61	Description: Errors during IPL occurred and were logged by the BUMP.
810-126	E	D52 C61	Description: Errors found during IPL were logged by the BUMP
810-127	E	D45 C61	Description: Error found during IPL were logged by the BUMP
810-128	E	C68 C61	Description: Errors found during IPL were logged by the BUMP
810-133	E	C61 C59	Description: Errors during IPL occurred and were logged by the BUMP.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
810-135	E	C90 C59	Description: Errors during IPL occurred and were logged by the BUMP.
810-136	E	165 C59	Description: Errors during IPL occurred and were logged by the BUMP.
810-137	E	C62 C59	Description: Errors during IPL occurred and were logged by the BUMP.
810-138	E	C65 C59	Description: Errors during IPL occurred and were logged by the BUMP.
810-139	E	C63 C59	Description: Errors during IPL occurred and were logged by the BUMP.
810-140	E	D54 C59	Description: Errors during IPL occurred and were logged by the BUMP.
810-142	E	D52 C59	Description: Errors found during IPL were logged by the BUMP
810-143	E	D45 C59	Description: Errors found during IPL were logged by the BUMP
810-144	E	C68 C59	Description: Errors found during IPL were logged by the BUMP
810-149	E	C61 C90	Description: Errors during IPL occurred and were logged by the BUMP.
810-150	E	C59 C90	Description: Errors during IPL occurred and were logged by the BUMP.
810-152	E	165 C90	Description: Errors during IPL occurred and were logged by the BUMP.
810-153	E	C62 C90	Description: Errors during IPL occurred and were logged by the BUMP.
810-154	E	C65 C90	Description: Errors during IPL occurred and were logged by the BUMP.
810-155	E	C63 C90	Description: Errors during IPL occurred and were logged by the BUMP.
810-156	E	D54 C90	Description: Errors during IPL occurred and were logged by the BUMP.
810-158	E	D52 C90	Description: Errors found during IPL were logged by the BUMP
810-159	E	D45 C90	Description: Errors found during IPL were logged by the BUMP
810-160	E	C68 C90	Description: Errors found during IPL were logged by the BUMP
810-165	E	C61 165	Description: Errors during IPL occurred and were logged by the BUMP.
810-166	E	C59 165	Description: Errors during IPL occurred and were logged by the BUMP.
810-167	E	C90 165	Description: Errors during IPL occurred and were logged by the BUMP.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
810-169	E	C62 165	Description: Errors during IPL occurred and were logged by the BUMP.
810-170	E	C65 165	Description: Errors during IPL occurred and were logged by the BUMP.
810-171	E	C63 165	Description: Errors during IPL occurred and were logged by the BUMP.
810-172	E	D54 165	Description: Errors during IPL occurred and were logged by the BUMP.
810-174	E	D52 165	Description: Errors found during IPL were logged by the BUMP
810-175	E	D45 165	Description: Errors found during IPL were logged by the BUMP
810-176	E	C68 165	Description: Errors found during IPL were logged by the BUMP
810-181	E	C61 C62	Description: Errors during IPL occurred and were logged by the BUMP.
810-182	E	C59 C62	Description: Errors during IPL occurred and were logged by the BUMP.
810-183	E	C90 C62	Description: Errors during IPL occurred and were logged by the BUMP.
810-184	E	165 C62	Description: Errors during IPL occurred and were logged by the BUMP.
810-185	E	C62 C62	Description: Errors during IPL occurred and were logged by the BUMP.
810-186	E	C65 C62	Description: Errors during IPL occurred and were logged by the BUMP.
810-187	E	C63 C62	Description: Errors during IPL occurred and were logged by the BUMP.
810-188	E	D54 C62	Description: Errors during IPL occurred and were logged by the BUMP.
810-197	E	C61 C65	Description: Errors during IPL occurred and were logged by the BUMP.
810-198	E	C59 C65	Description: Errors during IPL occurred and were logged by the BUMP.
810-199	E	C90 C65	Description: Errors during IPL occurred and were logged by the BUMP.
810-200	E	165 C65	Description: Errors during IPL occurred and were logged by the BUMP.
810-201	E	C62 C65	Description: Errors during IPL occurred and were logged by the BUMP.
810-202	E	C65 C65	Description: Errors during IPL occurred and were logged by the BUMP.
810-203	E	C63 C65	Description: Errors during IPL occurred and were logged by the BUMP.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
810-204	E	D54 C65	Description: Errors during IPL occurred and were logged by the BUMP.
810-213	E	C61 C63	Description: Errors during IPL occurred and were logged by the BUMP.
810-214	E	C59 C63	Description: Errors during IPL occurred and were logged by the BUMP.
810-215	E	C90 C63	Description: Errors during IPL occurred and were logged by the BUMP.
810-216	E	165 C63	Description: Errors during IPL occurred and were logged by the BUMP.
810-217	E	C62 C63	Description: Errors during IPL occurred and were logged by the BUMP.
810-218	E	C65 C63	Description: Errors during IPL occurred and were logged by the BUMP.
810-219	E	C63 C63	Description: Errors during IPL occurred and were logged by the BUMP.
810-220	E	D54 C63	Description: Errors during IPL occurred and were logged by the BUMP.
810-229	E	C61 D54	Description: Errors during IPL occurred and were logged by the BUMP.
810-230	E	C59 D54	Description: Errors during IPL occurred and were logged by the BUMP.
810-231	E	C90 D54	Description: Errors during IPL occurred and were logged by the BUMP.
810-232	E	165 D54	Description: Errors during IPL occurred and were logged by the BUMP.
810-233	E	C62 D54	Description: Errors during IPL occurred and were logged by the BUMP.
810-234	E	C65 D54	Description: Errors during IPL occurred and were logged by the BUMP.
810-235	E	C63 D54	Description: Errors during IPL occurred and were logged by the BUMP.
810-236	E	D54 D54	Description: Errors during IPL occurred and were logged by the BUMP.
810-238	E	D52 D54	Description: Errors found during IPL were logged by the BUMP
810-239	E	D45 D54	Description: Errors found during IPL were logged by the BUMP
810-240	E	C68 D54	Description: Errors found during IPL were logged by the BUMP
810-261	E	C61 D52	Description: Errors found during IPL were logged by the BUMP
810-262	E	C59 D52	Description: Errors found during IPL were logged by the BUMP

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
810-263	E	C90 D52	Description: Errors found during IPL were logged by the BUMP
810-264	E	165 D52	Description: Errors found during IPL were logged by the BUMP
810-268	E	D54 D52	Description: Errors found during IPL were logged by the BUMP
810-270	E	D52 D52	Description: Errors found during IPL were logged by the BUMP
810-271	E	D45 D52	Description: Errors found during IPL were logged by the BUMP
810-272	E	C68 D52	Description: Errors found during IPL were logged by the BUMP
810-277	E	C61 D45	Description: Errors found during IPL were logged by the BUMP
810-278	E	C59 D45	Description: Errors found during IPL were logged by the BUMP
810-279	E	C90 D45	Description: Errors found during IPL were logged by the BUMP
810-280	E	165 D45	Description: Errors found during IPL were logged by the BUMP
810-284	E	D54 D45	Description: Errors found during IPL were logged by the BUMP
810-286	E	D52 D45	Description: Errors found during IPL were logged by the BUMP
810-287	E	D45 D45	Description: Errors found during IPL were logged by the BUMP
810-288	E	C68 D45	Description: Errors found during IPL were logged by the BUMP
810-293	E	C61 C68	Description: Errors found during IPL were logged by the BUMP
810-294	E	C59 C68	Description: Errors found during IPL were logged by the BUMP
810-295	E	C90 C68	Description: Errors found during IPL were logged by the BUMP
810-296	E	165 C68	Description: Errors found during IPL were logged by the BUMP
810-300	E	D54 C68	Description: Errors found during IPL were logged by the BUMP
810-302	E	D52 C68	Description: Errors found during IPL were logged by the BUMP
810-303	E	D45 C68	Description: Errors found during IPL were logged by the BUMP
810-304	E	C68 C68	Description: Errors found during IPL were logged by the BUMP

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
810-401	D	152 C61 C62 C65	Description: Power problem in the expansion unit. Action: Before changing FRUs check that the covers, fans, and cables are connected/working correctly.
810-501	D	C65	Description: Floating point processor failed.
810-502	D	D54	Description: Floating point processor failed.
810-504	D	D52	Description: Floating point processor failed.
810-505	D	D45	Description: Floating point processor failed.
810-506	D	C68	Description: Floating point processor failed.
810-507	D	E09	Floating point processor failed.
810-511	E	C65 C61	Description: CPU module test failed.
810-512	E	D54 C61	Description: CPU module test failed.
810-514	E	D52 C61	Description: CPU module test failed.
810-515	E	D45 C61	Description: CPU module test failed.
810-516	E	C68 C61	Description: CPU module test failed.
810-517	E	E09 C61	CPU module test failed.
810-521	D	C61 C62 C65	Description: Interprocessor test unit failed.
810-522	D	C61 C63 C65	Description: Interprocessor test unit failed.
810-523	D	C61 C65 C65	Description: Interprocessor test unit failed.
810-524	D	C61 D54 D54	Description: Interprocessor test unit failed.
810-525	D	C61 D54	Description: Interprocessor test unit failed.
810-526	D	C61 D54	Description: Interprocessor test unit failed.
810-528	D	C61 D45 D45	Description: Interprocessor test unit failed.
810-531	D	C61 D52 D52	Description: Interprocessor test unit failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
810-532	D	C61 D52 D54	Description: Interprocessor test unit failed.
810-533	D	C61 D52 D45	Description: Interprocessor test unit failed.
810-534	D	C61 D54 D45	Description: Interprocessor test unit failed.
810-535	D	C61 D45	Description: Interprocessor test unit failed.
810-536	D	C61 C68	Description: Interprocessor test unit failed.
810-537	D	C61 C68 C68	Description: Interprocessor test unit failed.
810-538	D	C61 D54 C68	Description: Interprocessor test unit failed.
810-539	D	C61 D45 C68	Description: Interprocessor test unit failed.
810-541	D	C61 D52 C68	Description: Interprocessor test unit failed.
810-543	D	C61 E09 E09	Interprocessor test unit failed.
810-544	D	C61 E09	Interprocessor test unit failed.
810-545	D	C61 E09 C68	Interprocessor test unit failed.
810-601	G	B36 B36 B36 B36	Description: Multiple memory parity error is diagnosed from error log analysis.
810-647	G	B96 B96	Description: Error Log Analysis indicates a multiple parity error.
810-648	G	D33 D33	Description: Error Log Analysis indicates a multiple parity error.
810-649	G	D33x4	Description: Error Log Analysis indicates a multiple parity error.
810-658	G	D34 D34	Description: Error Log Analysis indicates a multiple parity error.
810-659	G	D34x4	Description: Error Log Analysis indicates a multiple parity error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
810-667	G	B97 B97	Description: Error Log Analysis indicates a multiple parity error.
810-668	G	D35 D35	Description: Error Log Analysis indicates a multiple parity error.
810-669	G	D35x4	Description: Error Log Analysis indicates a multiple parity error.
810-679	G	E05 E05 E05 E05	Description: Multiple memory parity error is diagnosed from error log analysis.
811-101	G	210 131 221	Description: A checkstop has occurred.
811-102	G	D01	Description: Error Log Analysis indicates L2 cache error.
811-110 to 811-115	G	210 221	Description: A checkstop has occurred.
811-200 to 811-210	G	131 815	Description: An external check occurred. Error log analysis indicates a hardware failure.
811-240	G	131 815	Description: An external check occurred. Error log analysis indicates a hardware failure.
811-250	G	software 815 131	Description: An external check occurred. Error log analysis indicates a software failure.
811-300 to 811-320	G	131 815	Description: A machine check occurred. Error log analysis indicates a hardware failure.
811-330	G	software 815 131	Description: A machine check occurred. Error log analysis indicates a software failure.
811-400 to 811-445	G	171 815	Description: An external check occurred. Error log analysis indicates a hardware failure.
811-450	G	software 815 171	Description: An external check occurred. Error log analysis indicates software failure.
811-500 to 811-525	G	171 815	Description: A machine check occurred. Error log analysis indicates a hardware failure.
811-530	G	software 815 171	Description: A machine check occurred. Error log analysis indicates a software failure.
811-600 to 811-615	G	171 815	Description: An external check occurred. Error log analysis indicates a hardware failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
811-620	G	815	Description: An external check occurred. Error log analysis indicates a hardware failure.
811-630	G	software 815	Description: A machine check occurred. Error log analysis indicates a software failure.
811-640 to 811-645	G	171 815	Description: An external check occurred. Error log analysis indicates a hardware failure.
811-650	G	software 815 179	Description: An external check occurred. Error log analysis indicates a software failure.
811-700 to 811-725	G	171 815	Description: A machine check occurred. Error log analysis indicates a hardware failure.
811-730	G	software 815 171	Description: An external check occurred. Error log analysis indicates a software failure.
811-740	G	software 815	Description: A machine check occurred. Error log analysis indicates a software failure.
811-800 to 811-845	G	180 815	Description: An external check occurred. Error log analysis indicates hardware failure.
811-850	G	software 815 180	Description: An external check occurred. Error log analysis indicates a software failure.
811-888	E	812	Description: The standard I/O planar test failed.
811-900 to 811-925	G	180 815	Description: A machine check occurred. Error log analysis indicates a hardware failure.
811-930	G	software 815 180	Description: An external check occurred. Error log analysis indicates a software failure.
811-940	D	152	Description: System shutdown due to: 1) Loss of AC power, 2) Power button was pushed without proper system shutdown, 3) Power supply failure. Action: If reason 1 and reason 2 can be ruled out, then replace the power supply FRU.
811-941	D	152	Description: Over temperature condition was detected. Action: Verify that 1) the room ambient temperature is within the system operating environment, 2) there is unrestricted air flow around the system, and 3) all system covers are closed. If all 3 conditions are true, then replace the power supply FRU.
811-942	D	152	Description: Over temperature condition was detected. Action: Verify that 1) the room ambient temperature is within the system operating environment, 2) there is unrestricted air flow around the system, and 3) all system covers are closed. If all 3 conditions are true, then replace the power supply FRU.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
811-943	D	152	Description: Under voltage condition was detected. Action: Replace the power supply FRU.
811-944	G		Description: Overload Condition Detected Action: <ol style="list-style-type: none"> 1. Check for loose objects in the system unit. 2. Check for loose adapters, cables, and connectors, ets.
811-945	D	152	Description: System shutdown due to: 1) Loss of AC power, 2) Power button was pushed without proper system shutdown, 3) Power supply failure. Action: If reason 1 and reason 2 can be ruled out, then replace the power supply FRU.
811-946	D	152	Description: Over temperature condition was detected. Action: Verify that 1) the room ambient temperature is within the system operating environment, 2) there is unrestricted air flow around the system, and 3) all system covers are closed. If all 3 conditions are true, then replace the power supply FRU.
811-947	D	152	Description: Over temperature condition was detected. Action: Verify that 1) the room ambient temperature is within the system operating environment, 2) there is unrestricted air flow around the system, and 3) all system covers are closed. If all 3 conditions are true, then replace the power supply FRU.
811-948	D	152	Description: Under voltage condition was detected. Action: Replace the power supply FRU.
811-949	G		Description: Overload Condition Detected Action: <ol style="list-style-type: none"> 1. Check for loose objects in the system unit. 2. Check for loose adapters, cables, and connectors, ets.
811-950 thru 811-959	D	166	Description: Fan stop was detected. Action: Verify that 1) there is no obstruction to fan rotation, 2) the power connection to the fan is tight, 3) the fan speed sensing cable is tight. If reasons 1, 2 and 3 can be ruled out replace the fan.
811-960	G	152	Description: System shutdown due to: 1) Loss of AC power, 2) Power button was pushed without proper system shutdown, 3) Power supply failure. Action: If reason 1 and reason 2 can be ruled out, then replace the power supply FRU.
811-961	G	152	Description: Over temperature condition was detected. Action: Verify that 1) the room ambient temperature is within the system operating environment, 2) there is unrestricted air flow around the system, and 3) all system covers are closed. If all 3 conditions are true, then replace the power supply FRU.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
811-962	G	152	Description: Over temperature condition was detected. Action: Verify that 1) the room ambient temperature is within the system operating environment, 2) there is unrestricted air flow around the system, and 3) all system covers are closed. If all 3 conditions are true, then replace the power supply FRU.
811-963	G	152	Description: Under voltage condition was detected. Action: Replace the power supply FRU.
811-964	G		Description: Overload Condition Detected Action: <ol style="list-style-type: none"> 1. Check for loose objects in the system unit. 2. Check for loose adapters, cables, and connectors, ets.
811-965	G	152	Description: System shutdown due to: 1) Loss of AC power, 2) Power button was pushed without proper system shutdown, 3) Power supply failure. Action: If reason 1 and reason 2 can be ruled out, then replace the power supply FRU.
811-966	G	152	Description: Over temperature condition was detected. Action: Verify that 1) the room ambient temperature is within the system operating environment, 2) there is unrestricted air flow around the system, and 3) all system covers are closed. If all 3 conditions are true, then replace the power supply FRU.
811-967	G	152	Description: Over temperature condition was detected. Action: Verify that 1) the room ambient temperature is within the system operating environment, 2) there is unrestricted air flow around the system, and 3) all system covers are closed. If all 3 conditions are true, then replace the power supply FRU.
811-968	G	152	Description: Under voltage condition was detected. Action: Replace the power supply FRU.
811-969	G		Description: Overload Condition Detected Action: <ol style="list-style-type: none"> 1. Check for loose objects in the system unit. 2. Check for loose adapters, cables, and connectors, ets.
811-970 thru 811-979	G	166	Description: Fan stop was detected. Action: Verify that 1) there is no obstruction to fan rotation, 2) the power connection to the fan is tight, 3) the fan speed sensing cable is tight. If reasons 1, 2 and 3 can be ruled out replace the fan.
811-991 to 811-994	G	152	Description: Power Supply problem. Action: Use the service documentation for the power distribution unit.
811-995	G	167	Description: Error log analysis indicates an EPOW occurred due to a hardware problem.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
811-996	G	170	Description: Error log analysis indicates an EPOW occurred due to a hardware problem.
811-997	G	160	Description: Error log analysis indicates an EPOW occurred due to a hardware problem.
811-999	E	227	Description: The I/O planar test failed. Action: Use MAP 0260.
812-157	E	157	Description: The 8,16, 32, or 64M-byte S3 memory card test failed. Action: Use MAP 0240.
812-171	E	171	Description: The 8M-byte or 16M-byte S1 memory card test failed. Action: Use MAP 0240.
812-172	E	172	Description: The 4M-byte S3 memory module test failed. Action: Use MAP 0240.
812-173	E	173	Description: The 1M-byte S1 memory module test failed. Action: Use MAP 0240.
812-174	E	174	Description: The 2M-byte S1 memory module test failed. Action: Use MAP 0240.
812-175	E	175	Description: The 1M-byte S3 memory module test failed. Action: Use MAP 0240.
812-176	E	176	Description: The 4M-byte S1.5 memory module test failed. Action: Use MAP 0240.
812-177	E	177	Description: The 8M-byte S1.5 memory module test failed. Action: Use MAP 0240.
812-178	E	178	Description: The 32M-byte S1.5 or 64M-byte S1.5 memory card test failed. Action: Use MAP 0240.
812-179	E	179	Description: The 2M-byte S3 memory module test failed. Action: Use MAP 0240.
812-180	E	180	Description: The 32M-byte U1 memory card test failed. Action: Use MAP 0240.
812-182	E	182	Description: The 8M-byte S3 memory module test failed. Action: Use MAP 0240.
812-187	E	187	Description: The 4M-byte U1 memory module test failed. Action: Use MAP 0240.
812-190 to 812-195	E	171 173	Description: The 8M-byte S1 memory card test and two or three 1M-byte S1 memory module tests failed. Action: Use MAP 0240.
812-200 to 812-205	E	171 174	Description: The 16M-byte S1 memory card test and two or three 2M-byte S1 memory module tests failed. Action: Use MAP 0240.
812-210 to 812-215	E	180 187	Description: The 32M-byte U1 memory card test and two or three 4M-byte U1 memory module tests failed. Action: Use MAP 0240.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
812-220 to 812-225	E	178 177	Description: The 64M-byte S1.5 memory card test and two or three 8M-byte S1.5 memory module tests failed. Action: Use MAP 0240.
812-230 to 812-235	E	178 176	Description: The 32M-byte S1.5 memory card test and two or three 4M-byte S1.5 memory module tests failed. Action: Use MAP 0240.
812-240 to 812-245	E	157 182	Description: The 64M-byte S3 memory card test and two or three 8M-byte S3 memory module tests failed. Action: Use MAP 0240.
812-250 to 812-255	E	157 172	Description: The 32M-byte S3 memory card test and two or three 4M-byte S3 memory module tests failed. Action: Use MAP 0240.
812-270 to 812-275	E	157 175	Description: The S3 memory card test and two or three 1M-byte S3 memory module tests failed. Action: Use MAP 0240.
812-280 to 812-285	E	157 179	Description: The S3 memory card test and two or three 2M-byte S3 memory module tests failed. Action: Use MAP 0240.
812-300 to 812-400	E	214 171	Description: Two 8M-byte or 16MB S1 memory card tests failed. Action: Use MAP 0240.
812-500	E	214 180	Description: Two 32M-byte U1 memory card tests failed. Action: Use MAP 0240.
812-600	E	214 178	Description: Two 8, 16, 32, or 64M-byte S1.5 memory card tests failed. Action: Use MAP 0240.
812-700	E	214 157	Description: Two 8, 16, 32, or 64M-byte S3 memory card tests failed. Action: Use MAP 0240.
812-900	E	815	Description: POST indicates hardware error.
812-904	E	B38	Description: Memory module failure. Action: Use MAP 0240.
812-908	E	B39	Description: Memory module failure. Action: Use MAP 0240.
812-910	E	C31	Description: Memory test failed. Action: Use MAP 0240.
812-920	E	C32	Description: Memory test failed. Action: Use MAP 0240.
814-099	J	812	Description: The NVRAM test failed.
814-112	D	814	Description: The NVRAM test failed.
814-113	D	227	Description: The VPD test failed.
814-114	D	814	Description: I/O Card NVRAM test failed.
815-100	D	815	Description: The floating-point processor test failed.
815-101	D	815	Description: Floating point processor failed.
815-102	D	815	Description: Floating point processor failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
815-200	D	815	Description: Floating point processor failed.
816-140	D	165 816 227	Description: The three-digit display test failed.
816-141	D	165 816	Description: LCD display test failed.
816-185	D	169 168 227	Description: The keylock test failed.
816-186	D	165 816	Description: Keylock test failed.
817-123	D	817	Description: The I/O planar time-of-day clock test failed.
817-124	D	817	Description: Time of day RAM test failed.
817-210	D	817	Description: The time-of-day clock is at POR.
817-211	D	817 169	Description: Time of day POR test failed.
817-212	D	151 816	Description: The battery is low.
817-213	D	817	Description: The real-time clock is not running.
817-214	D	227	Description: The EPOW connector test failed.
817-215	D	C59	Description: Time of day clock not running test failed.
817-216	D	227	Description: The register test on the second I/O planar failed.
817-217	D	817 169	Description: Time of day clock not running.
817-300	D	164 227	Description: Battery backup failure.
817-301	D	D21 or D16 C88	Description: CPU fan failure.
817-302	D	D18 or D22 or D40 C88	Description: Disk or MCA fan failure.
817-303	D	152 C88	Description: Power supply 1 (primary) fan failure.
817-304	D	152 C88	Description: Power supply 2 (secondary) or shell fan failure.
817-309	D	Cooling Fan Temp high	Description: Cooling Fan Failure Room Temperature is too high
818-101	G	815	Description: Checkstops or machine checks have been posted in the error log.
818-102	G	C62	Description: Checkstop or machine checks.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
818-103	G	C63	Description: Checkstop or machine checks.
818-111	G	171 173 x 8	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-114	G	157 175 x 8	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-121	G	171 174 x 8	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-124	G	157 179 x 8	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-130	G	180 187 x 8	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-132	G	178 176 x 8	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-134	G	157 172 x 8	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-141	G	171	Description: Checkstops or machine checks have been posted in the error log. Action: See MAP 0210.
818-142	G	178 177 x 8	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-144	G	157 182 x 8	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-147	G	B94 B96 x 4	Description: Checkstop or machine checks.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
818-154	G	157 154 x 8	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-167	G	C64 B97 x 4	Description: Checkstop or machine checks.
818-211	G	171 x 2 173 x 16	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-214	G	157 x 2 175 x 16	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-221	G	171 x 2 174 x 16	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-224	G	157 x 2 179 x 16	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-230	G	180 x 2 187 x 16	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-232	G	178 x 2 176 x 16	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-234	G	157 x 2 172 x 16	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-242	G	178 x 2 177 x 16	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-244	G	157 x 2 182 x 16	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
818-254	G	157 x 2 154 x 16	Description: Checkstops or machine checks have been posted in the error log. Note: This SRN requires the replacement of multiple FRUs.
818-312	G	173 171	Description: Memory test failed.
818-314	G	175 157	Description: Memory test failed.
818-315	G	C38 C37	Description: Memory test failed.
818-322	G	174 171	Description: Memory test failed.
818-324	G	179 157	Description: Memory test failed.
818-325	G	C39 C37	Description: Memory test failed.
818-330	G	187 180	Description: Memory test failed.
818-332	G	176 178	Description: Memory test failed.
818-334	G	172 157	Description: Memory test failed.
818-335	G	C40 C37	Description: Memory test failed.
818-342	G	177 178	Description: Memory test failed.
818-344	G	182 157	Description: Memory test failed.
818-345	G	C41 C37	Description: Memory test failed.
818-347	G	B94 B96 x 4	Description: Checkstop or machine checks.
818-354	G	154 157	Description: Memory test failed.
818-355	G	C42 C37	Description: Memory test failed.
818-365	G	C43 C37	Description: Memory test failed.
818-367	G	B64 B97 x 4	Description: Checkstop or machine checks.
818-400	G	180 815	Description: Memory test failed.
818-401	G	171 815	Description: Memory test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
818-402	G	178 815	Description: Memory test failed.
818-404	G	157 815	Description: Memory test failed.
818-405	G	C37 815	Description: Memory test failed.
818-447	G	B94	Description: Checkstop or machine checks.
818-467	G	B64 B97	Description: Checkstop or machine checks.
818-601	G	C61 C59	Description: Checkstop analysis indicates a down level system planar.
818-611	G	C62	Description: Checkstop analysis indicates CPU bus data parity error.
818-612	G	C65	Description: Checkstop analysis indicates CPU bus data parity error.
818-613	G	C63	Description: Checkstop analysis indicates CPU bus data parity error.
818-614	G	D54	Description: Checkstop analysis indicates CPU bus data parity error.
818-615	G	E00	Description: Checkstop analysis indicates CPU bus data parity error.
818-616	G	D52	Description: Checkstop analysis indicates CPU bus data parity error.
818-617	G	D45	Description: Checkstop analysis indicates CPU bus data parity error.
818-618	G	C68	Description: Checkstop analysis indicates CPU bus data parity error.
818-619	G	E09	Description: Checkstop analysis indicates CPU bus data parity error.
818-621	G	C62	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.
818-622	G	C65	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.
818-623	G	C63	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.
818-624	G	D54	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.
818-625	G	E00	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.
818-626	G	D52	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.
818-627	G	D45	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.
818-628	G	C68	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
818-629	G	E09	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.
818-631	G	C61 C62	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.
818-632	G	C61 C65	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.
818-633	G	C61 C63	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.
818-634	G	C61 D54	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.
818-635	G	C61 E00	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.
818-636	G	C61 D52	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.
818-637	G	C61 D45	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.
818-638	G	C61 C68	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.
818-639	G	C61 E09	Description: Checkstop analysis indicates Data Cross bar detected parity error on data bus.
818-641	G	C62 C61	Description: Checkstop analysis indicates CPU sequencer timeout.
818-642	G	C65 C61	Description: Checkstop analysis indicates CPU sequencer timeout.
818-643	G	C63 C61	Description: Checkstop analysis indicates CPU sequencer timeout.
818-644	G	D54 C61	Description: Checkstop analysis indicates CPU sequencer timeout.
818-645	G	E00 C61	Description: Checkstop analysis indicates CPU sequencer timeout.
818-646	G	D52 C61	Description: Checkstop analysis indicates CPU sequencer timeout.
818-647	G	D45 C61	Description: Checkstop analysis indicates CPU sequencer timeout.
818-648	G	C68 C61	Description: Checkstop analysis indicates CPU sequencer timeout.
818-649	G	E09 C61	Description: Checkstop analysis indicates CPU sequencer timeout.
818-651	G	C62 C61	Description: Checkstop analysis indicates CPU bus address parity error.
818-652	G	C65 C61	Description: Checkstop analysis indicates CPU bus address parity error.
818-653	G	C63 C61	Description: Checkstop analysis indicates CPU bus address parity error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
818-654	G	D54 C61	Description: Checkstop analysis indicates CPU bus address parity error.
818-655	G	E00 C61	Description: Checkstop analysis indicates CPU bus address parity error.
818-656	G	D52 C61	Description: Checkstop analysis indicates CPU bus address parity error.
818-657	G	D45 C61	Description: Checkstop analysis indicates CPU bus address parity error.
818-658	G	C68 C61	Description: Checkstop analysis indicates CPU bus address parity error.
818-659	G	E09 C61	Description: Checkstop analysis indicates CPU bus address parity error.
818-661	G	C62 C61	Description: Checkstop analysis indicates an internal cache parity error.
818-662	G	C65 C61	Description: Checkstop analysis indicates an internal cache parity error.
818-663	G	C63 C61	Description: Checkstop analysis indicates an internal cache parity error.
818-664	G	D54 C61	Description: Checkstop analysis indicates an internal cache parity error.
818-665	G	E00 C61	Description: Checkstop analysis indicates an internal cache parity error.
818-666	G	D52 C61	Description: Checkstop analysis indicates an internal cache parity error.
818-667	G	D45 C61	Description: Checkstop analysis indicates an internal cache parity error.
818-668	G	C68 C61	Description: Checkstop analysis indicates an internal cache parity error.
818-669	G	E09 C61	Description: Checkstop analysis indicates an internal cache parity error.
818-671	G	C62 software	Description: Checkstop analysis indicates a CPU problem or programming error.
818-672	G	C65 software	Description: Checkstop analysis indicates a CPU problem or programming error.
818-673	G	C63 software	Description: Checkstop analysis indicates a CPU problem or programming error.
818-674	G	D54 software	Description: Checkstop analysis indicates a CPU problem or programming error.
818-675	G	E00 software	Description: Checkstop analysis indicates a CPU problem or programming error.
818-676	G	D52 software	Description: Checkstop analysis indicates a CPU problem or programming error.
818-677	G	D45 software	Description: Checkstop analysis indicates a CPU problem or programming error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
818-678	G	C68 software	Description: Checkstop analysis indicates a CPU problem or programming error.
818-679	G	E09 software	Description: Checkstop analysis indicates a CPU problem or programming error.
818-681	G	C62 C61	Description: Checkstop analysis indicates a parity error on the directory SRAM.
818-682	G	C65 C61	Description: Checkstop analysis indicates a parity error on the directory SRAM.
818-683	G	C63 C61	Description: Checkstop analysis indicates a parity error on the directory SRAM.
818-684	G	D54 C61	Description: Checkstop analysis indicates a parity error on the directory SRAM.
818-685	G	E00 C61	Description: Checkstop analysis indicates a parity error on the directory SRAM.
818-686	G	D52 C61	Description: Checkstop analysis indicates a parity error on the directory SRAM.
818-687	G	D45 C61	Description: Checkstop analysis indicates a parity error on the directory SRAM.
818-688	G	C68 C61	Description: Checkstop analysis indicates a parity error on the directory SRAM.
818-689	G	E09 C61	Description: Checkstop analysis indicates a parity error on the directory SRAM.
818-691	G	C62 C61	Description: Checkstop analysis indicates CPU bus address parity error.
818-692	G	C65 C61	Description: Checkstop analysis indicates CPU address parity error.
818-693	G	C63 C61	Description: Checkstop analysis indicates CPU bus address parity error.
818-694	G	D54 C61	Description: Checkstop analysis indicates CPU bus address parity error.
818-695	G	E00 C61	Description: Checkstop analysis indicates CPU bus address parity error.
818-696	G	D52 C61	Description: Checkstop analysis indicates CPU bus address parity error.
818-697	G	D45 C61	Description: Checkstop analysis indicates CPU bus address parity error.
818-698	G	C68 C61	Description: Checkstop analysis indicates CPU bus address parity error.
818-699	G	E09 C61	Description: Checkstop analysis indicates CPU bus address parity error.
818-711	G	C62	Description: Checkstop analysis indicates CPU dispatch timeout.
818-712	G	C65	Description: Checkstop analysis indicates CPU dispatch timeout.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
818-713	G	C63	Description: Checkstop analysis indicates CPU dispatch timeout.
818-714	G	D54	Description: Checkstop analysis indicates CPU dispatch timeout.
818-715	G	E00	Description: Checkstop analysis indicates CPU dispatch timeout.
818-716	G	D52	Description: Checkstop analysis indicates CPU dispatch timeout.
818-717	G	D45	Description: Checkstop analysis indicates CPU dispatch timeout.
818-718	G	C68	Description: Checkstop analysis indicates CPU dispatch timeout.
818-719	G	E09	Description: Checkstop analysis indicates CPU dispatch timeout.
818-721	G	C62	Description: Checkstop analysis indicates CPU bus address parity error.
818-722	G	C65	Description: Checkstop analysis indicates CPU bus address parity error.
818-723	G	C63	Description: Checkstop analysis indicates CPU bus address parity error.
818-724	G	D54	Description: Checkstop analysis indicates CPU bus address parity error.
818-725	G	E00	Description: Checkstop analysis indicates CPU bus address parity error.
818-726	G	D52	Description: Checkstop analysis indicates CPU bus address parity error.
818-727	G	D45	Description: Checkstop analysis indicates CPU bus address parity error.
818-728	G	C68	Description: Checkstop analysis indicates CPU bus address parity error.
818-729	G	E09	Description: Checkstop analysis indicates CPU bus address parity error.
818-731	G	C62	Description: Checkstop analysis indicates CPU internal data cache parity error.
818-732	G	C65	Description: Checkstop analysis indicates CPU internal data cache parity error.
818-733	G	C63	Description: Checkstop analysis indicates CPU internal data cache parity error.
818-734	G	D54	Description: Checkstop analysis indicates CPU internal data cache parity error.
818-735	G	E00	Description: Checkstop analysis indicates CPU internal data cache parity error.
818-736	G	D52	Description: Checkstop analysis indicates CPU internal data cache parity error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
818-737	G	D45	Description: Checkstop analysis indicates CPU internal data cache parity error.
818-738	G	C68	Description: Checkstop analysis indicates CPU internal data cache parity error.
818-739	G	E09	Description: Checkstop analysis indicates CPU internal data cache parity error.
818-741	G	C62	Description: Checkstop analysis indicates CPU bus instruction cache parity error.
818-742	G	C65	Description: Checkstop analysis indicates CPU bus instruction cache parity error.
818-743	G	C63	Description: Checkstop analysis indicates CPU bus instruction cache parity error.
818-744	G	D54	Description: Checkstop analysis indicates CPU bus instruction cache parity error.
818-745	G	E00	Description: Checkstop analysis indicates CPU bus instruction cache parity error.
818-746	G	D52	Description: Checkstop analysis indicates CPU bus instruction cache parity error.
818-747	G	D45	Description: Checkstop analysis indicates CPU bus instruction cache parity error.
818-748	G	C68	Description: Checkstop analysis indicates CPU bus instruction cache parity error.
818-749	G	E09	Description: Checkstop analysis indicates CPU bus instruction cache parity error.
818-761	G	C62 B48	Description: Checkstop analysis indicates CPU detected data parity error. Note: There could be upto 4 of the FFC B48.
818-762	G	C65 B48	Description: Checkstop analysis indicates CPU detected data parity error. Note: There could be upto 4 of the FFC B48.
818-763	G	C63 B48	Description: Checkstop analysis indicates CPU detected data parity error. Note: There could be upto 4 of the FFC B48.
818-764	G	D54 B48	Description: Checkstop analysis indicates CPU detected data parity error. Note: There could be upto 4 of the FFC B48.
818-765	G	E00 B48	Description: Checkstop analysis indicates CPU detected data parity error. Note: There could be upto 4 of the FFC B48.
818-766	G	D52 B48	Description: Checkstop analysis indicates CPU detected data parity error. Note: There could be upto 4 of the FFC B48.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
818-767	G	D45 B48	Description: Checkstop analysis indicates CPU detected data parity error. Note: There could be upto 4 of the FFC B48.
818-768	G	C68 B48	Description: Checkstop analysis indicates CPU detected data parity error. Note: There could be upto 4 of the FFC B48.
818-769	G	E09 B48	Description: Checkstop analysis indicates CPU detected data parity error. Note: There could be upto 4 of the FFC B48.
818-770	G	C61 B48	Description: Checkstop analysis indicates a global checkstop was asserted. Note: There could be upto 4 of the FFC B48.
818-801	G	B36x4 B48 C61	Description: Checkstop analysis indicates uncorrectable ECC error.
818-802	G	B36x4 B48 C68	Description: Checkstop analysis indicates uncorrectable ECC error.
818-842	G	B96x4 B94 C68	Description: Checkstop analysis indicates uncorrectable ECC error.
818-843	G	D33x4 D32 C68	Description: Checkstop analysis indicates uncorrectable ECC error.
818-844	G	D33x4 D27 C68	Description: Checkstop analysis indicates uncorrectable ECC error.
818-847	G	B96x4 B94 C61	Description: Checkstop analysis indicates uncorrectable ECC error.
818-848	G	D33x4 D32 C61	Description: Checkstop analysis indicates uncorrectable ECC error.
818-849	G	D33x4 D27 C61	Description: Checkstop analysis indicates uncorrectable ECC error.
818-853	G	D34x4 D32 C68	Description: Checkstop analysis indicates uncorrectable ECC error.
818-854	G	D34x4 D27 C68	Description: Checkstop analysis indicates uncorrectable ECC error.
818-858	G	D34x4 D32 C61	Description: Checkstop analysis indicates uncorrectable ECC error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
818-859	G	D34x4 D27 C61	Description: Checkstop analysis indicates uncorrectable ECC error.
818-862	G	B97x4 C64 C68	Description: Checkstop analysis indicates uncorrectable ECC error.
818-863	G	D35x4 D32 C68	Description: Checkstop analysis indicates uncorrectable ECC error.
818-864	G	D35x4 D27 C68	Description: Checkstop analysis indicates uncorrectable ECC error.
818-867	G	B97x4 C64 C61	Description: Checkstop analysis indicates uncorrectable ECC error.
818-868	G	D35x4 D32 C61	Description: Checkstop analysis indicates uncorrectable ECC error.
818-869	G	D35x4 D27 C61	Description: Checkstop analysis indicates uncorrectable ECC error.
818-874	G	E05x4 D27 C68	Description: Checkstop analysis indicates uncorrectable ECC error.
818-879	G	E05x4 D27 C61	Description: Checkstop analysis indicates uncorrectable ECC error.
818-990	D	B19 210	Description: Defective TCW memory module for option I/O planar.
818-991	D	227 210	Description: Option I/O planar test failed.
818-999	G		Description: Run the 'Display Checkstop Analysis Results' task for detailed information about the latest checkstop. Action: Follow the recommendations from the Display Checkstop Analysis Results task.
819-111	D	819 227	Description: The register test failed.
819-112	D	275	Description: The GIO adapter fuse needs replacement.
819-113	D	819	Description: The VPD verification test failed.
819-114	D	819 227	Description: Software error caused by hardware failure.
819-221 to 819-222	D	819	Description: The wrap test failed.
819-300	G	819	Description: The error log analysis indicates a hardware failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
819-301	G	819 227	Description: The error log analysis indicates a hardware failure.
819-302	G	275	Description: The error log analysis indicates a fuse failure.
819-331 to 819-442	D	819	Description: Graphics Input Device Adapter failed.
819-443	D	819 929 or 930	Description: Graphics Input Device Adapter failed.
819-500	D	819 227	Description: The device failed to configure.
819-501	D	819 227 software	Description: The device driver indicates a hardware failure.
819-551 to 819-552	D	819	Description: Graphics Input Device Adapter failed.
820-101	D	169 C62	Description: Interprocessor test failed.
820-102	D	169 C62 C63	Description: Interprocessor test failed.
820-103 to 820-104	D	169 C63	Description: Interprocessor test failed.
821-098	J	821	Description: Keyboard test failed.
821-099	J	921 821	Description: Keyboard test failed.
821-111	D	821 B31	Description: Unexpected results from the test.
821-220	D	B10 821	Description: Keyboard adapter fuse failed.
821-221	D	821	Description: The keyboard adapter test failed.
821-230	D	821 227	Description: Software error caused by hardware failure.
821-240	G	821	Description: The error log analysis indicates hardware failure.
821-241	G	821 227	Description: The error log analysis indicates hardware failure.
821-242	G	921 821	Description: The error log analysis indicates hardware failure.
821-243	G	922 821	Description: The error log analysis indicates hardware failure.
821-244	G	923 821	Description: The error log analysis indicates hardware failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
821-310 to 821-331	D	821	Description: Standard Keyboard Adapter failed.
821-332	D	821 software	Description: Cannot open device.
821-333 to 821-334	D	821	Description: Keyboard/tablet adapter failed.
821-921	D	921 821	Description: The keyboard adapter control logic failed.
821-922	D	922 821	Description: The keyboard adapter control logic failed.
821-923	D	923 821	Description: The keyboard adapter control logic failed.
823-099	J	823 925	Description: Mouse test failed.
823-111 to 823-112	D	823	Description: Standard Mouse adapter failed.
823-113	D	B10 823	Description: The mouse adapter fuse failed.
823-121 to 823-122	D	823	Description: Built-In mouse adapter problems.
823-130	D	823 227	Description: Software error caused by hardware failure.
823-131	D	823 925	Description: Unable to put mouse adapter into nonblock mode.
823-132 to 823-133	D	823	Description: Built-In mouse adapter problem.
823-134	D	823 software	Description: Cannot open device.
823-140	G	823	Description: The error log analysis indicates hardware failure.
823-141	D	823 925	Description: Unable to place mouse adapter in block mode.
823-142	D	823	Description: Unable to place mouse adapter in block mode.
823-220	D	B10 823	Description: The mouse adapter fuse failed.
824-099	J	824	Description: Tablet test failed.
824-220	D	B10 824	Description: The tablet adapter fuse failed.
824-331	D	824 227	Description: An unexpected error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
824-332	D	824 227	Description: The enable/disable device test failed. Note: Ensure that the wrap plug was not attached when the test was run. If the wrap plug was attached, remove it, and rerun the test.
824-333	D	824	Description: The internal wrap test failed.
824-334	D	B10 824	Description: The tablet adapter fuse failed.
824-441	D	824	Description: An unexpected error occurred.
824-442	D	824	Description: The wrap test failed.
824-450	D	824 227	Description: Software error caused by hardware failure.
824-461	G	824 227	Description: The error log analysis indicates a hardware failure.
824-511	D	824	Description: An unexpected error occurred.
824-512	D	824	Description: Tablet adapter reset test failed.
824-522	D	B10 824	Description: Adapter fuse failure.
824-523	D	824	Description: Device cannot be configured.
824-524	D	824 software	Description: Cannot open device.
826-099	J	826	Description: The serial port 1 test failed.
826-111	D	826 227	Description: Cannot run the test because the device driver detected a hardware error.
826-112	D	826 227	Description: Unable to determine the type of adapter from the VPD.
826-113	D	826	Description: The VPD verification test failed.
826-114	D	826	Description: The register verification test failed.
826-121	D	826 227	Description: Cannot run the test because the device driver detected a hardware error.
826-122	D	826 227	Description: The data-wrap communications test failed.
826-123	D	826 227	Description: The modem control line test failed.
826-131	D	826 227	Description: Cannot run the test because the device driver detected a hardware error.
826-132	D	826 227	Description: The data wrap communications test failed.
826-133	D	826 227	Description: The modem control line test failed.
826-161	D	252	Description: Cannot run the test because the device driver detected a hardware error.
826-162	D	252	Description: The data wrap communications test failed.
826-163	D	252	Description: The modem control line test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
826-171	D	259	Description: Cannot run the test because the device driver detected a hardware error.
826-172	D	259	Description: The data wrap communications test failed.
826-173	D	259	Description: The modem control line test failed.
826-181	D	261	Description: Cannot run the test because the device driver detected a hardware error.
826-182	D	261	Description: The data wrap communications test failed.
826-183	D	261	Description: The modem control line test failed.
826-271	D	826 259	Description: Cannot run the test because the device driver detected a hardware error.
826-272	D	826 259	Description: The data wrap communications test failed.
826-273	D	826 259	Description: The modem control line test failed.
826-281	D	826 259	Description: Cannot run the test because the device driver detected a hardware error.
826-282	D	826 259	Description: The data wrap communications test failed.
826-283	D	826 259	Description: The modem control line test failed.
826-321	D	826	Description: Cannot run the test because the device driver detected a hardware error.
826-322	D	826	Description: The data wrap communications test failed.
826-323	D	826	Description: The modem control line test failed.
826-331	D	826	Description: Cannot run the test because the device driver detected a hardware error.
826-332	D	826	Description: The data wrap communications test failed.
826-333	D	826	Description: The modem control line test failed.
826-371	D	826	Description: Cannot run the test because the device driver detected a hardware error.
826-372	D	826	Description: The data wrap communications test failed.
826-373	D	826	Description: The modem control line test failed.
826-381	D	826	Description: Could not do the test because the device driver detected a hardware error.
826-382	D	826	Description: The data wrap communication test failed.
826-383	D	826	Description: The modem control line test failed.
826-481	D	D56	Description: Could not do the test because the device driver detected a hardware error.
826-482	D	D56	Description: The data wrap communication test failed.
826-483	D	D56	Description: The modem control line test failed.
826-581	D	826 D56	Description: Could not do the test because the device driver detected a hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
826-582	D	826 D56	Description: The data wrap communication test failed.
826-583	D	826 D56	Description: The modem control line test failed.
826-901 to 826-920	D	software 826	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 826; otherwise, suspect a software problem.
826-921	D	826 software	Description: The adapter failed to configure
826-922 to 826-924	D	software 826	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 826; otherwise, suspect a software problem.
826-925	D	826 software	Description: The adapter failed to configure
826-926 to 826-943	D	software 826	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 826; otherwise, suspect a software problem.
827-112	D	827 227	Description: The parallel port data register write/read test failed.
827-121	D	827	Description: Cannot run the test because the device driver detected a hardware error.
827-122	D	827	Description: The parallel port data register write/read test failed.
827-123	D	827	Description: The parallel port control register write/read test failed.
827-124	D	827	Description: The parallel port data register read test failed.
827-125	D	827	Description: The parallel port control register read test failed.
827-126	D	827	Description: The parallel port control register read test failed.
827-131	D	827	Description: Cannot run the test because the device driver detected a hardware error.
827-132	D	827	Description: The control port register direction bit (write) test with BIDI enabled failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
827-133	D	827	Description: The control port register direction bit (read) test with BIDI enabled failed.
827-141	D	827	Description: Cannot run the test because the device driver detected a hardware error.
827-142	D	827	Description: The parallel port control register write/read test with BIDI enabled failed.
827-151	D	827 227	Description: Cannot run the test because the device driver detected a hardware error.
827-152	D	827	Description: The parallel port status register read test failed.
827-161	D	827	Description: Cannot run the test because the device driver detected a hardware error.
827-162	D	827 227	Description: The parallel port interrupt test failed.
827-163	D	827 227	Description: The parallel port interrupt test failed.
828-097	J	935 828	Description: Diskette drive not found.
828-098	J	935 828	Description: Diskette test failed.
828-099	J	828 935	Description: Diskette test failed.
828-501	D	828	Description: The diskette adapter test failed.
831-099	J	831	Description: Serial port 2 test failed.
831-111	D	831 227	Description: Cannot run the test because the device driver detected a hardware error.
831-112	D	831 227	Description: Unable to determine the type of adapter from the VPD.
831-113	D	831	Description: The VPD verification test failed.
831-114	D	831	Description: The register verification test failed.
831-121	D	831 227	Description: Cannot run the test because the device driver detected a hardware error.
831-122	D	831 227	Description: The data wrap communications test failed.
831-123	D	831 227	Description: The modem control line test failed.
831-131	D	831 227	Description: Cannot run the test because the device driver detected a hardware error.
831-132	D	831 227	Description: The data wrap communications test failed.
831-133	D	831 227	Description: The modem control line test failed.
831-161	D	252	Description: Cannot run the test because the device driver detected a hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
831-162	D	252	Description: The data wrap communications test failed.
831-163	D	252	Description: The modem control line test failed.
831-164	D	227 252	Description: Cannot run the test because the device driver detected a hardware error.
831-165	D	227 252	Description: The data wrap communications test failed.
831-166	D	227 252	Description: The modem control line test failed.
831-171	D	259	Description: Cannot run the test because the device driver detected a hardware error.
831-172	D	259	Description: The data wrap communications test failed.
831-173	D	259	Description: The modem control line test failed.
831-181	D	261	Description: Cannot run the test because the device driver detected a hardware error.
831-182	D	261	Description: The data wrap communications test failed.
831-183	D	261	Description: The modem control line test failed.
831-271	D	831 259	Description: Cannot run the test because the device driver detected a hardware error.
831-272	D	831 259	Description: The data wrap communication test failed.
831-273	D	831 259	Description: The modem control line test failed.
831-281	D	831 259	Description: Cannot run the test because the device driver detected a hardware error.
831-282	D	831 259	Description: The data wrap communications test failed.
831-283	D	831 259	Description: The modem control line test failed.
831-321	D	831	Description: Cannot run the test because the device driver detected a hardware error.
831-322	D	831	Description: The data wrap communications test failed.
831-323	D	831	Description: The modem control line test failed.
831-331	D	831	Description: Cannot run the test because the device driver detected a hardware error.
831-332	D	831	Description: The data wrap communications test failed.
831-333	D	831	Description: The modem control line test failed.
831-371	D	831	Description: Cannot run the test because the device driver detected a hardware error.
831-372	D	831	Description: The data wrap communications test failed.
831-373	D	831	Description: The modem control line test failed.
831-381	D	831	Description: Cannot run the test because the device driver detected a hardware error.
831-382	D	831	Description: The data wrap communications test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
831-383	D	831	Description: The modem control line test failed.
831-481	D	D56	Description: Could not do the test because the device driver detected a hardware error.
831-482	D	D56	Description: The data wrap communication test failed.
831-483	D	D56	Description: The modem control line test failed.
831-581	D	831 D56	Description: Could not do the test because the device driver detected a hardware error.
831-582	D	831 D56	Description: The data wrap communication test failed.
831-583	D	831 D56	Description: The modem control line test failed.
831-901 to 831-920	D	software 831	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 831; otherwise, suspect a software problem.
831-921	D	831 software	Description: The adapter failed to configure
831-922 to 831-924	D	software 831	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 831; otherwise, suspect a software problem.
831-925	D	831 software	Description: The adapter failed to configure
831-926 to 831-943	D	software 831	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 831; otherwise, suspect a software problem.
834-111	D	834 227	Description: Cannot run the test because the device driver detected a hardware error.
834-112	D	834 227	Description: Unable to determine the type of adapter from the VPD.
834-113	D	834	Description: The VPD verification test failed.
834-115	D	835	Description: The VPD verification test failed.
834-121	D	834	Description: Cannot run the test because the device driver detected a hardware error.
834-124	D	834	Description: The memory test failed.
834-131	D	834	Description: Cannot run the test because the device driver detected a hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
834-132	D	834	Description: The data wrap communications test failed.
834-134	D	834	Description: The sync wrap communications test failed.
834-141	D	265	Description: Cannot run the test because the device driver detected a hardware error.
834-142	D	265	Description: The 64-port controller cable data wrap communication test failed.
834-144	D	265	Description: The sync wrap communications test failed.
834-151	D	835 834	Description: Cannot run the test because the device driver detected a hardware error.
834-152	D	835 834	Description: The data wrap communications test failed.
834-153	D	835 834	Description: The modem control line test failed.
834-161	D	266	Description: Cannot run the test because the device driver detected a hardware error.
834-162	D	266	Description: The data wrap communications test failed.
834-163	D	266	Description: The modem control line test failed.
834-171	D	259	Description: Cannot run the test because the device driver detected a hardware error.
834-172	D	259	Description: The data wrap communications test failed.
834-173	D	259	Description: The modem control line test failed.
834-181	D	261	Description: Cannot run the test because the device driver detected a hardware error.
834-182	D	261	Description: The data wrap communications test failed.
834-183	D	261	Description: The modem control line test failed.
834-231	D	834	Description: Cannot run the test because the device driver detected a hardware error.
834-234	D	834	Description: The sync wrap communications test failed.
834-241	D	834 265	Description: Cannot run the test because the device driver detected a hardware error.
834-244	D	834 265	Description: The sync wrap communications test failed.
834-251	D	834 835	Description: Cannot run the test because the device driver detected a hardware error.
834-252	D	834 835	Description: The data wrap communications test failed.
834-253	D	834 835	Description: The modem control line test failed.
834-271	D	834 835	Description: Cannot run the test because the device driver detected a hardware error.
834-272	D	834 835	Description: The data wrap communications test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
834-273	D	834 835	Description: The modem control line test failed.
834-281	D	834 835	Description: Cannot run the test because the device driver detected a hardware error.
834-282	D	834 835	Description: The data wrap communications test failed.
834-283	D	834 835	Description: The modem control line test failed.
834-481	D	D56	Description: Could not do the test because the device driver detected a hardware error.
834-482	D	D56	Description: The data wrap communication test failed.
834-483	D	D56	Description: The modem control line test failed.
834-901 to 834-920	D	software 834	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 834; otherwise, suspect a software problem.
834-921	D	834 software	Description: The adapter failed to configure
834-922 to 834-924	D	software 834	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 834; otherwise, suspect a software problem.
834-925	D	834 software	Description: The adapter failed to configure
834-926 to 834-943	D	software 834	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 834; otherwise, suspect a software problem.
834-990	D	834	Description: The AIX system IPL procedure has determined that 64-port controller adapters having a certain EC level may cause undetected data loss due to bus address conflict with another adapter on the I/O bus. When this conflict is detected, the 64-port controller adapter will <i>not</i> be configured during system IPL. The affected 64-port controller adapter FRU numbers are: 00G1168, 31F4078, 59F2968, and 53F3372. Note: For more detailed information on this SRN, refer to "Service Hints" in Chapter 1.
836-101	D	836	Description: Cannot run the test because the device driver detected a hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
836-111	D	836 227	Description: Cannot run test because the device driver detected a hardware error.
836-112	D	836 227	Description: Unable to determine the type of adapter from the VPD.
836-113	D	836	Description: The VPD verification test failed.
836-114	D	836	Description: The register verification test failed.
836-115	D	836	Description: The VPD verification test failed.
836-116	D	B54 836	Description: The 128-port controller line test failed.
836-117	D	684	Description: Remote Async Node test failed.
836-118	D	837	Description: Remote async node test failed.
836-119	D	836	Description: Sync line termination test failed.
836-151	D	837	Description: Cannot run the test because the device driver detected a hardware error.
836-152	D	837	Description: The data wrap communications test failed.
836-153	D	837	Description: The modem control line test failed.
836-154	D	684 836	Description: Cannot run the test because the device driver detected a hardware error.
836-155	D	684 836 152	Description: The data wrap communications test failed.
836-161	D	C22	Description: Cannot run the test because the device driver detected a hardware error.
836-162	D	C22	Description: The data wrap communications test failed.
836-163	D	C22	Description: The modem control line test failed.
836-164	D	D06	Description: The data wrap communication test failed.
836-171	D	259	Description: Cannot run the test because the device driver detected a hardware error.
836-172	D	259	Description: The data wrap communications test failed.
836-173	D	259	Description: The modem control line test failed.
836-174	D	263	Description: Cannot run the test because the device driver detected a hardware error.
836-175	D	263	Description: The data wrap communications test failed.
836-181	D	261	Description: Cannot run the test because the device driver detected a hardware error.
836-182	D	261	Description: The data wrap communications test failed.
836-183	D	261	Description: The modem control line test failed.
836-251	D	836 837	Description: Cannot run the test because the device driver detected a hardware error.
836-252	D	836 837	Description: The data wrap communications test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
836-253	D	836 837	Description: The modem control line test failed.
836-254	D	836 684	Description: Cannot run the test because the device driver detected a hardware error while running the Remote Async Node wrap test.
836-255	D	836 684	Description: The data wrap communications test failed while running the Remote Async Node wrap test.
836-271	D	836 837	Description: Cannot run the test because the device driver detected a hardware error.
836-272	D	836 837	Description: The data wrap communications test failed.
836-273	D	836 837	Description: The modem control line test failed.
836-274	D	836 684	Description: Cannot run the test because the device driver detected a hardware error while running the Printer/Terminal cable wrap test.
836-275	D	836 684	Description: The data wrap communications test failed while running the Printer/Terminal cable wrap test.
836-281	D	836 837	Description: Cannot run the test because the device driver detected a hardware error.
836-282	D	836 837	Description: The data wrap communication test failed.
836-283	D	836 837	Description: The modem control line test failed.
836-481	D	D56	Description: Could not do the test because the device driver detected a hardware error.
836-482	D	D56	Description: The data wrap communication test failed.
836-483	D	D56	Description: The modem control line test failed.
836-901 to 836-920	D	software 836	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 836; otherwise, suspect a software problem.
836-921	D	836 software	Description: The adapter failed to configure
836-922 to 836-924	D	software 836	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 836; otherwise, suspect a software problem.
836-925	D	836 software	Description: The adapter failed to configure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
836-926 to 836-943	D	software 836	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 836; otherwise, suspect a software problem.
838-100	D	838 227	Description: Adapter diagnostic failure.
841-111	D	841 227	Description: Cannot run the test because the device driver detected a hardware error.
841-112	D	841 227	Description: Unable to determine the type of adapter from the VPD.
841-113	D	841	Description: The VPD verification test failed.
841-114	D	841	Description: The register verification test failed.
841-121	D	841 227	Description: Cannot run the test because the device driver detected a hardware error.
841-122	D	841 227	Description: The data wrap communications test failed.
841-123	D	841 227	Description: The modem control line test failed.
841-131	D	841	Description: Cannot run the test because the device driver detected a hardware error.
841-132	D	841	Description: The data wrap communications test failed.
841-133	D	841	Description: The modem control line test failed.
841-141	D	269	Description: Cannot run the test because the device driver detected a hardware error.
841-142	D	269	Description: Data wrap communications test failed.
841-143	D	269	Description: The modem control line test failed.
841-151	D	262 841	Description: Cannot run the test because the device driver detected a hardware error.
841-152	D	262 841	Description: Data wrap communications test failed.
841-153	D	262 841	Description: The modem control line test failed (does not apply to 8-port EIA 422 adapter).
841-171	D	259	Description: Cannot run the test because the device driver detected a hardware error.
841-172	D	259	Description: Data wrap communications test failed.
841-173	D	259	Description: The modem control line test failed.
841-181	D	261	Description: Cannot run the test because the device driver detected a hardware error.
841-182	D	261	Description: Data wrap communications test failed.
841-183	D	261	Description: The modem control line test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
841-241	D	841 269	Description: Cannot run the test because the device driver detected a hardware error.
841-242	D	841 269	Description: Data wrap communications test failed.
841-243	D	841 269	Description: The modem control line test failed.
841-251	D	841 262	Description: Cannot run the test because the device driver detected a hardware error.
841-252	D	841 262	Description: Data wrap communications test failed.
841-253	D	841 262	Description: The modem control line test failed (does not apply to 8-port EIA 422 adapter).
841-271	D	841 262	Description: Cannot run the test because the device driver detected a hardware error.
841-272	D	841 262	Description: Data wrap communications test failed.
841-273	D	841 262	Description: The modem control line test failed.
841-281	D	841 262	Description: Cannot run the test because the device driver detected a hardware error.
841-282	D	841 262	Description: Data wrap communications test failed.
841-283	D	841 262	Description: The modem control line test failed.
841-481	D	D56	Description: Could not do the test because the device driver detected a hardware error.
841-482	D	D56	Description: The data wrap communication test failed.
841-483	D	D56	Description: The modem control line test failed.
841-901 to 841-920	D	software 841	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 841; otherwise, suspect a software problem.
841-921	D	841 software	Description: The adapter failed to configure
841-922 to 841-924	D	software 841	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 841; otherwise, suspect a software problem.
841-925	D	841 software	Description: The adapter failed to configure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
841-926 to 841-943	D	software 841	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 841; otherwise, suspect a software problem.
842-111	D	842 227	Description: Cannot run the test because the device driver detected a hardware error.
842-112	D	842 227	Description: Unable to determine the type of adapter from the VPD.
842-113	D	842	Description: The VPD verification test failed.
842-114	D	842	Description: The register verification test failed.
842-121	D	842 227	Description: Cannot run the test because the device driver detected a hardware error.
842-122	D	842 227	Description: Data wrap communications test failed.
842-123	D	842 227	Description: The modem control line test failed.
842-131	D	842	Description: Cannot run the test because the device driver detected a hardware error.
842-132	D	842	Description: Data wrap communications test failed.
842-141	D	269	Description: Cannot run the test because the device driver detected a hardware error.
842-142	D	269	Description: Data wrap communications test failed.
842-151	D	262 842	Description: Cannot run the test because the device driver detected a hardware error.
842-152	D	262 842	Description: Data wrap communications test failed.
842-171	D	263	Description: Cannot run the test because the device driver detected a hardware error.
842-172	D	263	Description: The data wrap communications test failed.
842-241	D	842 269	Description: Cannot run the test because the device driver detected a hardware error.
842-242	D	842 269	Description: Data wrap communications test failed.
842-251	D	842 262	Description: Cannot run the test because the device driver detected a hardware error.
842-252	D	842 262	Description: Data wrap communications test failed.
842-271	D	842 262	Description: Cannot run the test because the device driver detected a hardware error.
842-272	D	842 262	Description: Data wrap communications test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
842-901 to 842-920	D	software 842	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 842; otherwise, suspect a software problem.
842-921	D	842 software	Description: The adapter failed to configure
842-922 to 842-924	D	software 842	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 842; otherwise, suspect a software problem.
842-925	D	842 software	Description: The adapter failed to configure
842-926 to 842-943	D	software 842	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 842; otherwise, suspect a software problem.
843-111	D	843 227	Description: Cannot run the test because the device driver detected a hardware error.
843-112	D	843 227	Description: Unable to determine the type of adapter from the VPD.
843-113	D	843	Description: The VPD verification test failed.
843-114	D	843	Description: The register verification test failed.
843-121	D	843 227	Description: Cannot run the test because the device driver detected a hardware error.
843-122	D	843 227	Description: Data wrap communications test failed.
843-123	D	843 227	Description: The modem control line test failed.
843-131	D	843	Description: Cannot run the test because the device driver detected a hardware error.
843-132	D	843	Description: Data wrap communications test failed.
843-133	D	843	Description: The modem control line test failed.
843-141	D	269	Description: Cannot run the test because the device driver detected a hardware error.
843-142	D	269	Description: Data wrap communications test failed.
843-143	D	269	Description: The modem control line test failed.
843-151	D	262 843	Description: Cannot run the test because the device driver detected a hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
843-152	D	843 262	Description: Data wrap communications test failed.
843-153	D	843 262	Description: The modem control line test failed (does not apply to 8-port EIA 422 adapter).
843-171	D	259	Description: Cannot run the test because the device driver detected a hardware error.
843-172	D	259	Description: Data wrap communications test failed.
843-173	D	259	Description: The modem control line test failed.
843-181	D	261	Description: Cannot run the test because the device driver detected a hardware error.
843-182	D	261	Description: Data wrap communications test failed.
843-183	D	261	Description: The modem control line test failed.
843-241	D	843 269	Description: Cannot run the test because the device driver detected a hardware error.
843-242	D	843 269	Description: Data wrap communications test failed.
843-243	D	843 269	Description: The modem control line test failed.
843-251	D	843 262	Description: Cannot run the test because the device driver detected a hardware error.
843-252	D	843 262	Description: Data wrap communications test failed.
843-253	D	843 262	Description: The modem control line test failed (does not apply to 8-port EIA 422 adapter).
843-271	D	843 262	Description: Cannot run the test because the device driver detected a hardware error.
843-272	D	843 262	Description: Data wrap communications test failed.
843-273	D	843 262	Description: The modem control line test failed.
843-281	D	843 262	Description: Cannot run the test because the device driver detected a hardware error.
843-282	D	843 262	Description: Data wrap communications test failed.
843-283	D	843 262	Description: The modem control line test failed.
843-481	D	D56	Description: Could not do the test because the device driver detected a hardware error.
843-482	D	D56	Description: The data wrap communication test failed.
843-483	D	D56	Description: The modem control line test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
843-901 to 843-920	D	software 843	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 843; otherwise, suspect a software problem.
843-921	D	843 software	Description: The adapter failed to configure
843-922 to 843-924	D	software 843	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 843; otherwise, suspect a software problem.
843-925	D	843 software	Description: The adapter failed to configure
843-926 to 843-943	D	software 843	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 843; otherwise, suspect a software problem.
844-xxx series	D	844	Description: A 7135 controller problem is indicated. Action: Use 7135 documentation.
845-xxx series	D	845	Description: A 7135 DASD drawer problem is indicated. Action: Use 7135 documentation.
846-xxx series	D	846	Description: A 7135 DASD drawer problem is indicated. Action: Use 7135 documentation.
847-111	D	847 227	Description: Cannot run the test because the device driver detected a hardware error.
847-112	D	847 227	Description: Unable to determine the type of adapter from the VPD.
847-113	D	847	Description: The VPD verification test failed.
847-114	D	847	Description: The register verification test failed.
847-121	D	847 227	Description: Cannot run the test because the device driver detected a hardware error.
847-122	D	847 227	Description: Data wrap communications test failed.
847-123	D	847 227	Description: The modem control line test failed.
847-131	D	847	Description: Cannot run the test because the device driver detected a hardware error.
847-132	D	847	Description: Data wrap communications test failed.
847-133	D	847	Description: The modem control line test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
847-141	D	269	Description: Cannot run the test because the device driver detected a hardware error.
847-142	D	269	Description: Data wrap communications test failed.
847-143	D	269	Description: The modem control line test failed.
847-151	D	291 847	Description: Cannot run the test because the device driver detected a hardware error.
847-152	D	291 847	Description: Data wrap communications test failed.
847-153	D	291 847	Description: The modem control line test failed.
847-171	D	263	Description: Cannot run the test because the device driver detected a hardware error.
847-172	D	263	Description: Data wrap communications test failed.
847-173	D	263	Description: The modem control line test failed.
847-181	D	261	Description: Cannot run the test because the device driver detected a hardware error.
847-182	D	261	Description: Data wrap communications test failed.
847-183	D	261	Description: The modem control line test failed.
847-241	D	847 269	Description: Cannot run the test because the device driver detected a hardware error.
847-242	D	847 269	Description: Data wrap communications test failed.
847-243	D	847 269	Description: The modem control line test failed.
847-251	D	847 291	Description: Cannot run the test because the device driver detected a hardware error.
847-252	D	847 291	Description: Data wrap communications test failed.
847-253	D	847 291	Description: The modem control line test failed.
847-271	D	847 291	Description: Cannot run the test because the device driver detected a hardware error.
847-272	D	847 291	Description: Data wrap communications test failed.
847-273	D	847 291	Description: The modem control line test failed.
847-281	D	847 291	Description: Cannot run the test because the device driver detected a hardware error.
847-282	D	847 291	Description: Data wrap communications test failed.
847-283	D	847 291	Description: The modem control line test failed.
847-481	D	D56	Description: Could not do the test because the device driver detected a hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
847-482	D	D56	Description: The data wrap communication test failed.
847-483	D	D56	Description: The modem control line test failed.
847-901 to 847-920	D	software 847	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 847; otherwise, suspect a software problem.
847-921	D	847 software	Description: The adapter failed to configure
847-922 to 847-924	D	software 847	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 847; otherwise, suspect a software problem.
847-925	D	847 software	Description: The adapter failed to configure
847-926 to 847-943	D	software 847	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 847; otherwise, suspect a software problem.
848-111	D	848 227	Description: Cannot run the test because the device driver detected a hardware error.
848-112	D	848 227	Description: Unable to determine the type of adapter from the VPD.
848-113	D	848	Description: The VPD verification test failed.
848-114	D	848	Description: The register verification test failed.
848-121	D	848 227	Description: Cannot run the test because the device driver detected a hardware error.
848-122	D	848 227	Description: Data wrap communications test failed.
848-123	D	848 227	Description: The modem control line test failed.
848-131	D	848	Description: Cannot run the test because the device driver detected a hardware error.
848-132	D	848	Description: Data wrap communications test failed.
848-141	D	269	Description: Cannot run the test because the device driver detected a hardware error.
848-142	D	269	Description: Data wrap communications test failed.
848-151	D	290 848	Description: Cannot run the test because the device driver detected a hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
848-152	D	290 848	Description: Data wrap communications test failed.
848-171	D	263	Description: Cannot run the test because the device driver detected a hardware error.
848-172	D	263	Description: Data wrap communications test failed.
848-241	D	848 269	Description: Cannot run the test because the device driver detected a hardware error.
848-242	D	848 269	Description: Data wrap communications test failed.
848-251	D	848 290	Description: Cannot run the test because the device driver detected a hardware error.
848-252	D	848 290	Description: Data wrap communications test failed.
848-271	D	848 290	Description: Cannot run the test because the device driver detected a hardware error.
848-272	D	848 290	Description: Data wrap communications test failed.
848-901 to 848-920	D	software 848	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 848; otherwise, suspect a software problem.
848-921	D	848 software	Description: The adapter failed to configure
848-922 to 848-924	D	software 848	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 848; otherwise, suspect a software problem.
848-925	D	848 software	Description: The adapter failed to configure
848-926 to 848-943	D	software 848	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 848; otherwise, suspect a software problem.
849-101	D	849 227	Description: Adapter logic test failure.
849-102	D	849	Description: Adapter logic test failure.
849-109	D	849	Description: Adapter channel Input/Output test failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
849-113	D	849	Description: Adapter Serial Communication Controller (SCCI) test failure.
849-114	D	849 227	Description: Adapter logic test failure.
849-120	D	849 227 software	Description: Adapter was not detected or could not be configured.
849-121	D	849 227 software	Description: Unable to configure the ARTIC diagnostics device driver.
849-140	D	271 849	Description: An error was found with the X.21 interface adapter cable.
849-150	D	272 849	Description: An error was found with the X.24 interface adapter cable.
849-160	D	273 849	Description: An error was found with the X.35 interface adapter cable.
849-170	D	849	Description: The adapter hardware failed.
849-180	D	849	Description: The adapter hardware failed.
849-190	D	849	Description: The adapter hardware failed.
849-210	D	849 185	Description: An error was found on the adapter.
849-211	D	849 227	Description: The adapter card POST test failed.
849-230	D	849	Description: The adapter card hardware failed.
849-232	D	849 227	Description: The adapter card hardware failed.
849-233	D	C17 B60 or B61 227	Description: No interface card detected.
849-240	D	849	Description: The adapter card hardware failed.
849-250	D	185 849	Description: An error was found on the adapter.
849-260	D	849	Description: The adapter card hardware failed.
849-270	D	849	Description: The adapter card hardware failed.
849-280	D	849	Description: The adapter card hardware failed.
849-290	D	849	Description: The adapter card hardware failed.
849-300	G	849	Description: An adapter error was found during error log analysis.
849-310	G	849 185	Description: An adapter error was found during error log analysis.
849-320	G	849 227	Description: An adapter error was found during error log analysis.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
849-330	G	849 227	Description: Error log analysis indicates a hardware problem.
849-400	D	849 227	Description: A software error was caused by a hardware failure.
849-501	D	B67 or B68 B60 or B61	Description: Low address memory module failed. Note: You must determine which FRU among the listed FRU pairs is applicable. The low address memory module is the memory module closest to the bottom edge of the card. B67 applies to the 512K-byte card, and B68 applies to the 1M-byte card.
849-502	D	B67 or B68 B60 or B61	Description: High address memory module failed. Note: You must determine which FRU among the listed FRU pairs is applicable. The high address memory module is the memory module closest to the top edge of the card. B67 applies to the 512K-byte card, and B68 applies to the 1M-byte card.
849-503	D	B60 or B61 227	Description: Adapter hardware failed. Note: You must determine whether B60 or B61 is applicable.
849-504	D	B60 or B61	Description: Adapter hardware failed. Note: You must determine whether B60 or B61 is applicable.
849-511	D	B62 B60 or B61	Description: Adapter hardware failed. Note: You must determine whether B60 or B61 is applicable.
849-512	D	B63 B60 or B61	Description: Adapter hardware failed. Note: You must determine whether B60 or B61 is applicable.
849-513	D	B64 B60 or B61	Description: Adapter hardware failed. Note: You must determine whether B60 or B61 is applicable.
849-514	D	B65 B60 or B61	Description: Adapter hardware failed. Note: You must determine whether B60 or B61 is applicable.
849-515	D	B66 B60 or B61	Description: Adapter hardware failed. Note: You must determine whether B60 or B61 is applicable.
849-516	D	B79	Description: Multiport/2 interface cable failed.
849-517	D	B80	Description: Synchronous interface cable failed.
849-551	D	B67 or B68 B60 or B61	Description: Low address memory memory module failed. Note: You must determine which FRU of the listed FRU pair is applicable. The low address memory module is the memory module closest to the bottom edge of the card. B67 applies to the 512K-byte card, and B68 applies to the 1M-byte card.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
849-552	D	B67 or B68 B60 or B61	Description: High address memory module failed. Note: You must determine which FRU of the listed FRU pair is applicable. The high address memory module is the memory module closest to the top edge of the card. B67 applies to the 512 K-byte card, and B68 applies to the 1M-byte card.
849-700	D	849 227 software	Description: The adapter failed to configure.
849-710	D	B69 227 software	Description: The device driver open failed.
849-720	D	D10 849	Description: Cable wrap test failed.
849-721	D	D10 849	Description: Port wrap test failed.
849-722	D	D10 849	Description: Cable wrap test failed.
850-098	J	850 256 B41 227	Description: The open test failed.
850-099	J	850 256 240 B41 227	Description: The open test failed.
850-710	D	850	Description: The adapter open test failed at ring speed 4M bytes.
850-711	D	850 227	Description: The adapter open test failed at ring speed 4M bytes.
850-712	D	850	Description: The adapter open test failed at ring speed 4M bytes.
850-713	D	850	Description: The adapter open test failed at ring speed 4M bytes.
850-714	F	240 850 256	Description: The adapter open test failed at ring speed 4M bytes.
850-715	D	850 256	Description: The adapter open test failed at ring speed 4M bytes.
850-716	F	240 850	Description: The adapter open test failed at ring speed 4M bytes.
850-717	D	850	Description: The adapter open test failed at ring speed 4M bytes.
850-720	D	850	Description: The wrap data test failed at ring speed 4M bytes.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
850-721	D	850	Description: The wrap data test failed at ring speed 4M bytes.
850-722	D	850	Description: The wrap data test failed at ring speed 4M bytes.
850-770	D	850 227	Description: Unable to set ring speed to 4M bytes.
850-810	D	850	Description: The adapter open test failed at ring speed 16M bytes.
850-811	D	850 227	Description: The adapter open test failed at ring speed 16M bytes.
850-812	D	850	Description: The adapter open test failed at ring speed 16M bytes.
850-813	D	850	Description: Adapter open test failed at ring speed 16M bytes.
850-814	F	240 850 256	Description: The adapter open test failed at ring speed 16M bytes.
850-815	D	850 256	Description: The adapter open test failed at ring speed 16M bytes.
850-816	F	240 850	Description: The adapter open test failed at ring speed 16M bytes.
850-817	D	850	Description: The adapter open test failed at ring speed 16M bytes.
850-820	D	850	Description: The wrap data test failed at ring speed 16M bytes.
850-821	D	850	Description: The wrap data test failed at ring speed 16M bytes.
850-822	D	850	Description: The wrap data test failed at ring speed 16M bytes.
850-880	D	850	Description: Unable to set ring speed to 16M bytes.
850-900	D	850 227	Description: A software error was caused by a hardware failure.
850-901	G	850	Description: Analysis of the error log indicates a problem with the hardware.
850-902	G	850 227	Description: Analysis of the error log indicates a problem with the hardware.
850-903	G	850 256	Description: Analysis of the error log indicates a problem with the hardware.
850-904	G	850	Description: Analysis of the error log indicates a problem with the hardware.
850-905	D	850 227 software	Description: The device failed to configure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
850-906	D	850 227	Description: The device failed to configure.
850-910	D	850	Description: An unidentified error occurred.
850-920	D		Description: The operating system IPL procedure has determined that the location of certain Token-Ring adapters relative to the slot location of graphic accelerator adapters presents a risk of undetected data loss under rare circumstances. This problem may occur with the following Token-Ring adapters: 74F4134, 53F6052, 53F6046, 53F6064, and 39F7824. Action: Refer to "Service Hints" on page 1-1.
851-101	D	851 227	Description: The adapter power-on self-test failed.
851-102	D	851 227	Description: Adapter vital product data (VPD) test failed.
851-103	D	851 227	Description: General registers test failed.
851-104	D	851 227	Description: Adapter download diagnostics failed.
851-105	D	851 227	Description: Adapter interrupt test failed.
851-106	D	851 227	Description: Adapter CPU test failed.
851-107	D	851 227	Description: Adapter DRAM test failed.
851-108	D	851 227	Description: Adapter test failed.
851-109	D	851	Description: Adapter channel input/output test failed.
851-110	D	851	Description: Adapter download diagnostics test failed.
851-111	D	851	Description: Adapter download diagnostics test failed.
851-112	D	C19	Description: Cable wrap test failed.
851-113	D	851	Description: Adapter serial communication controller (SCC) test failed.
851-150	D	851 software 227	Description: Device configuration failed.
851-151	D	851 software 227	Description: Device driver indicates a hardware failure.
851-152	D	851 or C18	Description: Adapter failure and error in determining which type of adapter is present.
851-401	D	C18 227	Description: The adapter power-on self-test failed.
851-402	D	C18 227	Description: Adapter vital product data (VPD) test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
851-403	D	C18 227	Description: General registers test failed.
851-404	D	C18 227	Description: Adapter download diagnostics failed.
851-405	D	C18 227	Description: Adapter interrupt test failed.
851-406	D	C18 227	Description: Adapter CPU test failed.
851-407	D	C18 227	Description: Adapter DRAM test failed.
851-408	D	C18	Description: Adapter test failed.
851-409	D	C18	Description: Adapter channel input/output test failed.
851-410	D	C18	Description: Adapter download diagnostics test failed.
851-411	D	C18	Description: Adapter download diagnostics test failed.
851-412	D	C20	Description: Cable test failed.
851-450	D	C18 227 software	Description: Device configuration failed.
852-096	J	852 227	Description: The Ethernet GA test wrap failed.
852-097	J	852 227	Description: The Ethernet external wrap failed.
852-099	J	852 227	Description: The Ethernet parameter test failed.
852-101	D	852	Description: POS register test failed.
852-110	D	852 227	Description: The POS register test failed.
852-117	D	852 software	Description: Device configuration test failed.
852-120	D	852 227	Description: The hard reset test failed.
852-121	D	C08	Description: 10Base-T Transceiver test failed.
852-122	D	C09	Description: 10Base-2 Transceiver test failed.
852-124	D	852 software	Description: Error log analysis indicates a hardware problem.
852-130	D	852	Description: The shared memory test failed.
852-140	D	852	Description: The I/O registers test failed.
852-150	D	852	Description: The vital product data test failed.
852-160	D	852 227	Description: The internal loopback test failed.
852-170	D	852	Description: The external loopback (DIX connector) test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
852-180	D	852	Description: The external loopback (BNC connector) test failed.
852-202	D	852	Description: Vital Product Data test failed.
852-203	D	852	Description: I/O Register test failed.
852-304	D	852	Description: LAN coprocessor 82596 internal test failed.
852-305	D	852	Description: Internal Loopback test failed.
852-306	D	852	Description: Internal Loopback test failed.
852-307	D	852	Description: External Loopback test failed.
852-319	D	852 software	Description: Device driver indicates a hardware problem.
852-402	D	B09 852	Description: 10Base-2 Transceiver test failed.
852-403	D	B08 852	Description: 10Base-T Transceiver test failed.
852-900	D	852 227	Description: A software error was caused by a hardware failure.
852-901	G	852	Description: Analysis of the error log indicates a problem with the hardware.
852-902	G	852 227	Description: Analysis of the error log indicates a problem with the hardware.
852-903	G	852 227	Description: Analysis of the error log indicates a problem with the hardware.
852-904	G	852 241	Description: Analysis of the error log indicates a problem with the hardware.
852-905	D	852 227 software	Description: The device driver indicates a hardware failure.
852-906	D	852 227	Description: The device failed to configure.
852-907	D	B08	Description: The transceiver test failed.
852-908	D	B09	Description: The transceiver test failed.
854-110	D	854 227	Description: The adapter register test failed.
854-120	D	854	Description: The adapter RAM test failed.
854-130	D	854	Description: The adapter interrupt test failed.
854-140	D	854	Description: The adapter mode test failed.
854-150	D	854 242	Description: The connection test failed. (The user indicated that the connection was supposed to be operational.)
854-900	D	854 227	Description: A software error was caused by a hardware failure.
854-901	D	854 227 software	Description: The device failed to configure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
854-902	D	854 227	Description: The device failed to configure.
855-101	D	855 227 186	Description: ROS POST adapter software initialization error.
855-102	D	855	Description: Extended DRAM SIP test failed.
855-103	D	855	Description: ROS checksum test failed.
855-104	D	855	Description: Busmaster DMA test failed.
855-105	D	855	Description: Memory size test failed.
855-106	D	855 186	Description: Interface ID test failed.
855-107	D	855 186	Description: EIB ID test failed.
855-108	D	855	Description: ROS version test failed.
855-109	D	855	Description: DUSCC register test failed.
855-110	D	186	Description: CIO register test failed.
855-111	D	855	Description: DMA register test failed.
855-112	D	186 855	Description: X.21 PAL test failed.
855-113	D	186 855	Description: External wrap test failed.
855-114	D	186 855	Description: Twin tail logic test failed.
855-115	D	258 186	Description: Fanout box wrap test failed.
855-116	D	254	Description: The RS-232 cable wrap test failed.
855-117	D	253	Description: The RS-422A cable wrap test failed.
855-118	D	257	Description: The V.35 cable wrap test failed.
855-119	D	260	Description: The X.21 cable wrap test failed.
855-120	D	267	Description: The 4-port jumper cable assembly wrap test failed.
855-121	D	186 855 267	Description: The 4-port jumper cable assembly wrap test failed.
855-200	G	855	Description: The error log analysis indicates the adapter failed.
855-201	D	855 227	Description: A software error was caused by a hardware failure.
855-221	G	855 227	Description: The error log analysis indicates the adapter hardware failed.
855-231	D	855 227	Description: No interface card detected.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
855-234	D	C16 B69 227	Description: No interface card detected.
855-300	D	855 227	Description: The device failed to configure.
855-500	D	B69 227 B71	Description: The power-on self-test (POST) failed.
855-501	D	B77/B78 B69 227	Description: The power-on self-test (POST) failed. Note: You must determine which FRU of the listed FRU pair is applicable. B77 applies to the 1M-byte card, and B78 applies to the 2M-byte card.
855-502	D	B77/B78	Description: The memory module failed. Note: You must determine which FRU of the listed FRU pair is applicable. B77 applies to the 1M-byte card, and B78 applies to the 2M-byte card.
855-503	D	855 227	Description: Adapter hardware failure.
855-504	D	B69	Description: Adapter hardware failure.
855-505	D	B71 B69	Description: Adapter hardware failure.
855-506	D	B72 B69	Description: Adapter hardware failure.
855-507	D	B73 B69	Description: Adapter hardware failure.
855-508	D	B74 B69	Description: Adapter hardware failure.
855-509	D	B81	Description: 8-port cable test failed.
855-510	D	B82	Description: 6-port V.35 cable test failed.
855-511	D	B83	Description: 6-port X.21 cable test failed.
855-512	D	B69 227 B71	Description: The power-on self-test (POST) failed.
855-513	D	B69 227 B72	Description: The power-on self-test (POST) failed.
855-514	D	B69 227 B73	Description: The power-on self-test (POST) failed.
855-515	D	B69 227 B74	Description: The power-on self-test (POST) failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
855-516	D	B77/B78 B69	Description: Adapter Test Failure Note: You must determine which FRU of the listed FRU pair is applicable. B77 applies to the 1MB card, and B78 applies to the 2MB card.
855-517	D	B69 B77/B78	Description: Adapter Test Failure Note: You must determine which FRU of the listed FRU pair is applicable. B77 applies to the 1MB card, and B78 applies to the 2MB card.
855-700	D	B69 227 software	Description: The adapter failed to configure.
855-710	D	B69 227 software	Description: The device driver open failed.
855-720	D	D10 849	Description: Cable wrap test failed.
855-721	D	D10 849	Description: Port wrap test failed.
858-101	D	858	Description: The POS test failed.
858-102	D	858	Description: The POS test failed.
858-103	D	858	Description: The POS MEM is loaded incorrectly.
858-104	D	858	Description: The POS M code did not start.
858-105	D	858	Description: The POS test failed.
858-106	D	858	Description: The POS test failed.
858-107	D	858	Description: The POS test failed.
858-108	D	858	Description: The POS test failed.
858-109	D	858	Description: The POS test failed.
858-110	D	858	Description: The POS test failed.
858-111	D	858	Description: The POS test failed.
858-112	D	858	Description: The POS test failed.
858-113	D	858	Description: The POS test failed.
858-114	D	858	Description: The POS test failed.
858-115	D	858	Description: The POS test failed.
858-116	D	858	Description: The POS test failed.
858-117	D	858	Description: The POS test failed.
858-118	D	858 227	Description: The memory test failed (byte transfer).
858-119	D	858 227	Description: The memory test failed (word transfer).
858-120	D	858 227	Description: The memory test failed (long word transfer).

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
858-121	D	858 227	Description: The memory test failed (long word transfer).
858-122	D	858	Description: The register test failed.
858-123	D	858	Description: The register test failed.
858-124	D	858	Description: The register test failed.
858-125	D	858	Description: The register test failed.
858-126	D	858	Description: The register test failed.
858-127	D	858	Description: The register test failed.
858-128	D	858	Description: The hardware test failed.
858-129	D	858	Description: The 68k instruction set test failed.
858-130	D	858	Description: The 68k instruction set test failed.
858-131	D	858	Description: The 68k instruction set test failed.
858-132	D	858	Description: The RAM test failed.
858-133	D	858	Description: The RAM test failed.
858-134	D	858	Description: The RAM test failed.
858-135	D	858	Description: The RAM test failed.
858-136	D	858	Description: The RAM test failed.
858-137	D	858	Description: The RAM test failed.
858-138	D	858	Description: The RAM test failed.
858-139	D	858	Description: The TRAP test failed.
858-140	D	858	Description: The TRAP test failed.
858-141	D	858	Description: The timer test failed.
858-142	D	858	Description: The timer test failed.
858-143	D	858	Description: The timer test failed.
858-144	D	858	Description: The timer test failed.
858-145	D	858	Description: The timer test failed.
858-146	D	858	Description: The MTOS interrupt failed.
858-147	D	858	Description: The MTOS interrupt failed.
858-148	D	858	Description: The hardware test failed.
858-149	D	858	Description: The hardware test failed.
858-150	D	858	Description: The hardware test failed.
858-151	D	858	Description: The SDLC wrap test failed.
858-152	D	858	Description: The SDLC wrap test failed.
858-153	D	858	Description: The SDLC wrap test failed.
858-154	D	858	Description: The SDLC wrap test failed.
858-155	D	858	Description: The SDLC wrap test failed.
858-156	D	858	Description: The SDLC wrap test failed.
858-157	D	858	Description: The modem wrap test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
858-158	D	858	Description: The modem wrap test failed.
858-159	D	858	Description: The modem wrap test failed.
858-160	D	858 227	Description: The DMA test for the 5080 adapter failed.
858-161	D	858 227	Description: The DMA test for the 5080 adapter failed.
858-162	D	858 227	Description: The DMA test for the 5080 adapter failed.
858-163	D	858 227	Description: The DMA test for the 5080 adapter failed.
858-164	D	858 227	Description: The interrupt test failed.
858-165	D	858 227	Description: The interrupt test failed.
858-166	D	858 227	Description: The interrupt test failed.
858-167	D	858 227	Description: The interrupt test failed.
858-168	D	858 227	Description: The interrupt test failed.
858-169	D	858 227	Description: The interrupt test failed.
858-170	D	858 227	Description: The interrupt test failed.
858-171	D	858 227	Description: The interrupt test failed.
858-172	G	858 227	Description: A hardware error was logged by the device driver.
858-173	G	858 227	Description: A hardware error was logged by the device driver.
858-174	G	858	Description: A hardware error was logged by the device driver.
858-175	G	858	Description: A hardware error was logged by the device driver.
859-098	J	B14 859 227 B45	Description: The FDDI test failed.
859-099	J	859 227	Description: The FDDI test failed.
859-101	D	859 227	Description: Cannot place adapter in diagnostics mode.
859-102	D	859 227	Description: Cannot place adapter in normal mode.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
859-103	D	859	Description: Cannot place adapter in online diagnostics mode.
859-104	D	859	Description: Cannot release adapter from online diagnostics mode.
859-106	D	859 227	Description: Serial Interface Register failure.
859-107	D	859	Description: Adapter shared RAM failure.
859-108	D	859 227	Description: One transfer adapter RAM buffer failure.
859-109	D	859	Description: Two transfers adapter RAM buffer failure.
859-110	D	859	Description: Three transfers adapter RAM buffer failure.
859-111	D	859	Description: One transfer adapter node processor bus data store failure.
859-112	D	859	Description: Two transfers adapter node processor bus data store failure.
859-113	D	859	Description: Three transfers adapter node processor bus data store failure.
859-114	D	859	Description: One transfer adapter node processor bus data store failure.
859-115	D	859	Description: Two transfers adapter node processor bus data store failure.
859-116	D	859	Description: Three transfers adapter node processor bus data store failure.
859-117	D	859	Description: Primary card data wrap failure.
859-118	D	859	Description: Download microcode failure.
859-121	D	859	Description: Download diagnostics microcode failure.
859-122	D	859	Description: Node processor instruction test failure.
859-123	D	859	Description: Interface test failure.
859-124	D	859	Description: VPD CRC test failure.
859-125	D	859	Description: Node processor data memory test failure.
859-126	D	859	Description: Logic interface test failure.
859-127	D	859	Description: Interface test failure.
859-128	D	859	Description: Data path test failure.
859-129	D	859	Description: Class B data path failure.
859-130	D	B14 859 B15	Description: Class A data path failure.
859-131	D	859	Description: Operational microcode CRC test failure.
859-132	D	B14 B15	Description: Extender card VPD CRC test failure.
859-133	D	B14	Description: Extender card wrap data test failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
859-134	G	859 B14 227 software	Description: Device driver indicates a hardware problem.
859-135	D	B14	Description: Extender card VPD CRC test failure.
859-137	D	859 B14 B15	Description: AMD interface chip failure.
859-150	D	859 B14 227 software	Description: Device configuration failure.
859-151	D	859 227	Description: Device driver indicates a hardware problem.
859-170	D	859	Description: An error occurred while running diagnostics. Action: This SRN may occur with early versions of the adapter; refer to RETAIN to obtain an ECA number for part replacement.
859-180	D	859 B14 B15	Description: An error occurred while running diagnostics. Action: This SRN may occur with early versions of the adapter; refer to RETAIN to obtain an ECA number for part replacement.
85c-101	D	85c 227	Description: Program Option Select (POS) register test failure
85c-102	D	85c 227	Description: Input/Output (I/O) register test failure
85c-103	D	85c 227	Description: Adapter self-test failure
85c-104	D	240 256 85C 227	Description: Token-ring cable test failure
85c-105	D	240 256 85C 227	Description: Token-ring cable wrap failure
85c-106	D	240 256 85C 227	Description: Token-ring cable wrap failure.
85c-107	D	240 256 85C 227	Description: Network Initialization test failure.
85c-114	D	256 85c 227	Description: Token-Ring cable test failure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
85c-115	D	256 85c 227	Description: Token-Ring cable wrap failure
85c-116	D	256 85c 227	Description: Token-Ring cable wrap failure
85c-117	D	256 85c 227	Description: Network initialization test failure
85c-200	D	85c 227	Description: Error log analysis indicates hardware failure.
85c-300	D	85c 227	Description: The device driver indicates a hardware failure.
85c-500	D	85c 227 software	Description: Device configuration failure.
861-101	D	861 215	Description: Buffer access mode test failed.
861-103	D	215	Description: The buffer access mode test failed.
861-201	D	861 215	Description: Serial Link Adapter internal wrap test failed.
861-301	D	861 215	Description: Internal wrap test failed.
861-401	D	861	Description: Port wrap test failed.
861-501	D	861 215 software	Description: Device driver cannot be configured.
861-601	D	861 software	Description: Device driver cannot be configured.
861-701	D	861 215	Description: The device driver indicates a hardware failure.
861-801	D	861 215	Description: The device driver indicates a hardware failure.
861-901 and 861-902	G	215	Description: Error log analysis indicates a hardware failure.
861-903 to 861-905	G	861 cable	Description: Error log analysis indicates a hardware failure.
861-906	G	861	Description: Error log analysis indicates a hardware failure.
862-101	D	862	Description: The power-on self-test failed.
862-102	D	862 227	Description: POS register test failed.
862-103	D	862	Description: PCA adapter-to-system unit test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
862-104	D	862	Description: PCA 80186 microprocessor test failed.
862-105	D	862	Description: DRAM test failed.
862-106	D	862	Description: STATIC shared RAM test failed.
862-107	D	862	Description: VPD verification test failed.
862-109	D	862	Description: Internal wrap test failed. Check the wrap plug.
862-110	D	862	Description: System/370 adapter wrap test failed.
862-112	D	862	Description: PCA hardware register test failed.
862-114	D	862	Description: Diagnostic microcode download failed; a hardware error.
862-115	D	B05 B04	Description: System/370 channel cable interface box wrap test failed. Check the wrap plug.
862-117	D	862	Description: Hardware FIFO test from the 80186 to the 370 failed.
862-118	D	862	Description: Hardware FIFO test from the micro channel interface to the 80186 failed.
862-121	D	862	Description: Base address switching test failed.
862-123	D	862	Description: Static RAM test failed.
862-124	D	862	Description: DMA test failed.
862-125	D	862	Description: Interrupt test failed.
862-500	D	862 227	Description: Cannot open device.
862-600	D	862 227 software	Description: Cannot configure device.
865-101	D	865	Description: Unexpected test results.
865-110	D	B47 865	Description: Memory failure.
865-115	D	B47 865	Description: Processor test failure.
865-120	D	B47 865	Description: Processor test failure.
865-125	D	865	Description: Micro channel interface failure.
865-130	D	865 227	Description: DMA test failure.
865-135	D	865	Description: Controller test failure.
865-140	D	865 227	Description: Processor storage test failure.
865-145	D	865	Description: Processor storage test failure.
865-150	D	865	Description: Memory controller test failure.
865-153	D	865 B47	Description: Micro Channel interface controller wrap test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
865-155	D	865	Description: On-chip monitor testing of micro channel interface controller failed.
865-160	D	865 B47	Description: Micro Channel DMA test failed.
865-165	D	865	Description: VPD CRC did not match.
865-200	D	B47	Description: The optical power measurement test failed.
865-500	D	865 software	Description: Device cannot be configured.
865-501	D	865	Description: Cannot open device.
865-502	G	865	Description: Error log analysis indicates that a hardware failure occurred.
865-505	D	865 B47	Description: The adapter failed to configure.
865-506	D	865	Description: The adapter failed to configure.
865-507	D	B47	Description: The adapter failed to configure.
865-508	D	865 B47	Description: The adapter failed to configure.
866-097	J	866 227	Description: The SCSI adapter test failed.
866-098	J	866 227	Description: The SCSI adapter was not found.
866-099	J	866 227	Description: The SCSI adapter test failed.
866-110	D	866 227	Description: The adapter diagnostic subcommand test failed.
866-130	D	279	Description: The adapter PTC device test failed. Note: Refer to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1 before replacing any parts. If those procedures do not correct the problem, perform the following action. Action: Use MAP 210.
866-131	D	866	Description: The PTC device did not reset. Note: Refer to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1 before replacing any parts. If those procedures do not correct the problem, perform the following action. Action: Use MAP 210.
866-140	D	866	Description: The wrap test failed.
866-150	D	866	Description: The BCR registers write/read test failed.
866-160	D	866	Description: The POS registers write/read test failed.
866-170	D	866	Description: The internal/external reset test failed.
866-180	D	279 B88	Description: The adapter command timed out. Note: Check the fuse before replacing.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
866-190	D	866 227	Description: A software error was caused by a hardware failure.
866-191	G	SCSI bus problem 866	Description: Analysis of the error log indicates a problem. Note: Refer to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1 before replacing any parts. If those procedures do not correct the problem, perform the following action. Action: Use MAP 0210.
866-192	G	866 227	Description: Analysis of the error log indicates a problem with the hardware.
866-193	G	279	Description: Analysis of the error log indicates a problem with the hardware.
866-194	G	866	Description: Analysis of the error log indicates a problem with the hardware.
866-200	D	866	Description: ROM CRC error.
866-201	D	866	Description: Adapter RAM error.
866-202	D	866	Description: The control logic failed.
866-203	D	866	Description: The control logic failed.
866-204	D	866	Description: The control logic failed.
866-205	D	866	Description: The control logic failed.
866-206	D	866	Description: Diagnostics completed with a previous error.
866-211	G	SCSI bus problem 866	Description: The controller failed to configure. Note: Refer to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1 before replacing any parts. If those procedures do not correct the problem, perform the following action. Action: Use MAP 0210.
867-111	D	867 227	Description: The POS register test failed.
867-112	D	867 227	Description: The I/O register test failed.
867-113	D	867 227	Description: The comparator register test failed.
867-121	D	867	Description: The VPD ROS or logic test failed.
867-131	D	867	Description: The data wrap test failed.
867-141	D	867	Description: The adapter did not recognize a valid address.
867-142	D	867	Description: The adapter recognized an invalid address and/or did not recognize a valid address.
867-143	D	867	Description: The adapter recognized an invalid address and/or did not recognize a valid address.
867-151	D	288 867	Description: The POS register test failed - a hardware error.
867-152	D	288 867	Description: The I/O register test failed.
867-161	D	288	Description: The VPD ROS or logic test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
867-171	D	288	Description: The data wrap test failed.
868-097	J	868 227	Description: The SCSI adapter test failed.
868-098	J	868 227	Description: SCSI adapter not found.
868-099	J	868 227	Description: SCSI adapter test failed.
868-110	D	868 227	Description: The adapter diagnostic subcommand test failed.
868-130	D	279	Description: The adapter fuse test failed.
868-140	D	868	Description: The wrap test failed.
868-150	D	868	Description: The BCR registers write/read test failed.
868-160	D	868	Description: The POS registers write/read test failed.
868-170	D	868	Description: The internal/external reset test failed.
868-180	D	279 868	Description: The adapter command timed out. Note: Check the fuse before replacing.
868-190	D	868 227	Description: A software error was caused by a hardware failure.
868-191	G	868	Description: Analysis of the error log indicates a problem with the hardware.
868-192	G	868 227	Description: Analysis of the error log indicates a problem with the hardware.
868-193	G	279	Description: Analysis of the error log indicates a problem with the hardware.
868-194	G	868	Description: Analysis of the error log indicates a problem with the hardware.
868-200	D	868	Description: ROM CRC error.
868-201	D	868	Description: Adapter RAM error.
868-202	D	868	Description: The control logic failed.
868-203	D	868	Description: The control logic failed.
868-204	D	868	Description: The control logic failed.
868-205	D	868	Description: The control logic failed.
868-206	D	868	Description: Diagnostics completed with a previous error.
868-211	D	279 868 software	Description: The device failed to configure.
869-097	J	869 227	Description: The SCSI adapter test failed.
869-098	J	869 227	Description: The SCSI adapter was not found.
869-099	J	869 227	Description: The SCSI adapter test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
869-110	D	869 227	Description: The adapter diagnostic subcommand test failed.
869-130	D	279	Description: The adapter fuse test failed.
869-131	D	869	Description: The thermal device did not reset. Note: Before replacing parts, ensure that the system was powered off in an attempt to allow the thermal device to reset.
869-140	D	869	Description: The wrap test failed.
869-150	D	869	Description: The BCR registers write/read test failed.
869-160	D	869	Description: The POS registers write/read test failed.
869-170	D	869	Description: The internal/external reset test failed.
869-180	D	279 868	Description: The adapter command timed out. Note: Check the fuse before replacing.
869-190	D	869 227	Description: A software error was caused by a hardware failure.
869-191	G	869	Description: Analysis of the error log indicates a problem with the hardware.
869-192	G	869 227	Description: Analysis of the error log indicates a problem with the hardware.
869-193	G	279	Description: Analysis of the error log indicates a problem with the hardware.
869-194	G	869	Description: Analysis of the error log indicates a problem with the hardware.
869-200	D	869	Description: ROM CRC error.
869-201	D	869	Description: Adapter RAM error.
869-202	D	869	Description: The control logic failed.
869-203	D	869	Description: The control logic failed.
869-204	D	869	Description: The control logic failed.
869-205	D	869	Description: The control logic failed.
869-206	D	869	Description: Diagnostics completed with a previous error.
869-210	D	869	Description: The operating system IPL procedure has determined that the EC level and quantity of SCSI micro channel adapters in the system present a risk of undetected data loss under extremely heavy micro channel loading conditions. Heavy loading conditions can occur when a combination of at least three SCSI adapters and other burst mode micro channel devices are present, and one or more of the SCSI adapters has an assembly part number from the following list: 59F3527, 70F9735, 70F9794, 71F0114, 71F0232 and 71F1172. Action: Refer to "Service Hints" regarding this SRN in Chapter 1.
869-211	D	279 869 software	Description: The device failed to configure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
870-099	J	870 221	Description: IPLROS detected a problem with the high-performance disk drive subsystem adapter.
871-092	J	114	Description: The graphics subsystem test failed.
871-093	J	110	Description: The graphics subsystem test failed.
871-094	J	110 871 227 116	Description: The graphics subsystem test failed.
871-095	J	112 115	Description: The graphics subsystem test failed.
871-096	J	113	Description: The graphics subsystem test failed.
871-097	J	111	Description: The graphics subsystem test failed.
871-098	J	116 871 110 227	Description: The graphics subsystem memory test failed.
871-099	J	871 227	Description: The graphics subsystem test failed.
871-101	D	110 871 227 116	Description: The graphics subsystem memory test failed.
871-102	D	110 871 227 116	Description: The graphics subsystem memory test failed.
871-103	D	110	Description: The graphics subsystem memory test failed.
871-104	D	110	Description: The graphics subsystem memory test failed.
871-105	D	110	Description: The graphics subsystem memory test failed.
871-106	D	110	Description: The graphics subsystem memory test failed.
871-107	D	110	Description: The graphics subsystem memory test failed.
871-108	D	110	Description: The graphics subsystem memory test failed.
871-109	D	110	Description: The graphics subsystem memory test failed.
871-110	D	110	Description: The graphics subsystem memory test failed.
871-111	D	110	Description: The graphics subsystem register test failed.
871-112	D	110	Description: The graphics subsystem register test failed.
871-113	D	110	Description: The graphics subsystem register test failed.
871-114	D	110	Description: The graphics subsystem register test failed.
871-115	D	110	Description: The graphics subsystem register test failed.
871-116	D	110	Description: The graphics subsystem register test failed.
871-117	D	110 871 227 116	Description: The graphics subsystem register test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
871-118	D	110	Description: The graphics subsystem register test failed.
871-119	D	110	Description: The graphics subsystem register test failed.
871-120	D	110	Description: The graphics subsystem register test failed.
871-121	D	110 871 227 116	Description: The graphics subsystem DMA test failed.
871-122	D	110	Description: The graphics subsystem FIFO test failed.
871-123	D	110	Description: The graphics subsystem register test failed.
871-124	D	110	Description: The graphics subsystem register test failed.
871-125	D	110	Description: The graphics subsystem MBC register test failed.
871-126	D	110	Description: The graphics subsystem MBC register test failed.
871-127	D	110	Description: The graphics subsystem MBC register test failed.
871-128	D	110	Description: The graphics subsystem MBC register test failed.
871-129	D	110	Description: The graphics subsystem MBC register test failed.
871-130	D	110 111 113 114	Description: The program was not able to load more than one of the cards. Action: Use MAP 0210.
871-133	D	111	Description: The graphics control processor was not found.
871-136	D	114	Description: The drawing processor was not found.
871-140	D	113	Description: The shading processor was not found.
871-151	D	111 114	Description: The visual test failed.
871-152	D	114 111	Description: The visual test failed.
871-153	D	114 112 display	Description: The visual test failed.
871-155	D	871	Description: The VPD test failed in the graphics subsystem adapter.
871-156	D	111 110	Description: The VPD test failed in the graphics control processor.
871-157	D	112	Description: The VPD test failed in the 8-bit pixel memory card.
871-158	D	113	Description: The VPD test failed in the shading processor.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
871-159	D	114 110	Description: The VPD test failed in the drawing processor.
871-160	D	110	Description: The VPD test failed in the CVME interface card.
871-161	D	110	Description: The program was not able to load more than one of the cards.
871-163	D	114 112	Description: The drawing processor test failed.
871-164	D	112 114	Description: The 8-bit pixel memory test failed.
871-165	D	113 111	Description: The shading processor test failed.
871-166	D	111 113	Description: The graphics subsystem processor test failed.
871-172	D	115 RGB display cable 114	Description: The visual test failed.
871-173	D	112 RGB display cable B50	Description: The visual test failed.
871-174	D	115 RGB display cable B50	Description: The visual test failed.
871-176	D	115	Description: The VPD test failed in the 8-bit pixel memory card.
871-178	D	114 115	Description: The drawing processor card test failed.
871-179	D	B50 112	Description: The drawing processor card test failed.
871-180	D	B50 115	Description: The drawing processor card test failed.
871-181	D	115 114	Description: The 8-bit pixel memory failed.
871-182	D	B52 114	Description: The 8-bit pixel memory failed.
871-183	D	B53 114	Description: The 8-bit pixel memory failed.
871-230	D	110 111 B51 114	Description: The program was not able to load more than one of the cards.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
871-236	D	B50	Description: The drawing processor was not found.
871-240	D	B51	Description: The shading processor was not found.
871-251	D	111 B50	Description: The visual test failed.
871-252	D	B50 111	Description: The visual test failed.
871-253	D	B52 display and RGB cable 114	Description: The visual test failed. Action: Verify that the 7235 and display refresh rates are the same.
871-257	D	B52	Description: The VPD test failed in the 8-bit pixel memory card.
871-258	D	B51	Description: The VPD test failed in the shading processor.
871-259	D	B50 110	Description: The VPD test failed in the drawing processor.
871-263	D	114 B52	Description: The drawing processor card test failed.
871-264	D	112 B50	Description: The 8-bit pixel memory failed.
871-265	D	B51 111	Description: The shading processor test failed.
871-266	D	111 B51	Description: The graphics subsystem processor test failed.
871-272	D	B53 display and RGB cable 114	Description: The visual test failed. Action: Verify that the 7235 and display refresh rates are the same.
871-273	D	B52 display and RGB cable B50	Description: The visual test failed. Action: Verify that the 7235 and display refresh rates are the same.
871-274	D	B53 display and RGB cable B50	Description: The visual test failed. Action: Verify that the 7235 and display refresh rates are the same.
871-276	D	B53 display	Description: The VPD test failed in the 8-bit pixel memory card.
871-278	D	114 B53	Description: The drawing processor card test failed.
871-279	D	B50 B52	Description: The drawing processor card test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
871-280	D	B50 B53	Description: The drawing processor card test failed.
871-281	D	115 B50	Description: The 8-bit pixel memory failed.
871-282	D	B52 B50	Description: The 8-bit pixel memory failed.
871-283	D	B53 B50	Description: The 8-bit pixel memory failed.
871-301	D	111 C12 C13	Description: The shared bus test failed. Action: Record the machine type and model.
871-302	D	111 C12	Description: The shared bus test failed. Action: Record the machine type and model.
871-336	D	C12	Description: The drawing processor was not found. Action: Record the machine type and model.
871-340	D	C13	Description: The shading processor was not found. Action: Record the machine type and model.
871-351	D	111 C12	Description: The visual test failed. Action: Record the machine type and model. Use MAP 0210.
871-352	D	C12 111	Description: The visual test failed. Action: Record the machine type and model. Use MAP 0210.
871-353	D	C12 C14 display	Description: The visual test failed. Action: Record the machine type and model. Use MAP 0210.
871-357	D	C14	Description: The VPD test failed in the pixel memory card. Action: Record the machine type and model. Use MAP 0210.
871-358	D	C13	Description: The VPD test failed in the shading processor. Action: Record the machine type and model. Use MAP 0210.
871-359	D	C12 C10	Description: The VPD test failed in the drawing processor. Action: Record the machine type and model. Use MAP 0210.
871-363	D	C12 C14	Description: The drawing processor test failed. Action: Record the machine type and model. Use MAP 0210.
871-364	D	C14 C12	Description: The pixel memory test failed. Action: Record the machine type and model. Use MAP 0210.
871-365	D	C13 111	Description: The shading processor test failed. Action: Record the machine type and model. Use MAP 0210.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
872-101	D	872 227	Description: An error occurred during the direct access display control test.
872-102	D	872	Description: An error occurred during the indexed access display control test.
872-103	D	872	Description: An error occurred during the CRTC horizontal display registers test.
872-104	D	872	Description: An error occurred during the CRTC vertical display registers test.
872-105	D	872	Description: An error occurred during the CRTC sprite control registers test.
872-106	D	872	Description: An error occurred during the CRTC sprite control registers-disable sprite test.
872-107	D	872	Description: An error occurred during the miscellaneous registers test.
872-108	D	872	Description: An error occurred during the CRTC sprite/palette control registers test.
872-109	D	872	Description: An error occurred during the clear VRAM memory test.
872-110	D	872	Description: An error occurred during the VRAM write 0xFF memory test.
872-111	D	872	Description: An error occurred during the VRAM write 0x33 memory test.
872-112	D	872	Description: An error occurred during the VRAM write 0xCC memory test.
872-113	D	872	Description: An error occurred during the VRAM write 0x55 memory test.
872-114	D	872	Description: An error occurred during the VRAM write 0xAA memory test.
872-115	D	872	Description: An error occurred during the pattern fill VRAM memory test.
872-116	D	872	Description: An error occurred during the 16 bit address fill VRAM memory test.
872-117	D	872	Description: An error occurred during the 32 bit address fill VRAM memory test.
872-118	D	872	Description: An error occurred during the Bressenham line draw test.
872-119	D	872	Description: An error occurred during the multiple line draw test.
872-120	D	872	Description: An error occurred during the screen length line draw test.
872-121	D	872	Description: An error occurred during the step and draw line test.
872-122	D	872	Description: An error occurred during the step and draw multiple line test.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
872-123	D	872	Description: An error occurred during the step and draw screen length line test.
872-124	D	872	Description: An error occurred during the area fill test.
872-125	D	872	Description: An error occurred during the color compare test.
872-126	D	872	Description: An error occurred during the color plane test.
872-127	D	872	Description: An error occurred during the pxblt octant test.
872-128	D	872	Description: An error occurred during the 4 bit per pel test.
872-129	D	872	Description: An error occurred during the mask boundary test.
872-130	D	872	Description: An error occurred during the mask enabled test.
872-131	D	872 227	Description: An error occurred during the VRAM to host to VRAM DMA transfer test.
872-132	D	872 227	Description: An error occurred during the VRAM to host to VRAM DMA transfer using the 4 bits per pel test.
872-133	D	872 227	Description: An error occurred during the interrupt level test.
872-134	D	872	Description: An error occurred during the verify vital product data test.
872-136	D	872 725	Description: An error occurred during the clear display test.
872-137	D	872	Description: An unknown adapter error occurred.
872-138	D	872 725	Description: An unknown display error occurred.
872-139	D	725	Description: An unknown display error occurred.
874-101	D	874 227	Description: An error occurred during the direct access display control registers test.
874-102	D	874	Description: An error occurred during the indexed access display control registers test.
874-103	D	874	Description: An error occurred during the CRTC horizontal display registers test.
874-104	D	874	Description: An error occurred during the CRTC vertical display registers test.
874-105	D	874	Description: An error occurred during the CRTC sprite control registers test.
874-106	D	874	Description: An error occurred during the CRTC sprite control registers - display sprite test.
874-107	D	874	Description: An error occurred during the miscellaneous registers test.
874-108	D	874	Description: An error occurred during the CRTC sprite/palette control registers test.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
874-109	D	874	Description: An error occurred during the clear VRAM memory test.
874-110	D	874	Description: An error occurred during the VRAM write 0xFF memory test.
874-111	D	874	Description: An error occurred during the VRAM write 0x33 memory test.
874-112	D	874	Description: An error occurred during the VRAM write 0xCC memory test.
874-113	D	874	Description: An error occurred during the VRAM write 0x55 memory test.
874-114	D	874	Description: An error occurred during the VRAM write 0xAA memory test.
874-115	D	874	Description: An error occurred during the pattern fill VRAM memory test.
874-116	D	874	Description: An error occurred during the 16-bit address fill VRAM memory test.
874-117	D	874	Description: An error occurred during the 32-bit address fill VRAM memory test.
874-118	D	874	Description: An error occurred during the Bressenham line draw test.
874-119	D	874	Description: An error occurred during the multiple line draw test.
874-120	D	874	Description: An error occurred during the screen length line draw test.
874-121	D	874	Description: An error occurred during the step and draw line test.
874-122	D	874	Description: An error occurred during the step and draw multiple line test.
874-123	D	874	Description: An error occurred during the step and draw screen length line test.
874-124	D	874	Description: An error occurred during the area fill test.
874-125	D	874	Description: An error occurred during the color compare test.
874-126	D	874	Description: An error occurred during the color plane test.
874-127	D	874	Description: An error occurred during the pxblt octant test.
874-128	D	874	Description: An error occurred during the 4-bit per pel test.
874-129	D	874	Description: An error occurred during the mask boundary test.
874-130	D	874	Description: An error occurred during the mask enabled test.
874-131	D	874 227	Description: An error occurred during the VRAM to host to VRAM DMA transfer test.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
874-132	D	874 227	Description: An error occurred during the VRAM to host to VRAM DMA transfer using the 4 bits per pel test.
874-133	D	874 227	Description: An error occurred during the interrupt level test.
874-134	D	874	Description: An error occurred during the verify vital product data test.
874-135	D	874 725	Description: An error occurred during the color display test.
874-136	D	874 725	Description: An error occurred during the clear display test.
874-137	D	874	Description: An unknown adapter error occurred.
874-138	D	874 725	Description: An unknown adapter error occurred.
874-139	D	725	Description: Monitor test failed.
876-101	D	130 227	Description: An error occurred during the EDDY initialization test.
876-102	D	130 227	Description: An error occurred during the DMA registers test.
876-103	D	130 227	Description: An error occurred during the FIFO address and memory test.
876-104	D	130 227	Description: An error occurred during the DMA host to data RAM test.
876-105	D	128 130	Description: An error occurred during the DMA host to raster engine from buffer test.
876-106	D	130 227	Description: An error occurred during the EDDY interrupt test.
876-107	D	130	Description: An error occurred during the set-of-graphics register pointer test.
876-108	D	130	Description: An error occurred during the download of diagnostic microcode.
876-109	D	130	Description: An error occurred during the RAM address uniqueness test.
876-110	D	130	Description: An error occurred during the RAM data test.
876-111	D	130	Description: An error occurred during the data RAM address uniqueness test.
876-112	D	130	Description: An error occurred during the data RAM data test.
876-113	D	130	Description: An error occurred during the microcode RAM test.
876-114	D	130	Description: An error occurred during the geometry sub-system FIFO test.
876-115	D	130	Description: An error occurred during the finish flag test.
876-116	D	130	Description: An error occurred during the FIFO/data RAM read test.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
876-117	D	128 130	Description: An error occurred during the raster engine test.
876-118	D	128 130	Description: An error occurred during the raster sub-system cursor test.
876-119	D	128 130	Description: An error occurred during the frame buffer full test.
876-121	D	118 128	Description: An error occurred during the Z buffer full test.
876-122	D	128 130	Description: An error occurred during the quick frame buffer test.
876-124	D	118 128	Description: An error occurred during the quick Z buffer test.
876-125	D	876 128	Description: An error occurred during the XPC registers write/read/compare test.
876-126	D	876 128	Description: An error occurred during the RGB digital-to-analog converter register test.
876-129	D	876 725	Description: An error occurred during the color display test.
876-130	D	130 227	Description: An unknown error occurred during the 3D graphics base card test.
876-131	D	128 130	Description: An unknown error occurred during the 3D graphics base card test.
876-132	D	130	Description: An unknown error occurred during the 3D graphics base card test.
876-133	D	118 128	Description: An unknown error occurred during the 3D graphics base card test.
876-134	D	876 128	Description: An unknown error occurred during the 3D graphics base card test.
876-135	D	876 128	Description: An unknown error occurred during the 3D graphics base card test.
877-097	J	B58 227	Description: The graphics adapter test failed.
877-098	J	877 B01 B41 227	Description: The graphics adapter test failed.
877-099	J	877 B01 B41 227	Description: The graphics adapter test failed.
877-110	D	877 227	Description: The POS test failed.
877-121	D	877 227	Description: The VPD test failed.
877-130	D	877 227	Description: The host Bus Interface Module test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
877-140	D	877 227	Description: The host memory test failed.
877-150	D	877	Description: The processor memory test failed.
877-160	D	877	Description: The Blast C30 Mem failed.
877-170	D	877	Description: The Bus Interface Module test failed.
877-180	D	877 227	Description: The host interrupt failed.
877-190	D	877 227	Description: The Bus Interface Module DMA test failed.
877-191	D	227 877	Description: The Bus Interface Module DMA test failed.
877-200	D	877 227	Description: The Bus Interface Module dynamic test failed.
877-201	D	877	Description: The Bus Interface Module dynamic test failed.
877-210	D	877 B01	Description: The Bus Interface Module test failed.
877-211	D	877 B01	Description: The Bus Interface Module test failed.
877-212	D	B01 877	Description: The Bus Interface Module test failed.
877-213	D	B01 877	Description: The bus Interface Module test failed.
877-220	D	877 B01	Description: The ramdac test failed.
877-230	D	877 B01	Description: The blast test failed.
877-240	D	877 B01	Description: The frame buffer test failed.
877-290	D	877 B01	Description: The write buffer test failed.
877-330	D	877 725	Description: The display test failed.
877-400	D	877 227	Description: The adapter test failed.
877-410	D	B01 877	Description: The adapter test failed.
877-420	D	877 B01	Description: The adapter test failed.
877-430	D	B01 877	Description: The adapter test failed.
877-440	D	877 B01	Description: The adapter test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
877-500	D	877 227	Description: The graphics adapter test failed.
877-510	D	B58 227	Description: The graphics adapter test failed.
877-520	D	B59 227	Description: The graphics adapter test failed.
877-600	D	877 B01	Description: The graphics adapter test failed.
877-610	D	B58	Description: The graphics adapter test failed.
877-620	D	B59	Description: The graphics adapter test failed.
877-700	D	877	Description: The graphics adapter test failed.
877-705	D	B01	Description: The graphics adapter test failed.
877-800	D	227 877	Description: The graphics adapter test failed.
877-810	D	227 B58	Description: The graphics adapter test failed.
877-820	D	227 B59	Description: The adapter test failed.
877-850	D	877 B01	Description: The graphics adapter test failed.
877-860	D	877 B01	Description: The graphics adapter test failed.
877-880	D	877, B58 or B59 725	Description: The display test failed. Note: You must determine which of the first three FFCs is installed in the system at the given location.
877-900	G	877	Description: The error log indicates a hardware problem.
877-905	G	B01	Description: The error log indicates a hardware problem.
877-910	G	B58	Description: The graphics adapter test failed.
877-920	G	B59	Description: The graphics adapter test failed.
878-099	J	878 221	Description: IPLROS detected a problem with the graphics processor card.
878-100	D	878 227	Description: Processor card error.
878-110	D	878	Description: Processor card error.
878-200	D	878 227	Description: Processor card error.
878-210	D	878	Description: Processor card error.
878-300	D	119 227	Description: Graphics card error.
878-301	F	119 C49	Description: Base Graphics card error.
878-302	F	119 C50	Description: Base graphics card error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
878-310	D	119	Description: Graphics card error.
878-400	D	120 227	Description: Option card error.
878-410	D	120 878	Description: Option card error.
878-411	F	120 C49	Description: 24-bit option card error. POWER Gt4-i Processor card error.
878-412	F	120 C50	Description: 24-bit option card error. POWER Gt4x-i Processor card error.
878-420	D	B16 227	Description: Pipe card error.
878-430	D	B16	Description: Pipe card error.
878-500	D	878 227	Description: Cannot open device.
878-600	D	878 725	Description: The display test failed. Action: Use Service Procedure 210.
878-610	D	227 878	Description: The DMA Bus Interface Module test failed.
878-700	G	878	Description: Error log analysis indicates processor card failure.
878-710	G	119	Description: Error log analysis indicates graphics card failure.
878-720	G	120	Description: Error log analysis indicates option card failure.
878-800	F	C49 227	Description: 24-bit option card error. POWER Gt4i processor card error.
878-811	F	C49	Description: POWER Gt4i processor card error.
878-830	F	C51 878	Description: Gt4i 8-bit graphics card error. POWER Gt4 processor card error.
878-831	F	C51	Description: Gt4i 8-bit graphics card error.
878-832	F	C52 878	Description: POWER Gt4i 24-bit graphics card error. POWER Gt4 card error.
878-833	F	C52	Description: POWER Gt4i 24-bit graphics card error.
878-834	F	C51 C50	Description: POWER Gt4i 8-bit graphics card. POWER Gt4xi processor card error.
878-835	F	C52 C49	Description: POWER Gt4i 24-bit graphics card error. POWER Gt4i processor card error.
878-836	F	C52 C50	Description: POWER Gt4i 24-bit graphics card error. POWER Gt4i processor card error.
878-837	F	C51 C49	Description: POWER Gt4i 8-bit graphics card. POWER Gt4i processor card error.
878-861	F	878 227	Description: POWER Gt4 card error. DMA test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
878-862	F	227 C49	Description: DMA test failed. POWER Gt4i Processor card error.
878-863	F	227 C50	Description: DMA test failed. POWER Gt4xi Processor card error.
878-900	F	C50 227	Description: POWER Gt4xi Processor card error.
878-911	F	C50	Description: POWER Gt4xi Processor card error.
878-961	F	C50 227	Description: DMA test failed.
879-120	D	879 128	Description: An error occurred during the extended frame buffer test.
879-123	D	879 128	Description: An error occurred during the quick extended frame buffer test.
879-127	D	879 128	Description: An error occurred during the quick extended frame buffer test.
879-128	D	879 128	Description: An error occurred during the quick extended frame buffer test.
879-129	D	879 725	Description: An error occurred during the quick extended frame buffer test.
879-136	D	879 128	Description: An unknown error occurred during the 24-bit graphics display card test.
879-137	D	879 725	Description: An unknown error occurred during the display test.
880-097	J	B34 880	Description: The graphics adapter memory test failed.
880-098	J	880 227	Description: The graphics adapter test failed.
880-099	J	880 B42 227	Description: The graphics adapter was not found.
880-101	D	880	Description: Adapter failed to configure.
880-110	D	880	Description: Adapter error detected.
880-120	D	880 227	Description: Adapter error detected.
880-130	D	B34 880	Description: Video RAM error detected.
880-140	D	B34 880	Description: Video RAM error detected.
880-150	D	725 880	Description: Monitor test failed.
887-096	J	887 227	Description: Ethernet GA wrap test failed.
887-097	J	887 227	Description: Ethernet external wrap failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
887-098	J	887 227	Description: Ethernet fuse test failed. Action: Use MAP 0210; check fuse before exchanging planar.
887-099	J	887 227	Description: Ethernet parameter test failed.
887-101	D	887	Description: POS register test failed.
887-102	D	887	Description: I/O register test failed.
887-103	D	887	Description: Local RAM test failed.
887-104	D	887	Description: Vital Product Data (VPD) failed.
887-105	D	887	Description: LAN coprocessor internal tests failed.
887-106	D	887 B06	Description: Internal loopback test failed.
887-107	D	B06 887	Description: External loopback test failed.
887-108	D	B06 887	Description: External loopback test failed.
887-109	D	887	Description: External loopback parity tests failed.
887-110	D	887	Description: External loopback fairness test failed.
887-111	D	887	Description: External loopback fairness and parity tests failed.
887-112	D	B11 887	Description: External loopback (twisted pair) test failed.
887-113	D	887	Description: External loopback (twisted pair) parity test failed.
887-114	D	887	Description: Ethernet loopback (twisted pair) fairness test failed.
887-115	D	887	Description: External loopback (twisted pair) fairness and parity tests failed.
887-116	D	B07 887	Description: Twisted pair wrap data failed).
887-117	D	887 software	Description: Device configuration fails.
887-118	D	887 B06/B11	Description: Device driver indicates a hardware problem.
887-120	D	887	Description: Device driver indicates a hardware problem.
887-121	D	B08	Description: Ethernet transceiver test failed.
887-122	D	B09	Description: Ethernet 10 Base-2 transceiver test failed.
887-123	D	887 B11	Description: Internal loopback test failed.
887-124	G	887 software	Description: Error log indicates a hardware problem.
887-125	D	B11	Description: Fuse test failed.
887-202	D	887	Description: Vital product data test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
887-203	D	887	Description: Vital product data test failed.
887-209	D	C29 887	Description: RJ-45 converter test failed.
887-304	D	887	Description: Coprocessor internal test failed.
887-305	D	887	Description: Internal loopback test failed.
887-306	D	887	Description: Internal loopback test failed.
887-307	D	887	Description: External loopback test failed.
887-319	D	887 software	Description: Device driver indicates a hardware failure.
887-400	D	B40	Description: Fuse test failed.
887-401	D	887	Description: Circuit breaker for Ethernet test failed.
887-402	D	B09 887	Description: Ethernet 10 Base-2 transceiver test failed.
887-403	D	B08 887	Description: Ethernet 10 Base-T transceiver test failed.
887-404	D	C29 887	Description: RJ-45 converter test failed.
887-405	F	Ethernet network 887	Description: Rerun diagnostics in advanced mode for accurate problem determination.
889-097	J	889 227	Description: The SCSI adapter test failed.
889-098	J	889 227	Description: The SCSI adapter was not found.
889-099	J	889 227	Description: The SCSI adapter test failed.
889-110	D	889 227	Description: The adapter diagnostic subcommand test failed.
889-130	D	279	Description: The adapter fuse test failed. Note: Refer to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1 before replacing any parts. If those procedures do not correct the problem, perform the following action. Action: Use MAP 210.
889-131	D	889	Description: The thermal device did not reset. Note: Refer to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1 before replacing any parts. If those procedures do not correct the problem, perform the following action. Action: Use MAP 210.
889-140	D	889	Description: The wrap test failed.
889-150	D	889	Description: The BCR registers write/read test failed.
889-160	D	889	Description: The POS registers write/read test failed.
889-170	D	889	Description: The internal/external reset test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
889-180	D	279 B88	Description: The adapter command timed out. Note: Check the fuse before replacing.
889-190	D	889 227	Description: A software error was caused by a hardware failure.
889-191	G	SCSI bus problem 889	Description: Analysis of the error log indicates a problem. Note: Refer to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1 before replacing any parts. If those procedures do not correct the problem, perform the following action. Action: Use MAP 210.
889-192	G	889 227	Description: Analysis of the error log indicates a problem with the hardware.
889-193	G	279	Description: Analysis of the error log indicates a problem with the hardware.
889-194	G	889	Description: Analysis of the error log indicates a problem with the hardware.
889-200	D	889	Description: ROM CRC error.
889-201	D	889	Description: Adapter RAM error.
889-202	D	889	Description: The control logic failed.
889-203	D	889	Description: The control logic failed.
889-204	D	889	Description: The control logic failed.
889-205	D	889	Description: The control logic failed.
889-206	D	889	Description: Diagnostics completed with a previous error.
889-211	D	SCSI bus problem 889	Description: The controller failed to configure. Note: Refer to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1 before replacing any parts. If those procedures do not correct the problem, perform the following action. Action: Use MAP 210.
890-087	J	C26 227	Description: The SCSI adapter test failed.
890-088	J	C26 227	Description: The SCSI adapter test failed.
890-089	J	C26 227	Description: The SCSI adapter test failed.
890-097	J	890 227	Description: The SCSI adapter test failed.
890-098	J	890 227	Description: The SCSI adapter was not found.
890-099	J	890 227	Description: The SCSI adapter test failed.
890-101	D	890	Description: The reset test failed.
890-102	D	890	Description: The command interface register test failed.
890-103	D	890	Description: The immediate pacing command test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
890-104	D	890	Description: The subsystem control block test failed.
890-105	D	890	Description: The system address line test failed.
890-106	D	890	Description: The internal SCSI bus terminal power failed. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-107	D	890	Description: The external SCSI bus terminal power failed. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-108	D	890	Description: Internal SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-109	D	890	Description: External SCSI bus. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-110	D	890 227	Description: The system address line failed.
890-150	G	890	Description: Error log analysis indicates microcode corruption.
890-155	G	890 227	Description: Error log analysis indicates get adapter information timed out.
890-160	G	890 Cable/ Terminator	Description: Error log analysis indicates adapter reset failed. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-165	G	890 227	Description: Error log analysis indicates adapter DMA failed.
890-170	G	890	Description: Error log analysis indicates adapter microcode corrupted.
890-175	G	890	Description: Error log analysis indicates internal SCSI bus terminal power failure. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-180	G	890	Description: Error log analysis indicates external SCSI bus terminal power failure. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-185	G	890	Description: Error log analysis indicates internal SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-190	G	890	Description: Error log analysis indicates external SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-195	G	890	Description: Error log analysis indicates hardware failure.
890-201	D	C26	Description: The reset test failed.
890-202	D	C26	Description: The command interface register test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
890-203	D	C26	Description: The immediate pacing command test failed.
890-204	D	C26	Description: The subsystem control block test failed.
890-205	D	C26	Description: The system address line test failed.
890-206	D	C26	Description: The internal SCSI bus terminal power failed. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-207	D	C26	Description: The external SCSI bus terminal power failed. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-208	D	C26	Description: Internal SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-209	D	C26	Description: External SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-210	D	C26 227	Description: The system address line test failed.
890-250	G	C26	Description: The error log analysis indicates microcode corrupted.
890-255	G	C26 227	Description: The error log analysis indicates that the get adapter information has timed out.
890-260	G	C26 Cable/ Terminator	Description: The error log analysis indicates that the adapter reset failed. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-265	G	C26 227	Description: The error log analysis indicates adapter DMA failed.
890-270	G	C26 227	Description: The error log analysis indicates adapter microcode corrupted.
890-275	G	C26	Description: The error log analysis indicates internal SCSI bus terminal power failure. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-280	G	C26	Description: The error log analysis indicates external SCSI bus terminal power failure. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-285	G	C26	Description: The error log analysis indicates an internal SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-290	G	C26	Description: The error log analysis indicates an external SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-295	G	C26	Description: The error log indicates hardware failure.
890-301	D	C55	Description: The reset test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
890-302	D	C55	Description: The command register test failed.
890-303	D	C55	Description: The immediate pacing command test failed.
890-304	D	C55	Description: The subsystem control block test failed.
890-305	D	C55	Description: The system address test line failed.
890-306	D	C55	Description: The internal SCSI bus terminal power failed. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-307	D	C55	Description: The external SCSI bus terminal power failed. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-308	D	C55	Description: Internal SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-309	D	C55	Description: External SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-310	D	C55 227	Description: The system address line failed.
890-350	G	C55	Description: The error log analysis indicates microcode corrupted.
890-355	G	C55 227	Description: The error log analysis indicates that the get adapter information has timed out.
890-360	G	C55 Cable/ Terminator	Description: The error log analysis indicates adapter reset failed. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-365	G	C55 227	Description: The error log analysis indicates adapter DMA failure.
890-370	G	C55	Description: The error log analysis indicates adapter microcode corrupted.
890-375	G	C55	Description: The error log analysis indicates internal SCSI bus terminal power failure. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-380	G	C55	Description: The error log analysis indicates external SCSI bus terminal power failure. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-385	G	C55	Description: The error log analysis indicates internal SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-390	G	C55	Description: The error log analysis indicates external SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
890-395	G	C55	Description: The error log analysis indicates hardware failure.
890-401	D	B88	Description: The reset test failed.
890-402	D	B88	Description: The command interface register test failed.
890-403	D	B88	Description: The immediate pacing command test failed.
890-404	D	B88	Description: The subsystem control block test failed.
890-405	D	B88	Description: The system address test line failed.
890-406	D	B88	Description: The internal SCSI bus terminal power failed. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-407	D	B88	Description: The external SCSI bus terminal power failed. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-408	D	B88	Description: Internal SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-409	D	B88	Description: External SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-410	D	B88 227	Description: The system address line failed.
890-450	G	B88	Description: The error log analysis indicates microcode corrupted.
890-455	G	B88 227	Description: The error log analysis indicates that the get adapter information has timed out.
890-460	G	B88 Cable/ Terminator	Description: The error log analysis indicates adapter reset failed. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-465	G	B88 227	Description: The error log analysis indicates adapter DMA failure.
890-470	G	B88	Description: The error log analysis indicates adapter microcode corrupted.
890-475	G	B88	Description: The error log analysis indicates internal SCSI bus terminal power failure. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-480	G	B88	Description: The error log analysis indicates external SCSI bus terminal power failure. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-485	G	B88	Description: The error log analysis indicates internal SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
890-490	G	B88	Description: The error log analysis indicates external SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-495	G	B88	Description: The error log analysis indicates hardware failure.
890-501	D	D47	Description: The reset test failed.
890-502	D	D47	Description: The command interface register test failed.
890-503	D	D47	Description: The immediate pacing command test failed.
890-504	D	D47	Description: The subsystem control block test failed.
890-505	D	D47	Description: The system address test line failed.
890-506	D	D47	Description: The internal SCSI bus terminal power failed. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-507	D	D47	Description: The external SCSI bus terminal power failed. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-508	D	D47	Description: Internal SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-509	D	D47	Description: External SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-510	D	D47 227	Description: The system address line failed.
890-550	G	D47	Description: The error log analysis indicates microcode corrupted.
890-555	G	D47 227	Description: The error log analysis indicates that the get adapter information has timed out.
890-560	G	D47 Cable/ Terminator	Description: The error log analysis indicates adapter reset failed. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-565	G	D47 227	Description: The error log analysis indicates adapter DMA failure.
890-570	G	D47	Description: The error log analysis indicates adapter microcode corrupted.
890-575	G	D47	Description: The error log analysis indicates internal SCSI bus terminal power failure. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-580	G	D47	Description: The error log analysis indicates external SCSI bus terminal power failure. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
890-585	G	D47	Description: The error log analysis indicates internal SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-590	G	D47	Description: The error log analysis indicates external SCSI bus error. Action: Use Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1
890-595	G	D47	Description: The error log analysis indicates hardware failure.
897-101 to 897-127	D	897 C21 221	Description: CEM adapter failed diagnostics.
898-110	D	898	Description: Adapter test failed.
898-120	D	898 227 B35	Description: Adapter test failed.
898-130	D	725	Description: User indicates a problem with the display after performing the display problem determination procedure. Action: Repair or replace the display.
898-880	D	898 725	Description: Display test failed.
898-900	G	898	Description: The error log analysis indicates a hardware failure.
898-910	G	898 227	Description: The error log analysis indicates a hardware failure.
89c-098	J	89c B88 221	Description: IPLROS detected a problem with the SCSI CDROM drive.
89c-099	J	89c B88	Description: IPLROS detected a problem with the CDROM drive.
89c-111	D	89c B88	Description: Unable to reserve device.
89c-112	D	89c B88	Description: Unable to do configuration.
89c-113	D	89c B88	Description: Unable to open the device driver.
89c-121	D	89c	Description: The CD-ROM drive indicates an error.
89c-122	D	89c	Description: The CD-ROM drive indicates an error.
89c-123	D	89c	Description: The CD-ROM drive indicates an error.
89c-125	D	89c B88	Description: The CD-ROM drive indicates an error.
89c-126	D	89c	Description: The CD-ROM drive indicates an error.
89c-127	D	89c	Description: The CD-ROM drive indicates an error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
89c-128	D	89c	Description: The CD-ROM drive indicates an error.
89c-129	D	89c	Description: The CD-ROM drive indicates an error.
89c-150	D	Media 89c	Description: A media error was detected.
89c-151	D	89c D88	Description: A command timeout was detected.
89c-152	D	89c	Description: A command reservation conflict was detected.
89c-162	D	89c	Description: The CD-ROM drive indicates an error.
89c-171	D	89c	Description: Unable to reserve device.
89c-172	D	89c	Description: Unable to do configuration.
89c-173	D	89c	Description: Unable to open device driver.
89c-175	D	89c	Description: The CD-ROM drive indicates an error.
89c-198	D	89c B88	Description: Undefined error detected.
89c-199	D	89c	Description: Undefined error detected.
89c-211	D	89c	Description: The LED test failed.
89c-281	D	89c	Description: No tone during audio test.
89c-301	G	89c	Description: Errors found during ELA.
89c-302	G	89c B88	Description: Errors found during ELA.
901-099	J	901 221	Description: IPLROS detected a problem with the SCSI disk drive.
901-xxx			Description: Vendor SCSI device problem. Refer to the service documentation for this device.
902-xxx			Description: Display problem. Refer to the service documentation for this display.
903-xxx			Description: Vendor Async device problem. Refer to the service documentation for this device.
904-xxx			Description: Parallel device problem. Refer to the service documentation for this device.
905-xxx			Description: Vendor device problem. Refer to the service documentation for this device.
908-001 to 908-010	D	908 C33 C48	Description: Invalid function request or bad parameters passed.
908-016 to 908-019	D	908	Description: SPAN board failure.
908-020	D	C33 908 C36	Description: Error closing 7250 DD.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
908-111	D	908 C33 C36	Description: Loader check sum error.
908-112	D	C33 908 C36 C34	Description: DMA failed to complete a transfer.
908-113	D	908 C33 C36	Description: Errors in loading ASCII registers.
908-114 to 908-118	D	C33 908 C36	Description: Errors in loading ASCII registers.
908-120 to 908-150	D	908 C33 C36	Description: DMA transfer or PFCA data error.
908-151 to 908-158	D	908	Description: SPAN board failure.
908-160	D	908 C33 System C36	Description: 7250 is not available.
908-200 to 908-254	D	C33 908 C36	Description: GPSS board failure.
908-255	D	C33 C34 908 C48	Description: CP NMI bus timeout interrupt error.
908-256 to 908-454	D	C33 908 C36	Description: GPSS board failure.
908-455	D	C33 908 C34 C48	Description: CP NMI bus timeout interrupt error.
908-456 to 908-699	D	C33 908 C36	Description: GPSS board failure.
908-700 to 908-766	D	C34 C33 C48	Description: BLT or RATTLER error.
908-767 to 908-769	D	C35 C34 C44	Description: VOO feature error.
908-770 to 908-799	D	C34 C33 C48	Description: RSS BIST failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
908-800	D	C34	For 7250/001 all machine SNs Description: Bank 0 RGB failure.
		C46 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: Base 16M CHAP0 memory module bad.
		C46 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: Base 16M CHAP0 memory module bad.
908-801	D	C34	For 7250/001 all machine SNs Description: Bank 0 Z buffer failure.
		C45 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS base 12M CHAP0 memory module bad (801).
		C45 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS base 12M CHAP0 memory module bad (801).
908-802	D	C34	For 7250/001 all machine SNs Description: Bank 0 texture failure.
		C46 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS AG 16M CHAP0 memory module bad (802).
		C46 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS AG 16M CHAP0 memory module bad (802).
908-803	D	C34	For 7250/001 all machine SNs Description: Bank 0 overlay failure.
		C45 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS AG 12M CHAP0 memory module bad (803).
		C45 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS AG 12M CHAP0 memory module bad (803).
908-804	D	C34	For 7250/001 all machine SNs Description: Bank 0 utility failure.
		C47 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS TX 16M CHAP0 memory module bad (804).
		C47 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS TX 16M CHAP0 memory module bad (804).
908-805	D	C34	For 7250/001 all machine SNs Description: Bank 1 RGB failure.
		C46 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: Base 16M CHAP 1 memory module bad (805).
		C46 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: Base 16 CHAP 1 memory module bad (805).

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
908-806	D	C34	For 7250/001 all machine SNs Description: Bank 1 Z buffer failure.
		C45 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS base 12M CHAP1 memory module bad (806).
		C45 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS base 12M CHAP1 memory module bad (806).
908-807	D	C34	For 7250/001 all machine SNs Description: Bank 1 texture failure.
		C46 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS AG 16M CHAP1 memory module bad (807).
		C46 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS AG 16M CHAP1 memory module bad (807).
908-808	D	C34	For 7250/001 all machine SNs Description: Bank 1 overlay failure.
		C45 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS AG 12M CHAP1 memory module bad (808).
		C45 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS AG 12M CHAP1 memory module bad (808).
908-809	D	C34	For 7250/001 all machine SNs Description: Bank 1 utility failure.
		C47 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS TX 16M CHAP1 memory module bad (809).
		C47 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS TX 16M CHAP1 memory module bad (809).
908-810	D	C34	For 7250/001 all machine SNs Description: Bank 1 RGB failure.
		C46 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS base 16M CHAP2 memory module bad (810).
		C46 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS base 16M CHAP2 memory module bad (810).

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
908-811	D	C34	For 7250/001 all machine SNs Description: Bank 2 Z buffer failure.
		C45 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS base 12M CHAP2 memory module bad (811).
		C45 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS base 12M CHAP2 memory module bad (811).
908-812	D	C34	For 7250/001 all machine SNs Description: Bank 2 texture failure.
		C46 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS AG 16M CHAP2 memory module bad (812).
		C46 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS AG 16M CHAP2 memory module bad (812).
908-813	D	C34	For 7250/001 all machine SNs Description: Bank 2 overlay failure.
		C45 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS AG 12M CHAP2 memory module bad (813).
		C45 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS AG 12M CHAP2 memory module bad (813).
908-814	D	C34	For 7250/001 all machine SNs Description: Bank 2 utility failure.
		C47 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS TX 16M CHAP2 memory module bad (814).
		C47 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS TX 16M CHAP2 memory module bad (814).
908-815	D	C34	For 7250/001 all machine SNs Description: Bank 3 RGB failure.
		C46 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS base 16M CHAP3 memory module bad (815).
		C46 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS base 16M CHAP3 memory module bad (815).

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
908-816	D	C34	For 7250/001 all machine SNs Description: Bank 3 Z buffer failure.
		C45 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS base 12M CHAP3 memory module bad (816).
		C45 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS base 12M CHAP3 memory module bad (816).
908-817	D	C34	For 7250/001 all machine SNs Description: Bank 3 texture failure.
		C46 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS AG 16M CHAP3 memory module bad (817).
		C46 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS AG 16M CHAP3 memory module bad (817).
908-818	D	C34	For 7250/001 all machine SNs Description: Bank 3 overlay failure.
		C45 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS AG 12M CHAP3 memory module bad (818).
		C45 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS AG 12M CHAP3 memory module bad (818).
908-819	D	C34	For 7250/001 all machine SNs Description: Bank 3 utility failure.
		C47 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS TX 16M CHAP3 memory module bad (819).
		C47 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS TX 16M CHAP3 memory module bad (819).
908-820	D	C34	For 7250/001 all machine SNs Description: Bank 4 RGB failure.
		C46 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS base 16M CHAP4 memory module bad (820).
		C46 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS base 16M CHAP4 memory module bad (820).

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
908-821	D	C34	For 7250/001 all machine SNs Description: Bank 4 Z buffer failure.
		C45 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS base 12M CHAP4 memory module bad (821).
		C45 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS base 12M CHAP4 memory module bad (821).
908-822	D	C34	For 7250/001 all machine SNs Description: Bank 4 texture failure.
		C46 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS AG 16M CHAP4 memory module bad (822).
		C46 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS AG 16M CHAP4 memory module bad (822).
908-823	D	C34	For 7250/001 all machine SNs Description: Bank 4 overlay failure.
		C45 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS AG 12M CHAP4 memory module bad (823).
		C45 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS AG 12M CHAP4 memory module bad (823).
908-824	D	C34	For 7250/001 all machine SNs Description: Bank 4 utility failure.
		C47 D66	For 7250/002 machines S/Ns 7250-26-Annnn Description: RSS TX 16M CHAP4 memory module bad (824).
		C47 C34	For 7250/002 machines S/N 7250-26-nnnnn Description: RSS TX 16M CHAP4 memory module bad (824).
908-825	D	C34	Description: RSS error.
908-830 to 908-870	D	C34 C33 C48	Description: Multiple memory modules failed.
908-871 to 908-890	D	D66	Description: RSS error.
908-891 to 908-892	D	C35 C34 C44	Description: V00 header or CRC compare failed.
908-893 to 908-899	D	D66	Description: RSS error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
908-900 to 908-966	D	D66 C33 C48	Description: RSS error.
908-967 to 908-969	D	C35 D66 C48	Description: VOO error.
908-970 to 908-999	D	D66 C33 C48	Description: RSS error.
910-101	D	910 227	Description: P.O.S. Register test failed.
910-102	D	910 227	Description: I/O register test failed.
910-103	D	910 227	Description: Shared RAM test failed.
910-104	D	910 227	Description: The power-on self-test failed.
910-105	D	910 227	Description: Adapter interrupt test failed.
910-106	D	910 227	Description: Adapter D.M.A. test failed.
910-107	D	910	Description: Optical wrap test failed.
910-108	D	910 227	Description: Host/adapter shared RAM test failed.
910-109	D	910 227	Description: Shared RAM contention test failed.
910-110	D	910 227	Description: I/O contention test failed.
910-111	D	910	Description: Counter test failed.
910-112	D	910	Description: Timer test failed.
910-113	D	C24	Description: Cable wrap test failed.
910-114	G	C24 910	Description: Error log Analysis indicates hardware failure.
910-150	D	910 227 software	Description: Device configuration failure.
910-151	D	910 227 software	Description: Device driver indicates a hardware error.
910-152	D	910	Description: Adapter failed and error in determining which type of adapter.
911-101	D	911 227	Description: P.O.S. Register test failed.
911-102	D	911 227	Description: I/O register test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
911-103	D	911 227	Description: Shared RAM test failed.
911-104	D	911 227	Description: The power-on self-test failed.
911-105	D	911 227	Description: Adapter interrupt test failed.
911-106	D	911 227	Description: Adapter D.M.A. test failed.
911-107	D	911	Description: Optical wrap test failed.
911-108	D	911 227	Description: Host/adapter shared RAM test failed.
911-109	D	911 227	Description: Shared RAM contention test failed.
911-110	D	911 227	Description: I/O contention test failed.
911-111	D	911	Description: Counter test failed.
911-112	D	911	Description: Timer test failed.
911-113	D	C24	Description: Cable wrap test failed.
911-114	G	C24 910	Description: Error log Analysis indicates hardware failure.
911-150	D	911 227 software	Description: Device configuration failure.
911-151	D	911 227 software	Description: Device driver indicates a hardware error.
911-152	D	911	Description: Adapter failed and error in determining which type of adapter.
912-098	J	912 B88 221	Description: Drive indicates an error.
912-099	J	912 B88 221	Description: Drive not found.
912-102	D	912	Description: An unrecoverable media error.
912-104	D	912	Description: The motor failed to restart.
912-105	D	912	Description: The drive did not become ready.
912-106	D	912	Description: The electronics card test failed.
912-108	D	912	Description: The bus test failed.
912-110	D	912	Description: The media format is corrupted.
912-112	D	912	Description: The diagnostic test failed.
912-114	D	912	Description: An unrecoverable hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
912-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
912-117	D	912	Description: A write protect error occurred.
912-118	D	912 B88	Description: A SCSI command time-out.
912-120	D	912	Description: A SCSI busy or command error.
912-122	D	912	Description: A SCSI reservation conflict error.
912-124	D	912	Description: A SCSI check condition error.
912-126	D	912 B88	Description: A software error was caused by a hardware failure.
912-128	G	912	Description: The error log analysis indicates a hardware failure.
912-129	G	D50 912 B88 software	Description: Error log analysis indicates a SCSI bus problem.
912-130	G	912	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
912-132	D	912	Description: A disk drive hardware error occurred.
912-134	D	B88 software	Description: The adapter failed to configure.
912-137	D	912 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
913-098	J	913 B88 221	Description: Drive indicates an error.
913-099	J	913 B88 221	Description: Drive not found.
913-102	D	913	Description: An unrecoverable media error.
913-104	D	913	Description: The motor failed to restart.
913-105	D	913	Description: The drive did not become ready.
913-106	D	913	Description: The electronics card test failed.
913-108	D	913	Description: The bus test failed.
913-110	D	913	Description: The media format is corrupted.
913-112	D	913	Description: The diagnostic test failed.
913-114	D	913	Description: An unrecoverable hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
913-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
913-117	D	913	Description: A write protect error occurred.
913-118	D	913 B88	Description: A SCSI command time-out.
913-120	D	913	Description: A SCSI busy or command error.
913-122	D	913	Description: A SCSI reservation conflict error.
913-124	D	913	Description: A SCSI check condition error.
913-126	D	913 B88	Description: A software error was caused by a hardware failure.
913-128	G	913	Description: The error log analysis indicates a hardware failure.
913-129	G	D50 913 B88 software	Description: Error log analysis indicates a SCSI bus problem.
913-130	G	913	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
913-132	D	913	Description: A disk drive hardware error occurred.
913-134	D	B88 software	Description: The adapter failed to configure.
913-137	D	913 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
914-110	D	914	Description: The Reserve command failed.
914-120	D	914	Description: The Inquiry command failed.
914-130	D	914 media	Description: The Load command failed.
914-135	D	914 media	Description: The Unload command failed.
914-140	D	914	Description: The Mode Select command failed.
914-150	D	914 media	Description: The Test Unit Ready command failed.
914-160	D	914 media	Description: The Send Diagnostic command failed.
914-170	D	914 B88 media	Description: The Read, Write and Compare test failed.
914-180	D	914 media	Description: The Load command failed.
914-185	D	914 media	Description: The Unload command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
914-190	D	914	Description: The Mode Select command failed.
914-200	D	914 media	Description: The Test Unit Ready command failed.
914-210	D	914 B88	Description: The device configuration failed.
914-220	D	914	Description: The Release command failed.
914-230	D	914	Description: The Request Sense command failed.
914-240	D	914	Description: The Openx command failed.
914-300	D	914 software	Description: The device configuration failed.
914-310	D	B88 914 software	Description: SCSI adapter configuration failed.
914-320	G	914 media	Description: Error log analysis indicates a failure.
914-411 to 914-423	D	914 B88 software	Description: A reservation conflict occurred.
914-511 to 914-523	D	914 B88	Description: The drive returned bad or non-extended sense data.
914-611 to 914-623	D	914 B88 software	Description: An adapter or bus I/O error occurred.
914-711 to 914-723	D	914 B88 software	Description: A device timeout error occurred.
915-098	J	915 B88 221	Description: Drive indicates an error.
915-099	J	915 B88 221	Description: Drive not found.
915-110	D	915	Description: The Reserve command failed.
915-120	D	915	Description: The Inquiry command failed.
915-130	D	915 media	Description: The Load command failed.
915-135	D	915 media	Description: The Unload command failed.
915-140	D	915	Description: The Mode Select command failed.
915-150	D	915 media	Description: The Test Unit Ready command failed.
915-160	D	915 media	Description: The Send Diagnostic command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
915-169	D	915 media	Description: The Send Diagnostic command failed.
915-170	D	915 B88 media	Description: The Read, Write and Compare test failed.
915-180	D	915 media	Description: The Load command failed.
915-185	D	915 media	Description: The Unload command failed.
915-190	D	915	Description: The Mode Select command failed.
915-200	D	915 media	Description: The Test Unit Ready command failed.
915-210	D	915 B88	Description: The device configuration failed.
915-220	D	915	Description: The Replace command failed.
915-230	D	915	Description: The Request Sense command failed.
915-240	D	915	Description: The Openx command failed.
915-300	D	915 software	Description: The device configuration failed.
915-310	D	B88 915 software	Description: SCSI adapter configuration failed.
915-320	D	915 media	Description: Error log analysis indicates a failure.
915-411 to 915-423	D	915 B88 software	Description: A reservation conflict occurred.
915-511 to 915-523	D	915 B88	Description: The drive returned bad or non-extended sense data.
915-611 to 915-623	D	915 B88 software	Description: An adapter or bus I/O error occurred.
915-711 to 915-723	D	915 B88 software	Description: A device timeout error occurred.
917-098	J	917 B88 221	Description: Drive indicates an error.
917-099	J	917 B88 221	Description: Drive not found.
917-102	D	917	Description: An unrecoverable media error.
917-104	D	917	Description: The motor failed to restart.
917-105	D	917	Description: The drive did not become ready.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
917-106	D	917	Description: The electronics card test failed.
917-108	D	917	Description: The bus test failed.
917-110	D	917	Description: The media format is corrupted.
917-112	D	917	Description: The diagnostic test failed.
917-114	D	917	Description: An unrecoverable hardware error.
917-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
917-117	D	917	Description: A write protect error occurred.
917-118	D	917 B88	Description: A SCSI command time-out.
917-120	D	917	Description: A SCSI busy or command error.
917-122	D	917	Description: A SCSI reservation conflict error.
917-124	D	917	Description: A SCSI check condition error.
917-126	D	917 B88	Description: A software error was caused by a hardware failure.
917-128	G	917	Description: The error log analysis indicates a hardware failure.
917-129	G	D50 917 B88 software	Description: Error log analysis indicates a SCSI bus problem.
917-130	G	917	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
917-132	D	917	Description: A disk drive hardware error occurred.
917-134	D	B88 software	Description: The adapter failed to configure.
917-135	D	917 B88 software	Description: The device failed to configure.
917-136	D	917	Description: The certify operation failed.
917-137	D	917 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
918-098	J	918 B88 221	Description: Drive indicates an error.
918-099	J	918 B88 221	Description: Drive not found.
918-102	D	918	Description: An unrecoverable media error.
918-104	D	918	Description: The motor failed to restart.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
918-105	D	918	Description: The drive did not become ready.
918-106	D	918	Description: The electronics card test failed.
918-108	D	918	Description: The bus test failed.
918-110	D	918	Description: The media format is corrupted.
918-112	D	918	Description: The diagnostic test failed.
918-114	D	918	Description: An unrecoverable hardware error.
918-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
918-117	D	918	Description: A write protect error occurred.
918-118	D	918 B88	Description: A SCSI command time-out.
918-120	D	918	Description: A SCSI busy or command error.
918-122	D	918	Description: A SCSI reservation conflict error.
918-124	D	918	Description: A SCSI check condition error.
918-126	D	918 B88	Description: A software error was caused by a hardware failure.
918-128	G	918	Description: The error log analysis indicates a hardware failure.
918-129	G	D50 918 B88 software	Description: Error log analysis indicates a SCSI bus problem.
918-130	G	918	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
918-132	D	918	Description: A disk drive hardware error occurred.
918-134	D	B88 software	Description: The adapter failed to configure.
918-135	D	918 B88 software	Description: The device failed to configure.
918-136	D	918	Description: The certify operation failed.
918-137	D	918 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
921-101	D	821	Description: An unexpected adapter error occurred.
921-102	D	921 821	Description: An unexpected device or adapter error occurred.
921-103	D	921 821	Description: The keyboard reset failed.
921-104	D	921	Description: Unknown keyboard.
921-201	D	821	Description: An unexpected adapter error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
921-202	D	921 821	Description: An unexpected device or adapter error occurred.
921-203	D	921	Description: The read keyboard ID test failed.
921-204	D	921	Description: The keyboard layout ID test failed.
921-205	D	921	Description: The keyboard echo test failed.
921-206	D	921	Description: The select scan code set test failed.
921-301	D	821	Description: An unexpected adapter error occurred.
921-302	D	921 821	Description: An unexpected device or adapter error occurred.
921-303	D	921	Description: An error occurred in turning on the lamps.
921-304	D	921	Description: An error occurred in turning off the lamps.
921-401	D	821	Description: An unexpected adapter error occurred.
921-402	D	921 821	Description: An unexpected device or adapter error occurred.
921-403	D	921	Description: Unable to recognize the keyboard.
921-404	D	921	Description: The keyboard is failing.
921-501	D	821	Description: An unexpected adapter error occurred.
921-502	D	921 821	Description: An unexpected device or adapter error occurred.
921-503	D	921	Description: The auto-click cannot be disabled.
921-504	D	921	Description: The auto-click cannot be enabled.
921-505	D	921	Description: Unable to recognize the keyboard.
921-601	D	821	Description: An unexpected adapter error occurred.
921-602	D	921 821	Description: An unexpected device or adapter error occurred.
921-603	D	921 821	Description: The speaker test failed.
921-701	D	921 821	Description: Error configuring the device.
921-901	G	821	Description: The error log analysis indicates an adapter failure.
921-902	G	921	Description: The error log analysis indicates a device failure.
921-903	G	921 821	Description: The error log analysis indicates an unknown failure.
922-101	D	821	Description: An unexpected adapter error occurred.
922-102	D	922 821	Description: An unexpected device or adapter error occurred.
922-103	D	922 821	Description: The keyboard reset failed.
922-104	D	922	Description: Unknown keyboard.
922-201	D	821	Description: An unexpected adapter error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
922-202	D	922 821	Description: An unexpected device or adapter error occurred.
922-203	D	922	Description: The read keyboard id test failed.
922-204	D	922	Description: The keyboard layout id test failed.
922-205	D	922	Description: The keyboard echo test failed.
922-206	D	922	Description: The select scan code set test failed.
922-301	D	821	Description: An unexpected adapter error occurred.
922-302	D	922 821	Description: An unexpected device or adapter error occurred.
922-303	D	922	Description: An error occurred in turning on the lamps.
922-304	D	922	Description: An error occurred in turning off the lamps.
922-401	D	821	Description: An unexpected adapter error occurred.
922-402	D	922 821	Description: An unexpected device or adapter error occurred.
922-403	D	922	Description: The keyboard is failing.
922-404	D	922	Description: Unable to recognize the keyboard.
922-501	D	821	Description: An unexpected adapter error occurred.
922-502	D	922 821	Description: An unexpected device or adapter error occurred.
922-503	D	921	Description: The auto-click cannot be disabled.
922-504	D	922	Description: The auto-click cannot be enabled.
922-505	D	922	Description: Unable to recognize the keyboard.
922-601	D	821	Description: An unexpected adapter error occurred.
922-602	D	922 821	Description: An unexpected device or adapter error occurred.
922-603	D	922	Description: The speaker test failed.
922-701	D	922 821	Description: Error configuring the device.
922-901	G	821	Description: The error log indicates an adapter failed.
922-902	G	922	Description: The error log indicates a device failed.
922-903	G	922 821	Description: The error log analysis indicates an unknown failure.
923-101	D	821	Description: An unexpected adapter error occurred.
923-102	D	923 821	Description: An unexpected device or adapter error occurred.
923-103	D	923 821	Description: The keyboard reset failed.
923-104	D	923	Description: Unknown keyboard.
923-201	D	821	Description: An unexpected adapter error occurred.
923-202	D	923 821	Description: An unexpected device or adapter error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
923-203	D	923	Description: The read keyboard id test failed.
923-204	D	923	Description: The keyboard layout id test failed.
923-205	D	923	Description: The keyboard echo test failed.
923-206	D	923	Description: The select scan code set test failed.
923-301	D	821	Description: An unexpected adapter error occurred.
923-302	D	923 821	Description: An unexpected device or adapter error occurred.
923-303	D	923	Description: An error occurred in turning on the lamps.
923-304	D	923	Description: An error occurred in turning off the lamps.
923-401	D	821	Description: An unexpected adapter error occurred.
923-402	D	923 821	Description: An unexpected device or adapter error occurred.
923-403	D	923	Description: The keyboard is failing.
923-404	D	923	Description: Unable to recognize the keyboard.
923-501	D	821	Description: An unexpected adapter error occurred.
923-502	D	923 821	Description: An unexpected device or adapter error occurred.
923-503	D	923	Description: The auto-click cannot be disabled.
923-504	D	923	Description: The auto-click cannot be enabled.
923-505	D	923	Description: Unable to recognize the keyboard.
923-601	D	821	Description: An unexpected adapter error occurred.
923-602	D	923 821	Description: An unexpected device or adapter error occurred.
923-603	D	923	Description: The speaker test failed.
923-701	D	923 821	Description: Error configuring the device.
923-901	G	821	Description: The error log indicates an adapter failed.
923-902	G	923	Description: The error log analysis indicates a device failure.
923-903	G	923 821	Description: The error log analysis indicates an unknown failure.
924-111	D	924 823	Description: A device failure occurred.
924-112	D	924 823	Description: The device disable test failed.
924-113	D	924	Description: A device would not reset.
924-114	D	924 823	Description: The read status command failed.
924-115	D	924	Description: Device hardware failure.
924-116	D	924	Description: Unknown Mouse type.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
924-117	D	924 823	Description: Mouse wrap mode failed.
924-118	D	924 823	Description: Error setting mouse parameters.
924-121	D	924	Description: Device hardware failure.
924-131	D	924	Description: Device hardware failure.
924-141	D	924	Description: Device hardware failure.
924-151	D	924	Description: Device hardware failure.
924-161	D	924	Description: Device hardware failure.
924-167	D	924	Description: Device hardware failure.
924-171	D	924	Description: Device hardware failure.
924-200	D	924 823	Description: Software error caused by hardware failure.
924-300	G	924	Description: Error log analysis indicates hardware failure.
924-301	G	924 823	Description: Error log analysis indicates hardware failure.
925-111	D	925 823	Description: An unexpected device error occurred.
925-112	D	925 823	Description: The device disable test failed.
925-113	D	925	Description: Could not reset the device.
925-114	D	925 823	Description: The read status command failed.
925-115	D	925	Description: The device test failed.
925-116	D	925	Description: Unknown Mouse type.
925-117	D	925 823	Description: Mouse wrap mode failed.
925-118	D	925 823	Description: Error setting mouse parameters.
925-121 to 925-171	D	925	Description: The device test failed.
925-200	D	925 823	Description: A software error was caused by a hardware failure.
925-300	G	925	Description: The error log analysis indicates a hardware failure.
925-301	G	925 823	Description: The error log analysis indicates a hardware failure.
926-104	D	926 159	Description: Input device cable is not attached.
926-111	D	824	Description: Adapter error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
926-112 to 926-115	D	926 824	Description: Device, adapter or tablet reset failed.
926-116	D	159	Description: The input device cable is not attached.
926-119	D	188	Description: The input device cable is not attached.
926-121	D	824	Description: Adapter error.
926-131	D	824 926	Description: Adapter error.
926-132 to 926-135	D	926	Description: Device or adapter error.
926-141	D	824 926	Description: Adapter error.
926-142 to 926-161	D	926	Description: Device or adapter error.
926-162	D	159 926	Description: Device or adapter error.
926-163	D	159 926	Description: Error in turning off input device LED.
926-164	D	159 926	Description: Error in turning off input device LED.
926-165	D	159	Description: The input device cable is not attached.
926-166	D	188 926	Description: Device or adapter error.
926-167	D	188 926	Description: Error in turning off input device LED.
926-168	D	188 926	Description: Error in turning on input device LED.
926-169	D	188	Description: The input device cable is not attached.
926-172	D	159 926	Description: Device or adapter error.
926-173	D	159 926	Description: Error in turning off input device switch.
926-174	D	159 926	Description: Error in turning on input device switch.
926-175	D	159	Description: The input device cable is not attached.
926-176	D	188 926	Description: Device or adapter error.
926-177	D	188 926	Description: Error in turning off input device switch.
926-178	D	188 926	Description: Error in turning on input device switch.
926-179	D	188	Description: The input device cable is not attached.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
926-181	D	824 926	Description: Adapter error.
926-182	D	159 926	Description: Device or adapter error.
926-183	D	159 926	Description: Error in incremental data mode test.
926-184	D	159	Description: The input device cable is not attached.
926-186	D	188 926	Description: Device or adapter error.
926-187	D	188 926	Description: The incremental data mode test failed.
926-188	D	188	Description: The input device cable is not attached.
926-203	D	926 824	Description: Error in disabling tablet.
926-204	D	926 824	Description: Error in enabling tablet.
926-207	D	926 824	Description: Enabled/disabled test failed.
926-208	D	926 824	Description: Enabled/disabled test failed.
926-221	D	824	Description: Adapter error.
926-222	D	926 824	Description: Device or adapter error.
926-225	D	159	Description: The input device cable is not attached.
926-229	D	188	Description: The input device cable is not attached.
926-271	D	926	Description: Adapter error.
926-272	D	159 926	Description: Device or adapter error.
926-273	D	159	Description: Error in input device switch test.
926-274	D	159	Description: The input device cable is not attached.
926-276	D	188 926	Description: Device or adapter error.
926-277	D	188 926	Description: Error in input device switch test.
926-278	D	188	Description: Input device cable is not attached.
926-281	D	824 926	Description: Adapter error.
926-282	D	159 926	Description: Device or adapter error.
926-283	D	159 926	Description: Error in incremental data mode test.
926-284	D	159	Description: The input device cable is not attached.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
926-286	D	188 926	Description: Device or adapter error.
926-287	D	188 926	Description: Error in incremental data mode test.
926-288	D	188	Description: The input device cable is not attached.
927-104	D	927 159	Description: The input device cable is not attached.
927-111	D	824	Description: Adapter error.
927-112	D	927 824	Description: Device or adapter error.
927-113	D	927 824	Description: Tablet reset failed.
927-114	D	927 824	Description: The read configuration test failed.
927-115	D	927 824	Description: The read status test failed.
927-116	D	159	Description: The input device cable is not attached.
927-119	D	188	Description: The input device cable is not attached.
927-121	D	824	Description: Adapter error.
927-122	D	927 824	Description: Device or adapter error.
927-125	D	927 824	Description: The input device cable is not attached.
927-131	D	824 927	Description: Adapter error.
927-132	D	927	Description: Device or adapter error.
927-133	D	927	Description: The set conversion mode test failed.
927-134	D	927	Description: The set resolution test failed.
927-135	D	927	Description: The read status test failed.
927-141	D	824 927	Description: Adapter error.
927-142	D	927	Description: Device or adapter error.
927-143	D	927	Description: Error in tablet indicator.
927-161	D	927	Description: Adapter error.
927-162	D	159 927	Description: Device or adapter error.
927-163	D	159 927	Description: Error in turning off input device LED.
927-164	D	159 927	Description: Error in turning on input device LED.
927-165	D	159	Description: The input device cable is not attached.
927-166	D	188 927	Description: Device or adapter error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
927-167	D	188 927	Description: Error in turning off input device LED.
927-168	D	188 927	Description: Error in turning on input device LED.
927-169	D	188	Description: The input device cable is not attached.
927-171	D	927	Description: Adapter error.
927-172	D	159 927	Description: Device or adapter error.
927-173	D	159 927	Description: Error in turning off input device switch.
927-174	D	159 927	Description: Error in turning on input device switch.
927-175	D	159	Description: The input device cable is not attached.
927-176	D	188 927	Description: Device or adapter error.
927-177	D	188 927	Description: Error in turning off input device switch.
927-178	D	188 927	Description: Error in turning on input device switch.
927-179	D	188	Description: The input device cable is not attached.
927-181	D	824 927	Description: Adapter error.
927-182	D	159 927	Description: Device or adapter error.
927-183	D	159 927	Description: Error in incremental data mode test.
927-184	D	159	Description: The input device cable is not attached.
927-186	D	188 927	Description: Device or adapter error.
927-187	D	188 927	Description: Error in incremental data mode test.
927-188	D	188	Description: The input device cable is not attached.
927-203	D	927 824	Description: Error in disabling tablet.
927-204	D	927 824	Description: Error in enabling tablet.
927-221	D	824	Description: Adapter error.
927-222	D	927 824	Description: Device or adapter error.
927-225	D	159	Description: The input device cable is not attached.
927-229	D	188	Description: The input device cable is not attached.
927-271	D	927	Description: Adapter error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
927-272	D	159 927	Description: Device or adapter error.
927-273	D	159 927	Description: Error in input device switch test.
927-274	D	159	Description: The input device cable is not attached.
927-276	D	188 927	Description: Device or adapter error.
927-277	D	188 927	Description: Error in input device switch test.
927-278	D	188	Description: The input device cable is not attached.
927-281	D	824 927	Description: Adapter error.
927-282	D	159 927	Description: Device or adapter error.
927-283	D	159 927	Description: Error in incremental data mode test.
927-284	D	159	Description: The input device cable is not attached.
927-286	D	188 927	Description: Device or adapter error.
927-287	D	188 927	Description: Error in incremental data mode test.
927-288	D	188	Description: The input device cable is not attached.
929-201	D	929	Description: Failed to register input ring
929-202	D	929	Description: Unable to read event from the device
929-203	D	929	Description: Unable to communicate with the device.
929-204	D	929	Description: Cannot set the device granularity
929-210	D	929	Description: Device or adapter failure
929-212	D	929	Description: Cannot set the device to HIGH granularity
929-213	D	929	Description: Cannot set the device to LOW granularity
929-299	D	software 929	Description: Error unconfiguring the device
929-301	D	software 929	Description: Error configuring the device
930-201	D	930	Description: Device or adapter failure
930-210	G	930	Description: Unable to turn the lights on
930-220	G	930	Description: Unable to turn the lights off hardware failure.
930-230	D	930	Description: Unable to turn the lights off
930-241	D	930	Description: Unable to turn a single light on
930-242	D	930	Description: Device or adapter failure
930-243	D	930	Description: Device or adapter failure
930-261	D	930	Description: Cable test failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
930-262	D	930	Description: Cable test failed
930-299	D	software 930	Description: Error unconfiguring the device
930-301	D	software 930	Description: Error configuring the device
931-101	D	821	Description: An unexpected adapter error occurred.
931-102	D	931 821	Description: An unexpected device or adapter error occurred.
931-103	D	931 821	Description: The keyboard reset failed.
931-104	D	931	Description: Unknown keyboard.
931-201	D	821	Description: An unexpected adapter error occurred.
931-202	D	931 821	Description: An unexpected device or adapter error occurred.
931-203	D	931	Description: The read keyboard ID test failed.
931-204	D	931	Description: The keyboard layout ID test failed.
931-205	D	931	Description: The keyboard echo test failed.
931-206	D	931	Description: The select scan code set test failed.
931-301	D	821	Description: An unexpected adapter error occurred.
931-302	D	931 821	Description: An unexpected device or adapter error occurred.
931-303	D	931	Description: An error occurred in turning on the lamps.
931-304	D	931	Description: An error occurred in turning off the lamps.
931-401	D	821	Description: An unexpected adapter error occurred.
931-402	D	931 821	Description: An unexpected device or adapter error occurred.
931-403	D	931	Description: Unable to recognize the keyboard.
931-404	D	931	Description: The keyboard is failing.
931-501	D	821	Description: An unexpected adapter error occurred.
931-502	D	931 821	Description: An unexpected device or adapter error occurred.
931-503	D	931	Description: The auto-click cannot be disabled.
931-504	D	931	Description: The auto-click cannot be enabled.
931-505	D	931	Description: Unable to recognize the keyboard.
931-601	D	821	Description: An unexpected adapter error occurred.
931-602	D	931 821	Description: An unexpected device or adapter error occurred.
931-603	D	931	Description: The speaker test failed.
931-901	G	821	Description: The error log analysis indicates an adapter failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
931-902	G	931	Description: The error log analysis indicates a device failure.
931-903	G	931 821	Description: The error log analysis indicates an unknown failure.
935-101 to 935-102	D	935 828	Description: The diskette-drive select or deselect test failed.
935-103 to 935-107	D	935 828 183	Description: The diskette failed.
935-108	D	935 828	Description: The diskette read test failed.
935-109 to 935-110	D	935 828	Description: The read/write on the diskette drive failed.
935-111 to 935-114	D	935	Description: A diskette drive test failed.
935-115 to 935-121	D	935 828	Description: The diskette drive test failed.
935-122	G	935 828 183	Description: The error log analysis indicates a hardware failure.
935-123	G	935	Description: The error log analysis indicates a hardware failure.
935-124	D	935 software	Description: Unable to configure the device.
936-201 to 936-202	D	936 828	Description: A diskette drive test failed.
936-203 to 936-207	D	936 828 183	Description: A diskette drive test failed.
936-208	D	936	Description: The diskette read test failed.
936-209 to 936-210	D	936 828	Description: A diskette test failed.
936-211 to 936-214	D	936	Description: A diskette drive test failed.
936-215 to 936-218	D	936 828	Description: A diskette test failed.
936-219	G	828	Description: The error log analysis indicates diskette adapter failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
936-220	D	936 828	Description: A software error was caused by a hardware failure.
936-221	G	936 828	Description: The error log analysis indicates a hardware failure.
936-222	G	936 828 183	Description: The error log analysis indicates a hardware failure.
936-223	G	936	Description: The error log analysis indicates a hardware failure.
936-224	D	936 software	Description: Unable to configure the device.
936-301 to 936-302	D	184 828	Description: The diskette select or de-select test failed.
936-303 to 936-307	D	184 828 183	Description: A diskette drive test failed.
936-308	D	184	Description: The diskette read test failed.
936-309 to 936-310	D	184 828	Description: The diskette write or write/read/compare test failed.
936-311 to 936-314	D	184	Description: A diskette drive test failed.
936-315 to 936-318	D	184 828	Description: A diskette drive test failed.
936-319	G	828	Description: The diskette adapter failed.
936-320	D	184 828	Description: A software error was caused by a hardware failure.
936-321	G	184 828	Description: The error log analysis indicates a hardware failure.
936-322	G	184 828 183	Description: The error log analysis indicates a hardware failure.
936-323	G	184	Description: The error log analysis indicates a hardware failure.
936-324	E	936 software	Description: Unable to configure the device.
937-101	D	937 227	Description: HIPPI adapter test failed.
937-102	D	937 227	Description: HIPPI adapter test failed.
937-103	D	937 227	Description: HIPPI adapter test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
937-104	D	937 227	Description: HIPPI adapter test failed.
937-105	D	937 227	Description: HIPPI adapter test failed.
937-106	D	937 227	Description: HIPPI adapter test failed.
937-107	D	937 227	Description: HIPPI adapter test failed.
937-108	D	937 227	Description: HIPPI adapter test failed.
937-109	D	937 C08 C10	Description: HIPPI adapter test failed.
937-110	D	937 C08 C10	Description: HIPPI adapter test failed.
937-111	D	937 C08 C10	Description: HIPPI adapter test failed.
937-112	D	937 C08 C10	Description: HIPPI adapter test failed.
937-113	D	937 C08 C10	Description: HIPPI adapter test failed.
937-114	D	937 C09 C10	Description: HIPPI adapter test failed.
937-120	D	937 C08 C09 cable	Description: HIPPI adapter test failed.
937-121	D	C08 C09 cable	Description: HIPPI adapter test failed.
940-087 to 940-088	J	C32 214	Description: IPLROS detected a problem with the memory memory module pair. If exchanging the pair does not resolve the problem exchange the next memory module pair before exchanging the planar.
940-097 to 940-098	J	C31 214	Description: IPLROS detected a problem with the memory memory module pair. If exchanging the pair does not resolve the problem exchange the next memory module pair before exchanging the planar.
940-112	G	173	Description: The memory test failed.
940-114	G	175	Description: The memory test failed.
940-115	E	C38	Description: The memory test failed. Action: Use MAP 0240.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
940-122	E	174	Description: The memory test failed.
940-124	E	179	Description: The memory test failed.
940-125	E	C39	Description: The memory test failed. Action: Use MAP 0240.
940-130	E	187	Description: The memory test failed.
940-132	E	176	Description: The memory test failed.
940-134	E	172	Description: The memory test failed.
940-135	E	C40	Description: The memory test failed. Action: Use MAP 0240.
940-136	E	D62	Description: The memory test failed.
940-142	E	177	Description: The memory test failed.
940-144	E	182	Description: The memory test failed.
940-145	E	C41	Description: The memory test failed. Action: Use MAP 0240.
940-146	E	D63	Description: The memory test failed.
940-147	G	B96	Description: Checkstop or machine checks.
940-154	E	154	Description: The memory card test failed.
940-155	E	C42	Description: The memory test failed. Action: Use MAP 0240.
940-156	E	C42	Description: The memory test failed.
940-165	E	C43	Description: The memory test failed. Action: Use MAP 0240.
940-166	E	D64	Description: The memory test failed.
940-167	G	B97	Description: Checkstop or machine checks.
940-215	E	C37 815	Description: The memory test failed. Action: Use MAP 0240.
940-216	E	D61	Description: The memory test failed.
940-217 to 940-245	E	C37 815	Description: The memory test failed. Action: Use MAP 0240.
940-254	E	157 815	Description: The memory card test failed. Action: Use MAP 0240.
940-255 to 940-265	E	C37 815	Description: The memory test failed. Action: Use MAP 0240.
940-266	E	C37 221	Description: The memory test failed. Action: Use MAP 0240.
940-315	E	C37 C38	Description: The memory test failed. Action: Use MAP 0240.
940-325	E	C37 C39	Description: The memory test failed. Action: Use MAP 0240.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
940-335	E	C37 C40	Description: The memory test failed. Action: Use MAP 0240.
940-336	E	D61 D62 D62	Description: The memory test failed.
940-345	E	C37 C41	Description: The memory test failed. Action: Use MAP 0240.
940-346	E	D61 D63 D63	Description: The memory test failed.
940-354	E	157 154	Description: The memory card test failed. Action: Use MAP 0240.
940-355	E	C37 C42	Description: The memory test failed. Action: Use MAP 0240.
940-356	E	D61 C42 C42	Description: Memory Test Failed.
940-365	E	C37 C43	Description: The memory test failed. Action: Use MAP 0240.
940-366	E	D61 D64 D64	Description: The memory test failed.
940-415	E	C37 C38	Description: The memory test failed. Action: Use MAP 0240.
940-425	E	C37 C39	Description: The memory test failed. Action: Use MAP 0240.
940-435	E	C37 C40	Description: The memory test failed. Action: Use MAP 0240.
940-436	E	D61 D62 D62 D62	Description: The memory test failed.
940-445	E	C37 C41	Description: The memory test failed. Action: Use MAP 0240.
940-446	E	D61 D63 D63 D63	Description: The memory test failed.
940-454	E	157 154	Description: The memory card test failed. Action: Use MAP 0240.
940-455	E	C37 C42	Description: The memory test failed. Action: Use MAP 0240.
940-456	E	D61 C42 C42 C42	Description: Memory Test Failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
940-465	E	C37 C43	Description: The memory test failed. Action: Use MAP 0240.
940-466	E	D61 D64 D64 D64	Description: The memory test failed.
940-515	E	C37	Description: The memory test failed. Action: Use MAP 0240.
940-516	E	D61 D61	Description: The memory test failed.
940-517 to 940-545	E	C37	Description: The memory test failed. Action: Use MAP 0240.
940-554	E	157	Description: The memory card test failed. Action: Use MAP 0240.
940-555 to 940-565	E	C37	Description: The memory test failed. Action: Use MAP 0240.
940-600	E	D05	Description: POST indicates L2 cache error.
940-601	E	D02	Description: POST indicates L2 cache error.
940-602	E	D03	Description: POST indicates L2 cache error.
940-604	E	D04	Description: POST indicates L2 cache error.
942-049	J	C28 C25 C27	Description: A graphics adapter problem is indicated.
942-050	J	942 C25 C27	Description: A graphics adapter problem is indicated.
942-101	D	942	Description: The adapter test failed.
942-102	D	942 C27 C25	Description: The adapter test failed.
942-103	D	942 C27	Description: The display test failed.
942-111	D	C28	Description: The adapter test failed.
942-112	D	C28 C27 C25	Description: The adapter test failed.
942-113	D	C28 C27	Description: The display test failed.
942-120	D	725	Description: The display test failed.
942-126	D	C87	Description: The adapter test failed.
942-127	D	C28 C87 C25	Description: The adapter test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
942-128	D	C87 C27	Description: The display test failed.
942-150	G	942	Description: Error log analysis indicates a hardware failure.
942-151	G	942 C27	Description: Error log analysis indicates a hardware failure.
942-160	G	C28	Description: Error log analysis indicates a hardware failure.
942-161	G	C28 C27	Description: Error log analysis indicates a hardware failure.
942-175	G	C87	Description: Error log analysis indicates a hardware failure.
942-176	G	C87 C27	Description: Error log analysis indicates a hardware failure.
942-201	D	C75	Description: Adapter test failed.
942-202	D	C75 C27 C25	Description: Adapter test failed.
942-203	D	C75 C27	Description: Display test failed.
942-250	G	C75	Description: Error log analysis indicated a hardware failure.
942-251	G	C75 C27	Description: Error log analysis indicated a hardware failure.
942-300	G	725 942 D07	Description: Unsupported display connected to the system.
942-310	G	725 C28 D07	Description: Unsupported display connected to the system.
942-325 to 942-345	G	725 C87 D07	Description: Unsupported display connected to the system.
942-400	G	725 C75 D07	Description: Unsupported display connected to the system.
942-500	F	725 942 D07	Description: Check the switch settings on the adapter to assure that they are set correctly.
942-510	F	725 C28 D07	Description: Check the switch settings on the adapter to assure that they are set correctly.
942-525 to 942-545	F	725 C87 D07	Description: Check the switch settings on the adapter to assure that they are set correctly.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
942-600	F	725 C75 D07	Description: Check the switch settings on the adapter to assure that they are set correctly.
944-001	D	software 944 221	Description: Device Driver open error
944-002	D	software 944 221	Description: Device configuration error
944-022	D	software 944 221	Description: Error in opening a file
944-024	D	software 880 221	Description: Device driver unconfigure error
944-100	D	software 944 221	Description: Error in opening a file
944-101	D	software 944 221	Description: Error in reading a file header
944-102	D	software 944 221	Description: Error in reading a section header
944-103	D	software 944 221	Description: Wrong type of file no load
944-104	D	software 944 221	Description: Error in seek operation
944-105	D	software 944 221	Description: Error in read operation
944-106	D	software 944 221	Description: Undefined symbol in symbol table
944-107	D	software 944 221	Description: Maximum number of external symbols exceeded
944-108	D	944 software 221	Description: Value did not match original
944-109	D	944 software 221	Description: ROSStatus completion
944-10a	D	944 software 221	Description: ConfigData found no AIB

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
944-10b	D	software 944 221	Description: Loader found no AIB Code
944-120	D	944 software 221	Description: Error in RICRead
944-121	D	944 software 221	Description: Error in RICWrite
944-122	D	944 software 221	Description: Error in RICReset
944-123	D	944 software 221	Description: Error in RICGetConfig
944-124	D	944 software 221	Description: Error in RICGetException
944-125	D	944 software 221	Description: Error in RICGetVersion
944-126	D	944 software 221	Description: Error in RICReadIO
944-127	D	944 software 221	Description: Error in RICWriteIO
944-128	D	944 software 221	Description: Error in RICLockMem
944-129	D	944 software 221	Description: Error in RICUnLockMem
944-12a	D	944 software 221	Description: Error in RICReadPOS
944-12b	D	944 software 221	Description: Error in RICWritePOS
944-12c	D	944 software 221	Description: Error in ioctl call for dd
944-130	D	software 944 221	Description: Invalid TU number
944-131	D	944 software 221	Description: JDC protocol failed, JDC returned JO_SYSERR

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
944-132	D	944 software 221	Description: JDC halted, never responded to SEND_INQR_JDC
944-133	D	software 944 221	Description: JDC returned unrecognized command, JDC returned JO_UNKNOWN
944-134	D	software 944 221	Description: Error loading jdc.dgx
944-135	D	944 software 221	Description: Error loading aibXXXX.dgx, where XXXX is the AIB ID
944-136	D	944 software 221	Description: Not a valid reply from JDC
944-137	D	944 software 221	Description: Interrupt ERR in Exception
944-138	D	software 944 221	Description: Invalid subcode of MICRO Test
944-139	D	944 software 221	Description: Memory allocation failed
944-13a	D	944 software 221	Description: TU called before TU 46 called
944-13b	D	software 944 221	Description: Not an instruction or info
944-13c	D	944 software 221	Description: RC_JO_ERR_RECEIVED
944-140	D	944 software 221	Description: Adapter download diag failed
944-141	D	944 software 221	Description: Adapter CPU test failed
944-142	D	944 software 221	Description: Adapter timer test failed
944-143	D	944 software 221	Description: Adapter micro channel test failed
944-144	D	944 software 221	Description: Adapter memory test failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
944-145	D	944 software 221	Description: Adapter memory protection test failed
944-146	D	944 software 221	Description: Adapter debug port test failed
944-147	D	944 software 221	Description: Adapter on-card wrap test failed
944-148	D	Wrap plug 944 software 221	Description: Adapter external wrap test failed
944-149	D	944 software 221	Description: JDC protocol reported failure
944-14a	D	944 software 221	Description: JDC protocol reported on card loopback failure
944-14b	D	Wrap plug 944 software 221	Description: JDC protocol reported external wrap failure
945-098 to 945-099	J	945 B88	Description: Disk drive indicates an error or not found.
945-102 to 945-114	D	945	Description: 1GB 16-bit SCSI differential disk drive problem.
945-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
945-117	D	945	Description: A write protect error occurred.
945-118	D	945 B88	Description: A SCSI command time-out.
945-120 to 945-124	D	945	Description: 1GB 16-bit SCSI differential disk drive problem.
945-126	D	945 B88	Description: A software error was caused by a hardware failure.
945-128	G	945	Description: The error log analysis indicates a hardware failure.
945-129	G	D50 945 B88 software	Description: Error log analysis indicates a SCSI bus problem.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
945-130	G	945	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
945-132	D	945	Description: A disk drive hardware error occurred.
945-134	D	B88 software	Description: The adapter failed to configure.
945-136	D	945	Description: The certify operation failed.
945-137	D	945 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
946-111	D	946 227	Description: Cannot run the test because the device driver detected a hardware error.
946-114	D	946	Description: The register verification test failed.
946-121	D	946 227	Description: Cannot run the test because the device driver detected a hardware error.
946-122	D	946 227	Description: The data wrap communications test failed.
946-123	D	946 227	Description: The modem control line test failed.
946-131	D	946	Description: Cannot run the test because the device driver detected a hardware error.
946-132	D	946 227	Description: The data wrap communications test failed.
946-133	D	946	Description: The modem control line test failed.
946-161	D	252	Description: Could not do the test because the device driver detected a hardware error.
946-162	D	252	Description: The data wrap communication test failed.
946-163	D	252	Description: The modem control line test failed.
946-171	D	259	Description: Cannot run the test because the device driver detected a hardware error.
946-172	D	259	Description: The data wrap communications test failed.
946-173	D	259	Description: The modem control line test failed.
946-181	D	261	Description: Cannot run the test because the device driver detected a hardware error.
946-182	D	261	Description: The data wrap communications test failed.
946-183	D	261	Description: The modem control line test failed.
946-271	D	946 259	Description: Cannot run the test because the device driver detected a hardware error.
946-272	D	946 259	Description: The data wrap communication test failed.
946-273	D	946 259	Description: The modem control line test failed.
946-281	D	946 261	Description: Cannot run the test because the device driver detected a hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
946-282	D	946 261	Description: The data wrap communications test failed.
946-283	D	946 261	Description: The modem control line test failed.
946-321	D	946	Description: Cannot run the test because the device driver detected a hardware error.
946-322	D	946	Description: The data wrap communications test failed.
946-323	D	946	Description: The modem control line test failed.
946-331	D	946	Description: Cannot run the test because the device driver detected a hardware error.
946-332	D	946	Description: The data wrap communications test failed.
946-333	D	946	Description: The modem control line test failed.
946-371	D	946	Description: Cannot run the test because the device driver detected a hardware error.
946-372	D	946	Description: The data wrap communications test failed.
946-373	D	946	Description: The modem control line test failed.
946-381	D	946	Description: Cannot run the test because the device driver detected a hardware error.
946-382	D	946	Description: The data wrap communications test failed.
946-383	D	946	Description: The modem control line test failed.
946-481	D	D56	Description: Could not do the test because the device driver detected a hardware error.
946-482	D	D56	Description: The data wrap communication test failed.
946-483	D	D56	Description: The modem control line test failed.
946-581	D	946 D56	Description: Could not do the test because the device driver detected a hardware error.
946-582	D	946 D56	Description: The data wrap communication test failed.
946-583	D	946 D56	Description: The modem control line test failed.
946-901 to 946-920	D	software 946	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 946; otherwise, suspect a software problem.
946-921	D	946 software	Description: The adapter failed to configure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
946-922 to 946-924	D	software 946	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 946; otherwise, suspect a software problem.
946-925	D	946 software	Description: The adapter failed to configure
946-926 to 946-943	D	software 946	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use MAP 0210 with a FFC of 946; otherwise, suspect a software problem.
950-100	C	192	Description: Power supply problem. Action: Use the service documentation for the portable disk.
950-104	C	227	Description: Multiple adapters on bus not found.
950-105	C	227 218	Description: MCA bus was not found.
950-106	C	227	Description: MCA bus was not found.
950-200	C	203	Description: Power supply problem. Action: Use the service documentation for the external device.
950-201	C	SCSI Bus	Description: SCSI bus problem. Action: Refer to MAP 2010 in the <i>7134 High Density SCSI Disk Subsystem Installation and Service Guide</i> .
950-203	C	158 D24 153	Description: Power supply problem. Action: Use the expansion unit service documentation.
950-300	C	158 153	Description: The fans good light on the drawer/deskside unit is not on. Action: Use the service documentation for the drawer/deskside unit containing the failing fan.
950-301	C	158	Description: AC fan assembly problem. Action: Refer to the service documentation.
950-302	C	D08	Description: DC fan assembly problem. Action: Refer to the service documentation.
950-400	C	153	Description: Power supply problem. Action: Use the service documentation for the drawer/tower containing the failing power supply. Refer to "Drawer/Deskside Unit Documentation" under Service Hints in Chapter 1. If the drawer/deskside unit service documentation does not isolate the problem, go to MAP 1520 in the system unit installation and service guide.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
950-500	C	152	Description: Power supply problem. Action: Use the service documentation for either the system unit, rack or drawer/deskside unit the missing device is located in.
950-600	C	184 828	Description: Device does not respond. Action: Use the service documentation for the external diskette drive.
950-679	C	679 B88 190 199 152	Description: The SCSI Disk Drive is not responding. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside unit. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-700	C	700 B88 152	Description: The device is not responding. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside unit. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-701	C	701 B88 152	Description: The device is not responding. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside unit. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-702	C	702 B88 152	Description: The device is not responding. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside unit. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-703	C	703 B88 152	Description: The device is not responding. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside unit. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-704	C	704 B88 152	Description: The device is not responding. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside unit. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-705	C	705 B88 152	Description: The device is not responding. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside unit. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-706	C	706 B88 152	Description: The device is not responding. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside unit. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
950-707	C	707 B88 152	Description: The device is not responding. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside unit. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-721	C	721 B88 152	Description: An unknown drive type is not responding.
950-722	C	722 B88 152	Description: The device is not responding. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside unit. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-723	C	723 B88 152	Description: The device is not responding. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside unit. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-724	C	724 B88 152	Description: The device is not responding. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside unit. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-734	C	734 B88 152	Description: The device is not responding. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside unit. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-741	C	741 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-772	C	772 B88 199 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-773	C	773 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-789	C	789 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
950-792	C	792 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-793	C	793 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-804	C	804 B88 152	Description: The device is not responding. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside unit. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-89A	C	89C B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-89C	C	89C B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-912	C	912 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-914	C	914 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-915	C	915 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-917	C	917 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-918	C	918 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
950-935	C	935 828	Description: Device does not respond.
950-936	C	936 828	Description: Device does not respond.
950-951	C	951 B88 152	Description: Device does not respond. Action: For devices located in drawer/desk-side units, use the service documentation for the drawer/desk-side units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-952	C	952 B88 152	Description: Device does not respond. Action: For devices located in drawer/desk-side units, use the service documentation for the drawer/desk-side units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-953	C	953 B88 152	Description: Device does not respond. Action: For devices located in drawer/desk-side units, use the service documentation for the drawer/desk-side units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-954	C	954 B88 152	Description: Device does not respond. Action: For devices located in drawer/desk-side units, use the service documentation for the drawer/desk-side units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-955	C	955 B88 141	Description: Device does not respond. Action: For devices located in drawer/desk-side units, use the service documentation for the drawer/desk-side unit. Refer to "Drawer/Desk-side Documentation" under Service Hints in Chapter 1. For all other locations, use MAP 0210. If the drawer/desk-side unit service documentation does not isolate the problem, go to MAP 0210.
950-956	C	956 B88 152	Description: Device does not respond. Action: For devices located in drawer/desk-side units, use the service documentation for the drawer/desk-side units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-959	C	959 B88 152	Description: Device does not respond. Action: For devices located in drawer/desk-side units, use the service documentation for the drawer/desk-side units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-960	C	960 B88 152	Description: Device does not respond.
950-968	C	968 B88 152	Description: Device does not respond.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
950-970	C	970 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-971	C	971 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-972	C	972 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-974	C	974 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-981	C	981 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. Refer to "Drawer/Deskside Unit Documentation" under Service Hints in Chapter 1. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-984	C	984 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-986	C	986 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-987	C	974 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-989	C	989 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
950-990	C	990 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-991	C	991 B88 152	Description: Device does not respond.
950-994	C	994 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-995	C	995 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-996	C	996 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-998	C	998 B88 152	Description: Device does not respond. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside units. For all other locations, use Chapter 9, "MAP 0210: General Problem Resolution" on page 9-1.
950-xxx (See note in Action column.)	C	xxx B88 152	Description: The device does not respond. Action: For devices located in drawers/deskside units, use the service documentation for the drawer/deskside units. Refer to "Drawer/Deskside Unit Documentation" under Service Hints in Chapter 1. For all other locations, use MAP 0210. Note: If your 950-xxx SRN is listed in this section, use the procedure for that SRN instead of this one.
951-098	J	951	Description: Disk drive indicates an error.
951-099	J	951 B88	Description: Disk drive not found.
951-102	D	951	Description: An unrecoverable media error.
951-104	D	951	Description: The motor failed to restart.
951-105	D	951	Description: The drive did not become ready.
951-106	D	951	Description: The electronics card test failed.
951-108	D	951	Description: The bus test failed.
951-110	D	951	Description: The media format is corrupted.
951-112	D	951	Description: The diagnostic test failed.
951-114	D	951	Description: An unrecoverable hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
951-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to ensure they are all compatible. If you do not find a problem, call your support person.
951-117	D	951	Description: A write protect error occurred.
951-118	D	951 B88	Description: A SCSI command timeout.
951-120	D	951	Description: A SCSI busy or command error.
951-122	D	951	Description: A SCSI reservation conflict error.
951-124	D	951	Description: A SCSI check condition error.
951-126	D	951 B88	Description: A software error was caused by a hardware failure.
951-128	G	951	Description: The error log analysis indicates a hardware failure.
951-129	G	D50 951 B88 software	Description: Error log analysis indicates a SCSI bus problem.
951-130	G	951	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
951-132	D	951	Description: A disk drive hardware error occurred.
951-134	D	B88 software	Description: The adapter failed to configure.
951-135	D	951 B88 software	Description: The device failed to configure.
951-136	D	951	Description: The certify operation failed.
951-137	D	951 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
952-098	J	952	Description: Disk drive indicates an error.
952-099	J	952 B88	Description: Disk drive not found.
952-102	D	952	Description: An unrecoverable media error.
952-104	D	952	Description: The motor failed to restart.
952-105	D	952	Description: The drive did not become ready.
952-106	D	952	Description: The electronics card test failed.
952-108	D	952	Description: The bus test failed.
952-110	D	952	Description: The media format is corrupted.
952-112	D	952	Description: The diagnostic test failed.
952-114	D	952	Description: An unrecoverable hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
952-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
952-117	D	952	Description: A write protect error occurred.
952-118	D	952 B88	Description: A SCSI command timeout.
952-120	D	952	Description: A SCSI busy or command error.
952-122	D	952	Description: A SCSI reservation conflict error.
952-124	D	952	Description: A SCSI check condition error.
952-126	D	952 B88	Description: A software error was caused by a hardware failure.
952-128	G	952	Description: The error log analysis indicates a hardware failure.
952-129	G	D50 952 B88 software	Description: Error log analysis indicates a SCSI bus problem.
952-130	G	952	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
952-132	D	952	Description: A disk drive hardware error occurred.
952-134	D	B88 software	Description: The adapter failed to configure.
952-135	D	952 B88 software	Description: The device failed to configure.
952-136	D	952	Description: The certify operation failed.
952-137	D	952 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
953-098	J	953	Description: Disk drive indicates an error.
953-099	J	953 B88	Description: Disk drive not found.
953-102	D	953	Description: An unrecoverable media error.
953-104	D	953	Description: The motor failed to restart.
953-105	D	953	Description: The disk drive did not become ready.
953-106	D	953	Description: The electronics card test failed.
953-108	D	953	Description: The bus test failed.
953-110	D	953	Description: The media format is corrupted.
953-112	D	953	Description: The diagnostic test failed.
953-114	D	953	Description: An unrecoverable hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
953-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
953-117	D	953	Description: A write protect error.
953-118	D	953 B88	Description: A SCSI command timeout.
953-120	D	953	Description: A SCSI busy or command error.
953-122	D	953	Description: A SCSI reservation conflict error.
953-124	D	953	Description: A SCSI check condition error.
953-126	D	953 B88	Description: A software error was caused by a hardware failure.
953-128	G	953	Description: The error log analysis indicates a hardware failure.
953-129	G	D50 953 B88 software	Description: Error log analysis indicates a SCSI bus problem.
953-130	G	953	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
953-132	D	953	Description: A disk drive hardware error occurred.
953-134	D	B88 software	Description: The adapter failed to configure.
953-135	D	953 B88 software	Description: The device failed to configure.
953-136	D	953	Description: The certify operation failed.
953-137	D	953 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
954-098	J	954	Description: Disk drive indicates an error.
954-099	J	954 B88	Description: Disk drive not found.
954-102	D	954	Description: An unrecoverable media error.
954-104	D	954	Description: Motor failed to restart.
954-105	D	954	Description: The disk drive did not become ready.
954-106	D	954	Description: Electronics card failure.
954-108	D	954	Description: Bus failure.
954-110	D	954	Description: The media format is corrupted.
954-112	D	954	Description: Diagnostic failure.
954-114	D	954	Description: An unrecoverable hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
954-116	D		Description: A protocol error was detected. Action: Check the levels of the device, adapter, diagnostic software, and application software, ensure that they are all compatible. If you do not find a problem, call your support person.
954-117	D	954	Description: Write protect error.
954-118	D	954 B88	Description: SCSI command timeout.
954-120	D	954	Description: SCSI busy/command error.
954-122	D	954	Description: SCSI reservation conflict error.
954-124	D	954	Description: SCSI check condition error.
954-126	D	954 B88	Description: Software error caused by hardware failure.
954-128	G	954	Description: Error log analysis indicates hardware failure.
954-129	G	D50 954 B88 software	Description: Error log analysis indicates a SCSI bus problem.
954-130	G	954	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
954-132	D	954	Description: A disk drive hardware error occurred.
954-134	D	B88 software	Description: The adapter failed to configure.
954-135	D	954 B88 software	Description: The device failed to configure.
954-136	D	954	Description: The certify operation failed.
954-137	D	954 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
955-098	J	955	Description: Disk drive indicates an error.
955-099	J	955 B88	Description: Disk drive not found.
955-102	D	955 141	Description: A media error was encountered.
955-104	D	955 141	Description: The motor failed to restart. Action: For devices installed in a drawer/deskside unit, use the drawer/deskside unit documentation. Refer to "Drawer/Deskside Unit Documentation" under Hints in Chapter 1. For other locations, go to MAP 0210. If the electronics card has been exchanged, exchange the adapter first. If the drawer/deskside unit documentation does not isolate the problem, go to MAP 0210.
955-105	D	955 141	Description: The disk drive did not become ready.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
955-106	D	955 141	Description: The electronics card failed.
955-108	D	955	Description: The bus test failed.
955-110	D	955 141	Description: The media format is corrupted.
955-112	D	955 141	Description: The diagnostic test failed.
955-114	D	955 141	Description: An unrecoverable hardware error.
955-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
955-118	D	955 B88	Description: A SCSI command timeout.
955-120	D	955 B88	Description: A SCSI busy or command error.
955-122	D	955	Description: A SCSI reservation conflict error.
955-124	D	955 B88	Description: A SCSI check condition error.
955-126	D	955 B88	Description: A software error was caused by a hardware failure.
955-128	G	955 141	Description: The error log analysis indicates a hardware failure.
955-129	G	D50 955 B88 software	Description: Error log analysis indicates a SCSI bus problem.
955-130	G	955	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
955-132	D	955	Description: A disk drive hardware error occurred.
955-134	D	B88 software	Description: The adapter failed to configure.
955-135	D	955 B88 software	Description: The device failed to configure.
955-136	D	955 141	Description: The certify operation failed.
955-137	D	955 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
956-102	D	956	Description: An unrecoverable media error.
956-104	D	956	Description: The motor failed to restart.
956-105	D	956	Description: The drive did not become ready.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
956-106	D	956	Description: The electronics card test failed.
956-108	D	956	Description: The bus test failed.
956-110	D	956	Description: The media format is corrupted.
956-112	D	956	Description: The diagnostic test failed.
956-114	D	956	Description: An unrecoverable hardware error.
956-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
956-117	D	956	Description: A write protect error occurred.
956-118	D	956 B88	Description: A SCSI command time-out.
956-120	D	956	Description: A SCSI busy or command error.
956-122	D	956	Description: A SCSI reservation conflict error.
956-124	D	956	Description: A SCSI check condition error.
956-126	D	956 B88	Description: A software error was caused by a hardware failure.
956-128	G	956	Description: The error log analysis indicates a hardware failure.
956-130	G	956 B88	Description: The error log analysis indicates a hardware failure.
956-132	D	956	Description: A disk drive hardware error occurred.
956-134	D	B88 software	Description: The adapter failed to configure.
956-136	D	956	Description: The certify operation failed.
957-100	D	957 189 227	Description: The diagnostic self-test failed.
957-101	D	957	Description: The diagnostic self-test failed, and an abort command was sent.
957-102	D	957	Description: The Write/Read Compare test failed.
957-103	D	957	Description: The Write/Read Compare test failed, and an abort command was sent.
957-104	F	957	Description: The Read/Write test failed.
957-105	D	957	Description: The Read/Write test failed, and an abort command was sent.
957-106	D	957	Description: The Seek test failed.
957-107	D	957	Description: The Seek test failed, and an abort command was sent.
957-108	D	957	Description: The Read Verify test failed.
957-109	D	957	Description: The Read Verify test failed, and an abort command was sent.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
957-110	D	957	Description: The POS register test failed.
957-112	D	957	Description: The Write/Read buffer test failed.
957-114	D	957 227	Description: The system command timed out.
957-116	D	957	Description: Device failure.
957-118	D	957 227	Description: A software error was caused by a hardware failure.
957-120	G	957	Description: The error log analysis indicates a hardware failure.
957-122	G	957 227	Description: The error log analysis indicates a hardware failure.
957-124	D	957	Description: The disk drive is failing.
957-126	D	957	Description: The disk drive is failing.
957-128	D	957	Description: The disk drive is failing.
957-134	D	B88 software	Description: The adapter failed to configure.
957-135	D	957 B88 software	Description: The device failed to configure.
958-xxx		958	Note: Use the data listed under the corresponding 957-xxx SRN. Substitute FFC 958 for FFC 957.
959-098	J	959	Description: Disk drive indicates an error.
959-099	J	959 B88	Description: Disk drive not found.
959-102	D	959	Description: Non-recoverable medium error.
959-104	D	959	Description: Motor failed to restart.
959-105	D	959	Description: The drive did not become ready.
959-106	D	959	Description: Electronics card failure.
959-108	D	959	Description: Bus failure.
959-110	D	959	Description: The media format is corrupted.
959-112	D	959	Description: Diagnostic failure.
959-114	D	959	Description: Non-recoverable hardware error.
959-116	D		Description: A protocol error was detected. Action: Check the levels of the device, adapter, diagnostic and application software, and ensure they are all compatible. If you do not find a problem, call your support person.
959-117	D	959	Description: Write protect error.
959-118	D	959 B88	Description: SCSI command timeout.
959-120	D	959	Description: SCSI busy/command error.
959-122	D	959	Description: SCSI reservation conflict error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
959-124	D	959	Description: SCSI check condition error.
959-126	D	959 B88	Description: Software error caused by hardware failure.
959-128	G	959	Description: Error log analysis indicates hardware failure.
959-129	G	D50 959 B88 software	Description: Error log analysis indicates a SCSI bus problem.
959-130	G	959	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
959-134	D	B88 software	Description: The adapter failed to configure.
959-135	D	959 B88 software	Description: The device failed to configure.
959-136	D	959	Description: The certify operation failed.
959-137	D	959 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
960-098	J	960	Description: Disk drive indicates an error.
960-099	J	960 B88	Description: Disk drive not found.
960-102	D	960	Description: An unrecoverable media error.
960-104	D	960	Description: The motor failed to restart.
960-105	D	960	Description: The drive did not become ready.
960-106	D	960	Description: The electronics card test failed.
960-108	D	960	Description: The bus test failed.
960-110	D	960	Description: The media format is corrupted.
960-112	D	960	Description: The diagnostic test failed.
960-114	D	960	Description: An unrecoverable hardware error.
960-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
960-117	D	960	Description: A write protect error occurred.
960-118	D	960 B88	Description: A SCSI command time-out.
960-120	D	960	Description: A SCSI busy or command error.
960-122	D	960	Description: A SCSI reservation conflict error.
960-124	D	960	Description: A SCSI check condition error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
960-126	D	960 B88	Description: A software error was caused by a hardware failure.
960-128	G	960	Description: The error log analysis indicates a hardware failure.
960-129	G	D50 960 B88 software	Description: Error log analysis indicates a SCSI bus problem.
960-130	G	960	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
960-132	D	960	Description: A disk drive hardware error occurred.
960-134	D	B88 software	Description: The adapter failed to configure.
960-135	D	960 B88 software	Description: The device failed to configure.
960-136	D	960	Description: The certify operation failed.
960-137	D	960 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
964-098	J	964	Description: Tape drive indicates an error.
964-099	J	964 B88	Description: Tape drive not found.
964-101	D	964	Description: Timeout while attempting to communicate with SCSI device.
964-102	D	964	Description: The SCSI device indicates busy.
964-103	D	964	Description: The SCSI device indicates a reservation conflict.
964-104	D	964	Description: The SCSI device indicates a check condition.
964-105	D	964	Description: An error is detected in request sense data.
964-107	D	964	Description: Sense data from the SCSI drive has unexpected data.
964-110	D	964	Description: The Reserve command failed.
964-111	D	964	Description: Invalid condition from the drive after a reserve.
964-112	D	964	Description: The write protect sensor test failed.
964-113	D	964	Description: Invalid condition from drive after a request sense.
964-114	D	964	Description: Timeout while attempting to communicate with the SCSI device.
964-120	D	964	Description: The Inquiry command failed.
964-130	D	964 media	Description: The Load command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
964-134	D	B88 software	Description: The adapter failed to configure.
964-135	D	964 media	Description: The Unload command failed.
964-140	D	964	Description: The Mode Select command failed.
964-150	D	964 media	Description: The Test Unit Ready command failed.
964-160	D	964 media	Description: The Send Diagnostic command failed.
964-161	D	964 B88	Description: Invalid condition from the drive after a reserve.
964-163	D	964 B88	Description: Invalid condition from the drive after a request sense.
964-164	D	964 B88	Description: Timeout while attempting to communicate with the SCSI device.
964-165	D	964 B88 276	Description: Write, Read and Compare Test failed.
964-166	D	964 B88 software	Description: Unable to configure the device.
964-167	D	964 B88	Description: An unexpected SCSI error occurred.
964-168	D	B88 software	Description: The adapter failed to configure.
964-169	D	964 media	Description: The send diagnostic command failed.
964-170	D	964 B88 media	Description: The Read, Write and Compare test failed.
964-180	D	964 media	Description: The Load command failed.
964-185	D	964 media	Description: The Unload command failed.
964-190	D	964	Description: The Mode Select command failed.
964-200	D	964 media	Description: The Test Unit Ready command failed.
964-201	G	964 B88	Description: Error diagnosed from error log analysis.
964-210	D	964 B88	Description: The device configuration failed.
964-211	D	964 B88	Description: The device open failed.
964-220	D	964	Description: The Release command failed.
964-230	D	964	Description: The Request Sense command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
964-240	D	964	Description: The Openx command failed.
964-260	D	964	Description: The device configuration failed.
964-261	D	964	Description: The device open failed.
964-300	D	964 software	Description: The device configuration failed.
964-310	D	B88 964 software	Description: SCSI adapter configuration failed.
964-320	G	964 media	Description: Error log analysis indicates a failure.
964-411 to 964-423	D	964 B88 software	Description: A reservation conflict occurred.
964-511 to 964-523	D	964 B88	Description: The drive returned bad or non-extended sense data.
964-611 to 964-623	D	964 B88 software	Description: An adapter or bus I/O error occurred.
964-711 to 964-723	D	964 B88 software	Description: A device timeout error occurred.
968-098	J	968	Description: Disk drive indicates an error.
968-099	J	968 B88	Description: Disk drive not found.
968-102	D	968	Description: An unrecoverable media error.
968-104	D	968	Description: The motor failed to restart.
968-105	D	968	Description: The drive did not become ready.
968-106	D	968	Description: The electronics card test failed.
968-108	D	968	Description: The bus test failed.
968-110	D	968	Description: The media format is corrupted.
968-112	D	968	Description: The diagnostic test failed.
968-114	D	968	Description: An unrecoverable hardware error.
968-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
968-117	D	968	Description: A write protect error occurred.
968-118	D	968 B88	Description: A SCSI command time-out.
968-120	D	968	Description: A SCSI busy or command error.
968-122	D	968	Description: A SCSI reservation conflict error.
968-124	D	968	Description: A SCSI check condition error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
968-126	D	968 B88	Description: A software error was caused by a hardware failure.
968-128	G	968	Description: The error log analysis indicates a hardware failure.
968-129	G	D50 968 B88 software	Description: Error log analysis indicates a SCSI bus problem.
968-130	G	968	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
968-132	D	968	Description: A disk drive hardware error occurred.
968-134	D	B88 software	Description: The adapter failed to configure.
968-135	D	968 B88 software	Description: The device failed to configure.
968-136	D	968	Description: The certify operation failed.
968-137	D	968 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
970-098	J	970	Description: Tape drive indicates an error.
970-099	J	970 B88	Description: Tape drive not found.
970-101	D	970	Description: Timeout while attempting to communicate with SCSI device.
970-102	D	970	Description: The SCSI device indicates busy.
970-103	D	970	Description: The SCSI device indicates a reservation conflict.
970-104	D	970	Description: The SCSI device indicates a check condition.
970-105	D	970	Description: An error is detected in request sense data.
970-107	D	970	Description: Sense data from the SCSI drive has unexpected data.
970-110	D	970	Description: The Reserve command failed.
970-111	D	970	Description: Invalid condition from the drive after a reserve.
970-112	D	970	Description: The write protect sensor test failed.
970-113	D	970	Description: Invalid condition from drive after a request sense.
970-114	D	970	Description: Timeout while attempting to communicate with the SCSI device.
970-120	D	970	Description: The Inquiry command failed.
970-130	D	970 media	Description: The Load command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
970-134	D	B88 software	Description: The adapter failed to configure.
970-135	D	970 media	Description: The Unload command failed.
970-140	D	970	Description: The Mode Select command failed.
970-150	D	970 media	Description: The Test Unit Ready command failed.
970-160	D	970 media	Description: The Send Diagnostic command failed.
970-161	D	970 B88	Description: Invalid condition from the drive after a reserve.
970-163	D	970 B88	Description: Invalid condition from the drive after a request sense.
970-164	D	970 B88	Description: Timeout while attempting to communicate with the SCSI device.
970-165	D	970 B88 276	Description: Write, Read and Compare Test failed.
970-166	D	970 B88 software	Description: Unable to configure the device.
970-167	D	970 B88	Description: An unexpected SCSI error occurred.
970-168	D	B88 software	Description: The adapter failed to configure.
970-169	D	970 media	Description: The send diagnostic command failed.
970-170	D	970 B88 media	Description: The Read, Write and Compare test failed.
970-180	D	970 media	Description: The Load command failed.
970-185	D	970 media	Description: The Unload command failed.
970-190	D	970	Description: The Mode Select command failed.
970-200	D	970 media	Description: The Test Unit Ready command failed.
970-201	G	970 B88	Description: Error diagnosed from error log analysis.
970-210	D	970 B88	Description: The device configuration failed.
970-211	D	970 B88	Description: The device open failed.
970-220	D	970	Description: The Release command failed.
970-230	D	970	Description: The Request Sense command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
970-240	D	970	Description: The Openx command failed.
970-260	D	970	Description: The device configuration failed.
970-261	D	970	Description: The device open failed.
970-300	D	970 software	Description: The device configuration failed.
970-310	D	B88 970 software	Description: SCSI adapter configuration failed.
970-320	G	970 media	Description: Error log analysis indicates a failure.
970-411 to 970-423	D	970 B88 software	Description: A reservation conflict occurred.
970-511 to 970-523	D	970 B88	Description: The drive returned bad or non-extended sense data.
970-611 to 970-623	D	970 B88 software	Description: An adapter or bus I/O error occurred.
970-711 to 970-723	D	970 B88 software	Description: A device timeout error occurred.
971-098	J	971	Description: Tape drive indicates an error.
971-099	J	971 B88	Description: Tape drive not found.
971-101	D	971	Description: Timeout while attempting to communicate with SCSI device.
971-102	D	971	Description: The SCSI device indicates busy.
971-103	D	971	Description: The SCSI device is indicating a reservation conflict.
971-104	D	971	Description: The SCSI device indicates a check condition.
971-105	D	971	Description: Sense data from the SCSI device shows an error.
971-107	D	971	Description: The SCSI drive returned unexpected sense data.
971-110	D	971	Description: The Reserve command failed.
971-111	D	971	Description: Invalid condition from the drive after a reserve.
971-112	D	971	Description: The write protect sensor test failed.
971-113	D	971	Description: Invalid condition from the drive after a request sense.
971-114	D	971	Description: Timeout while attempting to communicate with the SCSI device.
971-120	D	971	Description: The Inquiry command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
971-130	D	971 media	Description: The Load command failed.
971-135	D	971 media	Description: The Unload command failed.
971-140	D	971	Description: The Mode Select command failed.
971-150	D	971 media	Description: The Test Unit Ready command failed.
971-160	D	971 media	Description: The Send Diagnostic command failed.
971-161	D	971 B88	Description: Invalid condition from the drive after a reserve.
971-163	D	971 B88	Description: Invalid condition from the drive after a request sense.
971-164	D	971 B88	Description: Timeout while attempting to communicate with the SCSI device.
971-165	D	971 B88 276	Description: Write, Read and Compare Test failed.
971-166	D	971 B88 software	Description: Unable to configure the device.
971-167	D	971 B88	Description: An unexpected SCSI error occurred.
971-168	D	B88 software	Description: The adapter failed to configure.
971-169	D	971 media	Description: The Send Diagnostic command failed.
971-170	D	971 B88 media	Description: The Read, Write and Compare test failed.
971-180	D	971 media	Description: The Load command failed.
971-185	D	971 media	Description: The Unload command failed.
971-190	D	971	Description: The Mode Select command failed.
971-200	D	971 media	Description: The Test Unit Ready command failed.
971-201	G	971 B88	Description: An error is diagnosed from the error log analysis.
971-210	D	971 B88	Description: The device configuration failed.
971-211	D	971 B88	Description: The device open test failed.
971-220	D	971	Description: The Release command failed.
971-230	D	971	Description: The Request Sense command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
971-240	D	971	Description: The Openx command failed.
971-260	D	971	Description: The device configuration failed.
971-261	D	971	Description: The device open test failed.
971-300	D	971 software	Description: The device configuration failed.
971-310	D	B88 971 software	Description: SCSI adapter configuration failed.
971-320	G	971 media	Description: Error log analysis indicates a failure.
971-411 to 971-423	D	971 B88 software	Description: A reservation conflict occurred.
971-511 to 971-523	D	971 B88	Description: The drive returned bad or non-extended sense data.
971-611 to 971-623	D	971 B88 software	Description: An adapter or bus I/O error occurred.
971-711 to 971-723	D	971 B88 software	Description: A device timeout error occurred.
972-098	J	972	Description: Tape drive indicates an error.
972-099	J	972 B88	Description: Tape drive not found.
972-101	D	972	Description: Timeout while attempting to communicate with SCSI device.
972-102	D	972	Description: The SCSI device indicates busy.
972-103	D	972	Description: The SCSI device indicates a reservation conflict.
972-104	D	972	Description: The SCSI device indicates a check condition.
972-105	D	972	Description: An error is detected in request sense data.
972-107	D	972	Description: The drive has returned unexpected sense data.
972-110	D	972	Description: The Reserve command failed.
972-111	D	972	Description: Invalid condition from the drive after a reserve.
972-112	D	972	Description: The write protect sensor test failed.
972-113	D	972	Description: Invalid condition from the drive after a request sense.
972-114	D	972	Description: Timeout while attempting to communicate with the SCSI device.
972-120	D	972	Description: The Inquiry command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
972-130	D	972 media	Description: The Load command failed.
972-135	D	972 media	Description: The Unload command failed.
972-140	D	972	Description: The Mode Select command failed.
972-150	D	972 media	Description: The Test Unit Ready command failed.
972-160	D	972 media	Description: The Send Diagnostic command failed.
972-161	D	972 B88	Description: Invalid condition from the drive after a reserve.
972-163	D	972 B88	Description: Invalid condition from the drive after a request sense.
972-164	D	972 B88 276	Description: Timeout while attempting communication with SCSI device.
972-165	D	972 B88 276	Description: Write, Read and Compare Test failed.
972-166	D	972 B88 software	Description: Unable to configure the device.
972-167	D	972 B88	Description: An unexpected SCSI error occurred.
972-168	D	B88 software	Description: The adapter failed to configure.
972-169	D	972 media	Description: The send diagnostic command failed.
972-170	D	972 B88 media	Description: The Read, Write and Compare test failed.
972-180	D	972 media	Description: The Load command failed.
972-185	D	972 media	Description: The Unload command failed.
972-190	D	972	Description: The Mode Select command failed.
972-200	D	972 media	Description: The Test Unit Ready command failed.
972-201	G	972 B88	Description: An error is diagnosed from the error log analysis.
972-210	D	972 B88	Description: The device configuration failed.
972-211	D	972 B88	Description: The device open test failed.
972-220	D	972	Description: The Release command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
972-230	D	972	Description: The Request Sense command failed.
972-240	D	972	Description: The Openx command failed.
972-260	D	972	Description: The device configuration test failed.
972-261	D	972	Description: The device open test failed.
972-300	D	972 software	Description: The device configuration failed.
972-310	D	B88 972 software	Description: SCSI adapter configuration failed.
972-320	G	972 media	Description: Error log analysis indicates a failure.
972-411 to 972-423	D	972 B88 software	Description: A reservation conflict occurred.
972-511 to 972-523	D	972 B88	Description: The drive returned bad or non-extended sense data.
972-611 to 972-623	D	972 B88 software	Description: An adapter or bus I/O error occurred.
972-711 to 972-723	D	972 B88 software	Description: A device timeout error occurred.
973-110	D	973	Description: The Reserve command failed.
973-120	D	973	Description: The Inquiry command failed.
973-130	D	973 media	Description: The Load command failed.
973-135	D	973 media	Description: The Unload command failed.
973-140	D	973	Description: The Mode Select command failed.
973-150	D	973 media	Description: The Test Unit Ready command failed.
973-160	D	973 media	Description: The Send Diagnostic command failed.
973-169	D	973 media	Description: The Send Diagnostic command failed.
973-170	D	973 B88 media	Description: The Read, Write and Compare test failed.
973-180	D	973 media	Description: The Load command failed.
973-185	D	973 media	Description: The Unload command failed.
973-190	D	973	Description: The Mode Select command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
973-200	D	973 media	Description: The Test Unit Ready command failed.
973-210	D	973 B88	Description: The device configuration failed.
973-220	D	973	Description: The Release command failed.
973-230	D	973	Description: The Request Sense command failed.
973-240	D	973	Description: The Openx command failed.
973-300	D	973 software	Description: The device configuration failed.
973-310	D	B88 973 software	Description: SCSI adapter configuration failed.
973-320	D	973 media	Description: Error log analysis indicates a failure.
973-411 to 973-423	D	973 B88 software	Description: A reservation conflict occurred.
973-511 to 973-523	D	973 B88	Description: The drive returned bad or non-extended sense data.
973-611 to 973-623	D	973 B88 software	Description: An adapter or bus I/O error occurred.
973-711 to 973-723	D	973 B88 software	Description: A device timeout error occurred.
974-111	D	974 B88	Description: Unable to reserve device.
974-112	D	974 B88	Description: Unable to do configuration.
974-113	D	974 B88	Description: Unable to open the device driver.
974-121	D	974	Description: The CD-ROM drive indicates an error.
974-122	D	974	Description: The CD-ROM drive indicates an error.
974-123	D	974	Description: The CD-ROM drive indicates an error.
974-125	D	974 B88	Description: The CD-ROM drive indicates an error.
974-126	D	974	Description: The CD-ROM drive indicates an error.
974-127	D	974	Description: The CD-ROM drive indicates an error.
974-128	D	974	Description: The CD-ROM drive indicates an error.
974-129	D	974	Description: The CD-ROM drive indicates an error.
974-150	D	Media 974	Description: A media error was detected.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
974-151	D	974 D88	Description: A command timeout was detected.
974-152	D	974	Description: A command reservation conflict was detected.
974-162	D	974	Description: The CD-ROM drive indicates an error.
974-171	D	974	Description: Unable to reserve device.
974-172	D	974	Description: Unable to do configuration.
974-173	D	974	Description: Unable to open device driver.
974-175	D	974	Description: The CD-ROM drive indicates an error.
974-198	D	974 B88	Description: Undefined error detected.
974-199	D	974	Description: Undefined error detected.
974-211	D	974	Description: The LED test failed.
974-281	D	974	Description: No tone during audio test.
974-301	G	974	Description: Errors found during ELA.
974-302	G	974 B88	Description: Errors log analysis indicates hardware failure.
975-098	J	975	Description: CD-ROM drive indicates an error.
975-099	J	975 B88	Description: CD-ROM drive not found.
977-101	D	977 227	Description: Reset operation failed.
977-110	D	977 227	Description: Host status register test failed.
977-120	D	977	Description: Microcode download failed.
977-130	D	977	Description: Interrupt test failed.
977-140	D	977	Description: Shared memory test failed.
977-150	D	977	Description: Memory test failed.
977-160	D	977	Description: DMA Arbitration test failed.
977-170	D	977	Description: Playback test failed.
977-180	D	977	Description: Analog loop test failed.
977-190	D	977 227	Description: Device driver indicates a hardware failure.
977-200	D	977 227 software	Description: Unable to configure adapter.
977-300	G	977 227	Description: Error log analysis indicates a hardware failure.
977-310	G	977	Description: Error log analysis indicates a hardware failure.
981-102	D	981	Description: An unrecoverable media error.
981-104	D	981	Description: The motor failed to restart.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
981-105	D	981	Description: The drive did not become ready.
981-106	D	981	Description: The electronics card test failed.
981-108	D	981	Description: The bus test failed.
981-110	D	981	Description: The media format is corrupted.
981-112	D	981	Description: The diagnostic test failed.
981-114	D	981	Description: An unrecoverable hardware error.
981-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
981-117	D	981	Description: A write protect error occurred.
981-118	D	981 B88	Description: A SCSI command time-out.
981-120	D	981	Description: A SCSI busy or command error.
981-122	D	981	Description: A SCSI reservation conflict error.
981-124	D	981	Description: A SCSI check condition error.
981-126	D	981 B88	Description: A software error was caused by a hardware failure.
981-128	G	981	Description: The error log analysis indicates a hardware failure.
981-129	G	D50 981 B88 software	Description: Error log analysis indicates a SCSI bus problem.
981-130	G	981	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
981-132	D	981	Description: A disk drive hardware error occurred.
981-134	D	B88 software	Description: The adapter failed to configure.
981-136	D	981	Description: The certify operation failed.
981-137	D	981 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
984-102	D	984	Description: An unrecoverable media error.
984-104	D	984	Description: The motor failed to restart.
984-105	D	984	Description: The drive did not become ready.
984-106	D	984	Description: The electronics card test failed.
984-108	D	984	Description: The bus test failed.
984-110	D	984	Description: The media format is corrupted.
984-112	D	984	Description: The diagnostic test failed.
984-114	D	984	Description: An unrecoverable hardware error

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
984-116	D		Description: A protocol error Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
984-117	D	984	Description: A write protect error occurred.
984-118	D	984 B88	Description: A SCSI command time-out.
984-120	D	984	Description: A SCSI busy or command error.
984-122	D	984	Description: A SCSI reservation conflict error.
984-124	D	984	Description: A SCSI check condition error.
984-126	D	984 B88	Description: A software error was caused by a hardware failure.
984-128	G	984	Description: The error log analysis indicates a hardware failure.
984-129	G	D50 984 B88 software	Description: Error log analysis indicates a SCSI bus problem.
984-130	G	984	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
984-132	D	984	Description: A disk drive hardware error occurred.
984-134	D	B88 software	Description: The adapter failed to configure.
984-137	D	984 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
985-100	D	985	Description: M-Video Capture Adapter initialization test failed.
985-110	D	985	Description: M-Video Capture Adapter register test failed.
985-120	D	985	Description: Image memory test failed.
985-130	D	985	Description: Overlay memory failed.
985-140	D	985	Description: M-Video Capture Adapter interrupt test failed.
985-150	D	985	Description: COMPOSITE wrap test failed.
985-160	D	985	Description: RGB red wrap test failed.
985-170	D	985	Description: RGB green wrap test test failed.
985-180	D	985	Description: RGB blue wrap test test failed.
985-190	D	985	Description: YC wrap test test failed.
985-200	D	985	Description: Color bar screen aid failed.
985-210	D	985	Description: Black white screen aid failed.
985-220	D	985	Description: White screen aid failed.
985-230	D	985	Description: Black screen aid failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
985-240	D	985	Description: Yellow cursor screen aid failed.
985-250	D	985	Description: Red screen aid failed.
985-260	D	985	Description: Green screen aid failed.
985-270	D	985	Description: Blue screen aid failed.
985-290	D	985	Description: VCA adapter error.
986-102	D	986	Description: An unrecoverable media error.
986-104	D	986	Description: The motor failed to restart.
986-105	D	986	Description: The drive did not become ready.
986-106	D	986	Description: The electronics card test failed.
986-108	D	986	Description: The bus test failed.
986-110	D	986	Description: The media format is corrupted.
986-112	D	986	Description: The diagnostic test failed.
986-114	D	986	Description: An unrecoverable hardware error.
986-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
986-117	D	986	Description: A write protect error occurred.
986-118	D	986 B88	Description: A SCSI command time-out
986-120	D	986	Description: A SCSI busy or command error
986-122	D	986	Description: A SCSI reservation conflict error
986-124	D	986	Description: A SCSI check condition error
986-126	D	986 B88	Description: A software error was caused by a hardware failure.
986-128	G	986	Description: The error log analysis indicates a hardware failure.
986-129	G	D50 986 B88 software	Description: Error log analysis indicates a SCSI bus problem.
986-130	G	986	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
986-132	D	986	Description: A disk drive hardware error occurred.
986-134	D	B88 software	Description: The adapter failed to configure.
986-136	D	986 C11	Description: The certify operation failed.
986-137	D	986 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
987-098	J	987 B88 221	Description: IPLROS detected a problem with the CDROM drive.
987-099	J	987 B88	Description: IPLROS detected a problem with the CDROM drive.
987-111	D	987 B88	Description: Unable to reserve device
987-112	D	987 B88	Description: Unable to do configuration
987-113	D	987 B88	Description: Unable to open the device driver.
987-121	D	987	Description: The CD-ROM drive indicates an error.
987-122	D	987	Description: The CD-ROM drive indicates an error.
987-123	D	987	Description: The CD-ROM drive indicates an error.
987-125	D	987 B88	Description: The CD-ROM drive indicates an error.
987-126	D	987	Description: The CD-ROM drive indicates an error.
987-127	D	987	Description: The CD-ROM drive indicates an error.
987-128	D	987	Description: The CD-ROM drive indicates an error.
987-129	D	987	Description: The CD-ROM drive indicates an error.
987-150	D	Media 987	Description: A media error was detected.
987-151	D	987 D88	Description: A command timeout was detected.
987-152	D	987	Description: A command reservation conflict was detected.
987-162	D	987	Description: The CD-ROM drive indicates an error.
987-171	D	987	Description: Unable to reserve device
987-172	D	987	Description: Unable to do configuration
987-173	D	987	Description: Unable to open device driver.
987-175	D	987	Description: The CD-ROM drive indicates an error.
987-198	D	987 B88	Description: Undefined error detected.
987-199	D	987	Description: Undefined error detected.
987-211	D	987	Description: The LED test failed.
987-281	D	987	Description: No tone during audio test.
987-301	G	987	Description: Errors found during ELA.
987-302	G	987 B88	Description: Errors found during ELA.
989-102	D	989	Description: An unrecoverable media error
989-104	D	989	Description: The motor failed to restart.
989-105	D	989	Description: The drive did not become ready.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
989-106	D	989	Description: The electronics card test failed.
989-108	D	989	Description: The bus test failed.
989-110	D	989	Description: The media format is corrupted.
989-112	D	989	Description: The diagnostic test failed.
989-114	D	989	Description: A non-recoverable hardware error
989-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
989-117	D	989	Description: A write protect error occurred.
989-118	D	989 B88	Description: A SCSI command time-out.
989-120	D	989	Description: A SCSI busy or command error.
989-122	D	989	Description: A SCSI reservation conflict error
989-124	D	989	Description: A SCSI check condition error
989-126	D	989 B88	Description: A software error was caused by a hardware failure.
989-128	G	989	Description: The error log analysis indicates a hardware failure.
989-129	G	D50 989 B88 software	Description: Error log analysis indicates a SCSI bus problem.
989-130	G	989	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
989-132	D	989	Description: A disk drive hardware error occurred.
989-134	D	B88 software	Description: The adapter failed to configure.
989-135	D	989 B88 software	Description: The device failed to configure.
989-136	D	989	Description: The certify operation failed.
989-137	D	989 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
990-098	J	990 B88	Description: The disk drive indicates an error.
990-099	J	990 B88	Description: The disk drive not found.
990-102	D	990	Description: An unrecoverable media error occurred.
990-104	D	990	Description: The motor failed to restart.
990-105	D	990	Description: The drive did not become ready.
990-106	D	990	Description: The electronics card test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
990-108	D	990	Description: The bus test failed.
990-110	D	990	Description: The media format is corrupted.
990-112	D	990	Description: The diagnostic test failed.
990-114	D	990	Description: An unrecoverable hardware error.
990-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
990-117	D	990	Description: A write protect error occurred.
990-118	D	990 B88	Description: A SCSI command time-out occurred.
990-120	D	990	Description: A SCSI busy or command error.
990-122	D	990	Description: A SCSI reservation conflict error.
990-124	D	990	Description: A SCSI check condition error occurred.
990-126	D	990 B88	Description: A software error was caused by a hardware failure.
990-128	G	990	Description: The error log analysis indicates a hardware failure.
990-129	G	D50 990 B88 software	Description: Error log analysis indicates a SCSI bus problem.
990-130	G	990	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
990-132	D	990	Description: A disk drive hardware error occurred.
990-134	D	B88 software	Description: The adapter failed to configure.
990-136	D	990	Description: The certify operation failed.
990-137	D	990 B88 D50	Description: Unit attention condition has occurred on the Send Diagnostic command.
991-098	J	991 B88 221	Description: The tape drive indicates an error.
991-099	J	991 B88 221	Description: The tape drive was not found.
991-101	D	991	Description: Timeout while attempting to communicate with a SCSI device.
991-102	D	991	Description: The SCSI device indicates busy.
991-103	D	991	Description: The SCSI device is indicating a reservation conflict.
991-104	D	991	Description: The SCSI device indicates a check condition.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
991-105	D	991	Description: Sense data from the SCSI device shows an error.
991-107	D	991	Description: The SCSI drive returned unexpected sense data.
991-110	D	991	Description: The Reserve command failed.
991-111	D	991	Description: Invalid condition from the drive after a reserve.
991-112	D	991	Description: The write protect sensor test failed.
991-113	D	991	Description: Invalid condition from the drive after a request sense.
991-114	D	991	Description: Timeout while attempting to communicate with the SCSI device.
991-120	D	991	Description: The Inquiry command failed.
991-130	D	991 media	Description: The Load command failed.
991-135	D	991 media	Description: The Unload command failed.
991-140	D	991	Description: The Mode Select command failed.
991-150	D	991 media	Description: The Test Unit Ready command failed.
991-160	D	991 media	Description: The Send Diagnostic command failed.
991-161	D	991 B88	Description: Invalid condition from the drive after a reserve.
991-163	D	991 B88	Description: Invalid condition from the drive after a request sense.
991-164	D	991 B88	Description: Timeout while attempting to communicate with the SCSI device.
991-165	D	991 B88 276	Description: Write, Read and Compare Test failed.
991-166	D	991 B88 software	Description: The device failed to configure.
991-167	D	991 B88	Description: An unexpected SCSI error occurred.
991-168	D	B88 software	Description: The adapter failed to configure.
991-169	D	991 media	Description: The Send Diagnostic command failed.
991-170	D	991 B88 media	Description: The Read, Write and Compare test failed.
991-180	D	991 media	Description: The Load command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
991-185	D	991 media	Description: The Unload command failed.
991-190	D	991	Description: The Mode Select command failed.
991-200	D	991 media	Description: The Test Unit Ready command failed.
991-201	G	991 B88	Description: An error is diagnosed from the error log analysis.
991-210	D	991 B88	Description: The device configuration failed.
991-211	D	991 B88	Description: The device open test failed.
991-220	D	991	Description: The Release command failed.
991-230	D	991	Description: The Request Sense command failed.
991-240	D	991	Description: The Openx command failed.
991-260	D	991	Description: The device configuration failed.
991-261	D	991	Description: The device open test failed.
991-300	D	991 software	Description: The device configuration failed.
991-310	D	B88 991 software	Description: SCSI adapter configuration failed.
991-320	D	991 media	Description: Error log analysis indicates a failure.
991-411 to 991-423	D	991 B88 software	Description: A reservation conflict occurred.
991-511 to 991-523	D	991 B88	Description: The drive returned bad or non-extended sense data.
991-611 to 991-623	D	991 B88 software	Description: An adapter or bus I/O error occurred.
991-711 to 991-723	D	991 B88 software	Description: A device timeout error occurred.
994-110	D	994	Description: The Reserve command failed.
994-120	D	994	Description: The Inquiry command failed.
994-130	D	994 media	Description: The Load command failed.
994-135	D	994 media	Description: The Unload command failed.
994-140	D	994	Description: The Mode Select command failed.
994-150	D	994 media	Description: The Test Unit Ready command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
994-160	D	994 media	Description: The Send Diagnostic command failed.
994-169	D	994 media	Description: The Send Diagnostic command failed.
994-170	D	994 B88 media	Description: The Read, Write and Compare test failed.
994-180	D	994 media	Description: The Load command failed.
994-185	D	994 media	Description: The Unload command failed.
994-190	D	994	Description: The Mode Select command failed.
994-200	D	994 media	Description: The Test Unit Ready command failed.
994-210	D	994 B88	Description: The device configuration failed.
994-220	D	994	Description: The Release command failed.
994-230	D	994	Description: The Request Sense command failed.
994-240	D	994	Description: The Openx command failed.
994-300	D	994 software	Description: The device configuration failed.
994-310	D	B88 994 software	Description: SCSI adapter configuration failed.
994-320	G	994 media	Description: Error log analysis indicates a failure.
994-411 to 994-423	D	994 B88 software	Description: A reservation conflict occurred.
994-511 to 994-523	D	994 B88	Description: The drive returned bad or non-extended sense data.
994-611 to 994-623	D	994 B88 software	Description: An adapter or bus I/O error occurred.
994-711 to 994-723	D	994 B88 software	Description: A device timeout error occurred.
995-098	J	995 B88	Description: Tape drive indicates an error.
995-099	J	995 B88	Description: Tape drive not found.
995-110	D	995	Description: The Reserve command failed.
995-120	D	995	Description: The Inquiry command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
995-130	D	995 media	Description: The Load command failed.
995-135	D	995 media	Description: The Unload command failed.
995-140	D	995	Description: The Mode Select command failed.
995-150	D	995 media	Description: The Test Unit Ready command failed.
995-160	D	995 media	Description: The Send Diagnostic command failed.
995-169	D	995 media	Description: The Send Diagnostic command failed.
995-170	D	995 B88 media	Description: The Read, Write and Compare test failed.
995-180	D	995 media	Description: The Load command failed.
995-185	D	995 media	Description: The Unload command failed.
995-190	D	995	Description: The Mode Select command failed.
995-200	D	995 media	Description: The Test Unit Ready command failed.
995-210	D	995 B88	Description: The device configuration failed.
995-220	D	995	Description: The Release command failed.
995-230	D	995	Description: The Request Sense command failed.
995-240	D	995	Description: The Openx command failed.
995-300	D	995 software	Description: The device configuration failed.
995-310	D	B88 995 software	Description: SCSI adapter configuration failed.
995-320	G	995 media	Description: Error log analysis indicates a failure.
995-411 to 995-423	D	995 B88 software	Description: A reservation conflict occurred.
995-511 to 995-523	D	995 B88	Description: The drive returned bad or non-extended sense data.
995-611 to 995-623	D	995 B88 software	Description: An adapter or bus I/O error occurred.
995-711 to 995-723	D	995 B88 software	Description: A device timeout error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
996-101	D	996	Description: Multi-Protocol Adapter failed.
996-102	D	996	Description: Multi-Protocol Adapter failed.
996-103	D	996	Description: Multi-Protocol Adapter failed.
996-105	D	996	Description: Multi-Protocol Adapter failed.
996-106	D	996	Description: Multi-Protocol Adapter failed.
996-107	D	996	Description: Multi-Protocol Adapter failed.
997-101	D	997 227	Description: Cannot place adapter in diagnostics mode.
997-102	D	997 227	Description: Cannot place adapter in normal mode.
997-103	D	997	Description: Cannot place adapter in online diagnostics mode.
997-104	D	997	Description: Cannot release adapter from online diagnostics mode.
997-106	D	997 227	Description: Serial Interface Register failure.
997-107	D	997	Description: Adapter shared RAM failure.
997-108	D	997 227	Description: One transfer adapter RAM buffer failure.
997-109	D	997	Description: Two transfers adapter RAM buffer failure.
997-110	D	997	Description: Three transfers adapter RAM buffer failure.
997-111	D	997	Description: One transfer adapter node processor bus data store failure.
997-112	D	997	Description: Two transfers adapter node processor bus data store failure.
997-113	D	997	Description: Three transfers adapter node processor bus data store failure.
997-114	D	997	Description: One transfer adapter node processor bus data store failure.
997-115	D	997	Description: Two transfers adapter node processor bus data store failure.
997-116	D	997	Description: Three transfers adapter node processor bus data store failure.
997-117	D	997	Description: Primary card data wrap failure.
997-118	D	997	Description: Download microcode failure.
997-121	D	997	Description: Download diagnostics microcode failure.
997-122	D	997	Description: Node processor instruction test failure.
997-123	D	997	Description: Interface test failure.
997-124	D	997	Description: VPD CRC test failure.
997-125	D	997	Description: Node processor data memory test failure.
997-126	D	997	Description: Logic interface test failure.
997-127	D	997	Description: Interface test failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
997-128	D	997	Description: Data path test failure.
997-129	D	997	Description: Class B data path failure.
997-130	D	B45 B46 997	Description: Class A data path failure.
997-131	D	997	Description: Operational microcode CRC test failure.
997-132	D	B45 B46	Description: Extender card VPD CRC test failure.
997-133	D	B45	Description: Extender card wrap data test failure.
997-134	G	997 B46 227 software	Description: The device driver indicates a hardware problem. Note: This is error log analysis.
997-135	D	B45	Description: Extender card VPD CRC test failure.
997-137	D	997 B46 B45	Description: AMD interface chip failure.
997-150	D	997 B46 227 software	Description: Device configuration failure.
997-151	D	997 227	Description: The device driver indicates a hardware problem.
998-098	J	998 B88	Description: Tape drive indicates an error.
998-099	J	998 B88	Description: Tape drive not found.
998-110	D	998	Description: The Reserve command failed.
998-120	D	998	Description: The Inquiry command failed.
998-130	D	998 media	Description: The Load command failed.
998-135	D	998 media	Description: The Unload command failed.
998-140	D	998	Description: The Mode Select command failed.
998-150	D	998 media	Description: The Test Unit Ready command failed.
998-160	D	998 media	Description: The Send Diagnostic command failed.
998-169	D	998 media	Description: The Send Diagnostic command failed.
998-170	D	998 B88 media	Description: The Read, Write and Compare test failed.
998-180	D	998 media	Description: The Load command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless indicated otherwise use MAP 0210.)
998-185	D	998 media	Description: The Unload command failed.
998-190	D	998	Description: The Mode Select command failed.
998-200	D	998 media	Description: The Test Unit Ready command failed.
998-210	D	998 B88	Description: The device configuration failed.
998-220	D	998	Description: The Release command failed.
998-230	D	998	Description: The Request Sense command failed.
998-240	D	995	Description: The Openx command failed.
998-300	D	995 software	Description: The device configuration failed.
998-310	D	B88 995 software	Description: SCSI adapter configuration failed.
998-320	G	995 media	Description: Error log analysis indicates a failure.
998-411 to 998-423	D	998 B88 software	Description: A reservation conflict occurred.
998-511 to 998-523	D	998 B88	Description: The drive returned bad or non-extended sense data.
998-611 to 998-623	D	998 B88 software	Description: An adapter or bus I/O error occurred.
998-711 to 998-723	D	998 B88 software	Description: A device timeout error occurred.
999-xxx series	D	999	Description: A 7137 or 3514 disk array subsystem problem is indicated. Action: Use 7137 or 3514 documentation.

Chapter 23. Failing Function Codes (FFCs)

Failing function codes represent functions within the system unit.

Description of the Failing Function Code List

The failing function codes are listed in numerical sequence.

A function may not be physically packaged on the same FRU in different units. When this condition exists, the FRU part number for each type of unit is listed.

The columns in the failing function code list are as follows:

Failing Function Code

The failing function code number from the SRN list in Chapter 2.

Machine Type/Model

This column is used when the failing function is on a FRU which differs by machine type and model. Use the part number for the type system unit you are servicing. See "Machine Types" in this chapter for the names of the machine types.

Note: Although the machine cover logo may depict the model number as four digits, the service and parts ordering system requires three-digit numbers. For example, if the cover logo depicts model number 32H, service and parts documentation may refer to that model as 32H.

Part Number

This column contains the part number of the FRU that contains the failing function. Use the part number for the type of system unit you are servicing.

Description and Notes

This column contains the description of the FRU and any usage notes. The FRU description may be different in different system units. Use the one for the type of system unit you are servicing.

Machine Types

Machine	Type Description
3151	Display Terminal
3161	Display Terminal
3163	Display Terminal
3514	External Disk Array, Models 212 and 213
3812	Pageprinter
3852	Printer
4201	Proprinter II
4202	Proprinter XL
4207	Proprinter X24
4208	Proprinter XL24

4216	Personal Pageprinter
4224	Printer
4234	Printer
4869	5.25-Inch External Diskette Drive
5081	Color Display
5083	Tablet
5085	Graphics Processor
5086	Graphics Processor
5088	Communications Controller
5202	Quietwriter Printer
5204	Quickwriter Printer
6094	Model 10, Dials
6094	Model 20, Lighted Program Function Keyboard (LPFK)
6094	Model 30, Spaceball™
7006	System Unit (table top)
7008	System Unit (table top)
7009	System Unit (floor standing)
7011	System Unit (table top)
7012	System Unit (table top)
7013	System Unit (narrow floor standing)
7013 J Series	System Unit (floor standing)
7015	System Unit (rack mounted)
7016	System Unit (wide floor standing)
7018	System Unit (floor standing)
7027	Disk Drive Drawer
7030	System Unit (table top)
7134	High Density SCSI Disk Subsystem, Model 010
7135	RAIDiant Array SCSI Disk Drive Subsystem, Models 010 and 110
7203	External Portable Disk Drive
7204	External Disk Drive Model 320
7206	2.0 GB or 4.0 GB External 4 mm Tape Drive
7207	150 MB, 525 MB or 1.2 GB External 1/4-Inch Cartridge Tape Drive
7208	2.3 GB or 5.0 GB External 8mm Tape Drive
7210	External CD-ROM Drive
7235	POWERgraphics GTO graphics subsystem
7250	POWERgraphics Accelerator
8508	Monochrome Display
9333	High-Performance Disk Drive Subsystem Models 010 and 011
9333	High-Performance Disk Drive Subsystem Models 500 and 501
9334	SCSI Expansion Unit Model 010 (Single-Ended), Model 011 (Differential)
9334	SCSI Expansion Unit Model 500 (Single-Ended), Model 501 (Differential)
9348	1/2-Inch 9-Track Tape Drive

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9076 SP Processor Node to RS/6000 Equivalent Cross Reference Table

The following table cross references the 9076 SP Processor Node and that of its equivalent RS/6000 machine type and model number.

Note: See “System Unit Memory Combinations” on page C-1 for more information relating to the 9076 SP Processor Node memory combinations and memory module FRU part numbers.

9076 SP Processor Node	Equivalent RS/6000 Machine Type and Model
Thin Nodes	
62MHz Thin Node	7012 Model 370
66MHz Thin Node	7012 Model 390
66MHz Thin Node 2	7012 Model 39H
120MHz Thin Node	No equivalent model
160MHz Thin Node	7012 Model 397
Wide Nodes	
66MHz Wide Node	7013 Model 590
77MHz Wide Node	7013 Model 591
135MHz Wide Node	7013 Model 595
High Nodes	
604 High Node	7015 Model R40
604e High Node	7015 Model R50

Failing Function Code List

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
110	7016	09G3495	CVME interface card
	7235	09G3715	CVME interface card
111	7016	16F0806	Graphics control processor card
	7235	74F3384	Graphics control processor card
112	7016	53F6536	8-bit pixel memory card
	7235	53F6536	8-bit pixel memory card
113	7016	74F3118	Shading processor card
	7235	74F3118	Shading processor card
114	7016	88G2965	Drawing processor card
	7235		
115	7016	53F6538	24-bit pixel memory card
	7235		
116	7016	39F6807	Cable, ribbon, CVME signal
		39F6808	Cable, RGB
	7235	74F3102	Cable, ribbon, CVME signal
		74F3104	Cable, RGB, internal
117	7016	16F0795	Graphics subsystem, Kanji, ROM
	7235		
118		42F6889	MZB1 Z-buffer option card (24-bit Color Graphics Upgrade)
119		88G3988	Base graphics card, POWER Gt4

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
120		51G9395	Memory Option, POWER Gt4 Field upgrade graphics card, 8 to 24-bit
		51G9225	Cable, two-position Note: This FRU contains two cables, one with black connectors, 51G9224, and one with brown connectors, 71F0253. If either of the connectors on the cable being replaced is brown, the replacement cable with the brown connectors must be used; if neither of the connectors on the cable being replaced is brown, the replacement cable with the black connectors must be used.
		51G9227	Cable, three-position Note: This FRU contains two cables, one with black connectors, 51G9226, and one with brown connectors, 71F0254. If either of the connectors on the cable being replaced is brown, the replacement cable with the brown connectors must be used; if neither of the connectors on the cable being replaced is brown, the replacement cable with the black connectors must be used.
121	5081		Color display, model 16 (1280 x 1024)
122	5081		Color display, model 19 (1280 x 1024)
128		71F1151	MRV2, color graphics video card
		53F3271	Card connector cable, wide
		53F3272	Card connector cable, narrow
130		42F6842	MGE2, color graphics base card
		53F3271	Card connector cable, wide
		53F3272	Card connector cable, narrow
131			Unidentified memory error. Check all memory modules to be present and properly installed. Check all memory modules to be the same, as shown in Appendix C. If no discrepancy is found then replace the memory modules in the location called out by the flashing 888 LEDs. Note: For 7012/G series, 7013/J series, and 7015/R30 system units refer to FFC 221.
132			The program that just loaded may be damaged.
133			Unidentified micro-channel bus problem.

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
141		45G9502	857M-byte disk enclosure (assembly) Note: Exchange the complete drive assembly whenever possible. Exchange the logic card only when the data on the disk must be saved. Refer to RETAIN TDR-064942 for additional information. Card and frame assembly 95X2346 must be used with the 95X2431 disk enclosure.
142		See note.	670 M-byte SCSI disk enclosure Note: Exchange the complete drive assembly (53F3429) whenever possible; the disk enclosure is not available separately. Exchange the logic card (6373521) only when the data on the disk must be saved.
151	7006	33F8354	Battery, time-of-day, NVRAM, etc.
	7008		
	7009		
	7011		
	7012 G Series	23F0168	
	7013/J Series	96G4207	
	7015/R/30/R40/R50		
	7015/960/970/97B /980/98B/990/R24	02G7237	
	Other	23F0168	

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
152	7006	65G8077	Power supply
	7009	65G8077	Note: When working on a 9076, refer to the following publications: <i>IBM RISC System/6000 Scalable POWERparallel Systems POWERparallel Maintenance Information Volume 2</i> , and <i>Maintenance Analysis Procedures and Parts Catalog</i> .
	7011	51G8440	
	7012 models before 380	91F0844	
	7012/380/390/39H	52G4764	
	7012	52G4715	
	7012/397	93H6628	Power Supply
	7012/G30/G40	52G4020	
	7013 Below 570 except 55L	00G2520	
	7013/55L	52G7533	
	7013/570	65G7579	
	7013/580	65G7579	
	7013/58H/590/59H /591/595	8184794	
	7013/595	40H7442	
	7013/J30/J40/J50	39H9222	AC power supply
152 (cont.)	7015/930/950	71F0067	Power supply
	7015/970/980	52G1137	Power supply (standard AC)
	7015/97B/98B	65G6995	Power supply (standard AC)
		88G0053	Power supply (-48V DC)
	7015/990	65G6995	
	7015/R10	88G0131	
	7015/R20	88G0134	
	7015/R21	11H8271	
	7015/R24	65G6995	AC Power supply
152 (cont.)	7015/R30/R40/R50	11H8275	AC Power supply
		11H2714	DC Power supply
	7016	71F0069	DC Power supply
	7018/740/741	00G1249	
	7018/770/771	65G2946	
	7030	52G4764	
	16-Port RAN	40H3611	Power Supply for Remote Async Node FRU Part Number 51G8139
93H7091		Power Supply for Remote Async Node FRU Part Numbers 93H6549 and 93H6563	

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
153	7013/J01	11H4977	Power Supply
	7015 Media Drawer	44F5287	Power supply, SCSI device drawer/SCSI deskside unit
	9334/010/011	07G4834	
	9334/500/501	07G4833	(110 V)
07G4834		(220 V)	
154		43G1796	16M-byte memory card memory module
157			Base memory card. Refer to Appendix C. System Memory Reference for FRU numbers.
158	7013/J01	19H0270	Fan assembly
	7015	44F5280	Fan assembly, SCSI device drawer/SCSI deskside unit
	9334/010/011	44F5280	
	9334/500/501	44F9979	
	7134		
159		6247455	Tablet cursor, Models 21, 22
		74F3131	Tablet cursor, 4-button, 6093 Models 11, 12
		74F3132	Tablet cursor, 6-button, 6093 Models 11, 12
160	7015	40F9871	Fan, CPU drawer, front
		40F9872	Fan, CPU drawer, rear
		40F9871	Fan, CPU drawer, power supply
		42F9872	Fan, async drawer, front
		59F3688	Fan, async drawer, power supply
161	7015	59F3876	Battery, battery backup unit
162	7015	42F6840	Cable, battery backup unit
163	7015	59F3873	Bezel and status panel, battery backup unit
164	7015	00G3372	Battery backup switching supply unit

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
165	7006	31F4287	Operator panel display
	7008	43G0056	Operator panel assembly
	7009	65G7994	
	7011	31F4287	Operator panel display
	7012/320/32E/32H	00G2121	
	7012/340/34H/350/355/360/365/36T/370/375/37T/380/390/39H/397	00G2230	
	7012/G30/G40	11H3904	Operator panel
	7013/520/52H/530/540/53H/550/560	00G2126	Operator panel assembly
	7013/55L	52G7453	
	7013/570/580/58H/590/59H/591/595	94F3592	
	7013/J30/J40/J50	19H0205	Operator panel
	165 (cont.)	7015/930/950	00G2130
81F8234			Operator panel, async drawer
7015/970/980/97B/98B/990		43G1803	Operator panel, CPU enclosure
		43G1803	Operator panel, CPU media enclosure
7015/R10/R20/R21		52G1465	
7015/R24		43G1803	Operator panel
7015/R30/R40/R50		19H0214	Operator panel with keylock
7016		00G2126	Operator panel without keylock
7018/740		00G1968	
7018/741		00G2193	
7018/770		52G1446	
7018/771		52G1485	
7030		00G2230	Operator panel display

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
166	7006	88G2601	Fan, front
	7009	65G7989	Fan, front
	7012/320 and 32H (early)	40F9980	Front Fan
	7012/32H (late) through 375	00G2981	Fan, front
		40F9979	Fan, rear
	7012/380/390/39H	00G2981	Fan, front
		88G3761	Fan, rear
	7012/397	11H2694	Fan, CPU high speed
		11H3975	Fan, Memory medium speed
	7012/G30/G40	11H3884	Fan, CPU/memory/disk fan (rear fan)
		71F1128	Fan, MCA (front fan)
	7013/55L	40F9979	Fan, rear
		32G1528	Fan, front
	166 (cont.)	7013	22F9685
00G3277			Fan, disk (except 55L)
65G1877			Fan, supplemental cooling (except 55L)
7013/591/595/59H		00G3277	Fan, disk
		65G1877	Fan, supplemental cooling
		42F7434	Fan, power supply
7013/J01		19H0270	Medium Speed Fan Asm. only
		19H0221	Expansion Unit Main Fan Module
7013/J30/J40		19H0219	Fan, Main Fan
		19H0270	Medium Speed Fan Asm. only
		19H0224	Fan, Disk module
		19H0222	Fan, MCA
7013/J50		09H4751	Fan, Main Fan
		19H0270	Medium Speed Fan Asm. only
		09H4752	High Speed Fan Asm. only
		19H0224	Fan, Disk module
	19H0222	Fan, MCA	

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
166 (cont.)	7015	40F9871	Fan, CPU drawer (front)
	7015/930/950/970/ 97B/980/98B	40F9871	Fan, CPU drawer, power supply
	7015/930/950/970/ 97B/980/98B	40F9872	Fan, CPU drawer (rear), async drawer (front)
	7015/930/950/970/ 97B/980/98B	44F5280	Fan, SCSI device drawer
	7015/930/950/970/ 97B/980/98B	59F3688	Fan, async drawer, power up
	7015/990/R24	02G7253	Fan, CPU planar
		52G5560	Fan, Media carrier
		52G5543	Fan, Disk drive
		8185454	Fan, High speed
	166 (cont.)	7015/R10/R20	42F7482
7015/R10		52G1467	Fan, I/O
7015/R30/R40		11H2655	Fan, CPU
		40H7070	Fan Asm. only
		11H2686	Fan, CPU
		11H2694	Fan, Media, I/O
		11H2694	Fan, Power Supply
		11H2694	Fan, Power Supply
7015/R50		93H5070	Fan, CPU
		93H5822	Fan,CPU
		11H2694	Fan, Media, I/O
		11H2694	Fan, Power Supply
7016		22F9685	Fan, logic
		39F6802	Fan, graphics card cage
		70F9846	Fan, disk drive, small
7018		40F9872	Fan, rear
7030		88G3761	Fan, rear
		00G2981	Fan, front

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
167	7013 models below 570	22F9685	Fan, power supply
	7013/570/580/58H/590/591/59H/595	42F7434	Fan, power supply
	7015/930/950/970/97B/980/98B	40F9871	Fan, CPU drawer power supply
	7015/930/950/970/97B/980/98B/R10/ R20/R21	40F9872	Fan, power supply
	7015/R24	02G7266	Fan, power supply
	7016	22F9685	Fan, power supply
	7018	59F4460	Fan, power supply
168	7006	88G2671	Keylock assembly, locking
	7009	65G7994	Keylock, Operator panel assembly
	7011	00G2360	Keylock w/keys
	7012/320/32H	40F9928	Keylock assembly, locking
		71F1354	Keylock assembly, nonlocking
	7012 below 380	81F9038	Keylock assembly, locking
		00G1924	Keylock assembly, nonlocking
	7012 models 380 and later	88G3961	Keylock assembly, locking
		00G1924	Keylock assembly, nonlocking
	7012/G30/G40	52G0252	Keylock assembly, locking
		52G0254	Keylock assembly, nonlocking
	7013 Below 570 except 55L	31F4215	Keylock
7013/55L/570/580/58H/590/591/595	51G9876	Keylock assembly	
7013/59H	51G9876	Keylock assembly	
168 (cont.)	7013/J30/J40/J50	19H0205	Operator panel assembly
	7015/970/980/990	31G9609	Keylock assembly
	7015/R10/R20/R21/R24	52G1485	Keylock, Operator panel assembly
	7015/R30/R40/R50	19H0214	Keylock, Operator panel assembly
	7016	31F4215	Keylock assembly
	7018	00G2192	Keylock assembly
	7030/3AT/3BT/3CT	88G3961	Keylock assembly, locking
		00G1924	Keylock assembly, nonlocking

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes	
169	7006/41T/41W	12H1281	System board	
	7006/42T/42W	39H8152		
	7008	43G2429	CPU card	
	7009/C10	40H5691		
	7009/C20	40H5693	System board	
	7011/220	65G7374		
	7011/230	8184088	System board	
	7011/250	51G8101	System board (66MHz)	
		8184306	System board (80MHz)	
	7012/320/32H	43G0534	System Planar	
	7012/340/350	51G8812		
	7012/34H/360/36T/ 370/37T	00G2793		
	7012/355/365/375	51G9107		
	7012/380/390/39H	52G4325		
	7012/397	93H5557		
	169 (cont.)	7012/G30		35H8832
7012/G40		09J4774		
7013 Below 570 except 55L		00G2126		
7013/55L		52G7453		
7013/570/580/58H/ 590/591/59H/595		94F3592		
7013/J30 7013/J40 7013/J50		19H0242	System board	
		35H8778		
		09J4816		
7015/930/950		00G2130	Operator panel, CPU drawer	
		81F8234	Operator panel, async drawer	
7015/970/97B/980/ 98B/990		43G1803	Operator panel, CPU enclosure	
7015/R10/R20/R21		52G1485	Operator panel	
7015/R24		43G1803	System board	
7015/R30/R40/R50	19H0214	Operator panel (with keylock) Operator panel (without keylock)		
	19G0205			
7016	00G2126			
169 (cont.)	7018/740	00G1968	Operator panel	
	7018/741	00G2193		
	7018/770	52G1446		
	7018/771	52G1485	System board	
	7030	52G4325		

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
170			Fan Problem Note: For type/model and FRU information, refer to FFC 166.
171		59F4433	8MB and 16MB SD1 base memory card
172		70F9973	4MB memory card memory module
173		59F4581	1MB memory card memory module
174		59F4582	2MB memory card memory module
175		59F4581	1MB memory card memory module
176		70F9973	4MB memory card memory module
177		70F9976	8MB memory card memory module
178		81F8926	32MB and 64MB S1.5 and S3 base memory card
179		59F4582	2MB memory card memory module
180			See System Unit Memory Combinations in Appendix C.
181	7006	88G2579	Cable, diskette drive signal
	7009	65G8007	Cable, diskette drive signal
	7011/220/230/250	31F4283	Cable, diskette drive signal
	7012 models before 380	40F9925	Cable, diskette drive signal
	7012/380/390/39H/397	51G9521	Cable, diskette drive signal
	7012/G series	11H3757	Diskette drive cable
	7013 Below 570 except 55L	00G0976	Cable assembly, SCSI and diskette
	7013/55L	52G7449	Cable assembly, diskette
	7013/570/580/58H/590/591/59H/595	65G7538	Cable Assembly, SCSI and Diskette
	7015/930/950	71F0700	Cable, CPU Drawer Diskette Signal
181 (cont.)	7015/970/980	02G7306	Cable, CPU Enclosure, Diskette Signal
	7015/97B/98B/990	52G5555	Cable, CPU Media Enclosure, Diskette Signal
	7015/R10/R20/R21	52G1466	Cable, CPU Drawer, Diskette Signal
	7015/R24	52G6136	Cable, CPU Media Enclosure, Diskette Signal
	7015/R30/R40/R50	40H7045	Operator panel cable/receiver asm
	7016	53F3319	Cable, Diskette Drive Signal
	7018	71F0700	Cable, CPU drawer diskette signal
	7030	51G9521	Cable, diskette drive signal
182		70F9976	8M-byte memory card memory module

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
183	7013 Below 570 excluding 55L	53F3417	Diskette redrive card
	7015/930/950	53F4172	Diskette redrive card
184	4869/002	15F7993	5.25-inch external diskette drive, 1.2M-byte,
	7012/320/32H	11F8890	Riser card, external diskette
	7013 Below 570 excluding 55L	40F9781	Cable, external 5.25-inch diskette
185		68X5706	X.25 memory DRAM SIP
186		8184299	Multiprotocol interface card
187	7013/540	59F4583	4M-byte memory card memory module
188		6247454	Tablet stylus, Models 21, 22
		74F3133	Tablet stylus, 6093 Models 11, 12
189	7012/320/32H	81F8900	Direct Bus Attach Riser Card
	7012 Below 380	00G2721	Extender, SCSI bus
190		00G0959	Cable, SCSI (Increased Availability)
	7006	88G2577	Cable, internal SCSI disk drive
	7009	65G8006	Cable, internal SCSI disk drive
	7011/220/230/250	31F4284	Cable, internal SCSI disk drive
	7012/320/32H	31G9675	Cable, internal SCSI disk drive
	7012 models above 32H and below 380	43G0779	Cable, internal SCSI disk drive
	7012/380/390/39H/397	52G4850	Cable, internal SCSI disk drive
	7012/G30/G40	11H3928	Cable, internal SCSI 4-drop
		11H3929	Cable, internal SCSI 6-drop

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
190 (cont.)	7013 Below 570 except 55L	00G0976	Cable, internal SCSI disk drive
	7013/55L	65G7539	Cable, internal SCSI disk drive
	7013/570	65G7537	Cable, internal SCSI disk drive
	7013 above 570	65G7538	Cable, internal SCSI disk drive
	7013 All models except 55L (feature)	00G0977	Cable, 2nd internal SCSI, 4-drop (8-bit)
	7013 All models except 55L (feature)	52G7451	Cable, 2nd internal SCSI, 6-drop (8-bit)
	7013 All models except 55L (feature)	52G4430	Cable, 2nd internal SCSI, 6-drop (16-bit)
	7013 55L (feature)	52G7450	Cable 2nd internal SCSI, 4-drop (8-bit)
	7013/595	65G7538 39H9274 52G7451 52G4430	Cable, Internal SCSI Cable, Integrated SCSI-2 (base) Cable, 6-drop, 8-bit SCSI Cable, 6-drop, 16-bit SCSI
	7013/J30/J40/J50	19H0398	Cable, internal SCSI
190 (cont.)	7015/930/950	00G0978	Cable, CPU drawer, SCSI device
	7015/970/980	10G8718	Cable, SCSI, CPU Enclosure (outside of carrier-lower docking connector)
	7015/970/980	10G8720	Cable, SCSI, CPU Enclosure (outside of carrier-upper docking connector)
	7015/97B/98B/990	52G5771	Cable, SCSI, CPU Media Enclosure
	7015/R10/R20/R21	88G3325	Cable, SCSI, CPU Drawer
	7015/R24	88G4693	Cable, SCSI, CPU Drawer, Disk Drive Carrier
	7015/R24	88G4694	Cable, SCSI, CPU Drawer, (to adapter)
	7015/R30/R40	11H2681 40H0482	Cable, SCSI, Media Module, Cable, SCSI (to SCSI adapter)
	7015/R50	93H5067 93H5066	Cable, SCSI (DASD to Media board) Cable, SCSI (to SCSI adapter)
	7016	00G0979	Cable, internal SCSI disk drive
	7018	00G0978	Cable, internal SCSI disk drive
	7030	52G4850	Cable, internal SCSI disk drive
	192	7203	00G2960
195	7015	71F1072	Cable, SCSI device drawer external signal
197	7015	00G0978	Cable, SCSI device drawer internal signal
199			SCSI backplane (generic)
201			Unidentified SCSI device drawer cable

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
203	7204	00G2960 87G1642	Power supply
	7207/001/011	00G2960	
	7207/012	46G3934	
	7208/001	00G2960	
	7208/011	46G3934	
	7209	46G3934	
	7210/001	00G2960	
	7210/005	65G7585	Power supply/enclosure
205		46F2440	Cable, optical 6 m
		46F2441	Cable, optical 10 m
		46F2442	Cable, optical 20 m
		46F2443	Cable, optical 60 m
		46F2444	Cable, optical 100 m
208	7015	53F3524	Power distribution board
209	7015	70F9715	IPO switch assembly
210			Fixed-point processor problem
	7006/41T/41W	12H1281	System board, ID 42
	7006/42T/42W	39H8152	System board, ID 91
	7008	43G2429	System board, ID 43
	7009/C10	40H5691	CPU card, ID 48
	7009/C20	40H5693	CPU card, ID 90
	7011/220	65G7374	System board, ID 41 or 45
	7011/230	8184088	System board, ID 47
	7011/250	51G8101	System board, ID 46 (66MHz)
		8184306	System board, ID 49 (80MHz)
	7012/320	91F1009	CPU card, ID 31
7012/32H	81F8232	CPU card, ID 35	
210 (cont.)	7012/340	52G4190	Fixed Point Processor Problem CPU card, ID 37
	7012/350	52G4007	CPU card, ID 38
	7012/34H/355	51G9433	CPU card, ID 77
	7012/360/36T/365	51G9437	CPU card, ID 76
	7012/370/37T/375	51G9441	CPU card, ID 75
	7012/380	11H3465	CPU card, ID 58
	7012/390	11H3462	CPU card, ID 57
	7012/39H	88G3536	CPU card, ID 59

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
210 (cont.)	7012/397	93H5557	Fixed Point Processor Problem System board, ID 94
	7012/G30	35H8711	CPU Card, ID A6
	7012/G40	35H8736 35H8737 09J4713 93H6274	E4D CPU Card, ID A7 E4M CPU Card (604-one way), ID CPU Card (604-two way) CPU Card (604E-two way)
	7013/520	71F1378	CPU planar, ID 30
	7013/52H	00G3528	CPU planar, ID 34
	7013/530	81F7888	CPU planar, ID 10
	7013/53H	31F4350	CPU planar, ID 18
	7013/540	53F3349	CPU planar, ID 14
	7013/550	52G0020	CPU planar, ID 1C
	7013/55L	51G9433	CPU card, ID 77
	7013/560	51G9947	CPU planar, ID 5C
210 (cont.)	7013/570	65G7623	Fixed Point Processor Problem CPU planar, ID 67
	7013/580	8184913	CPU planar, ID 66
	7013/590	11H5127	CPU planar, ID 70
	7013/591	39H9200	CPU planar, ID 79
	7013/595	39H9164	CPU planar, ID 89
	7013/58H	11H2375	CPU planar, ID 71
	7013/59H	8184612	CPU planar, ID 72
	7013/J30	35H8748	CPU Card (C1D), ID A0
	7013/J40	09J4712	CPU Card (C4D), ID A1
	7013/J50	93H6274	CPU Card (X4D), ID
	7015/930	53F3350	CPU planar, ID 02 or 20
	7015/950	52G5762	CPU planar, ID 2E

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
210 (cont.)	7015/970/97B	65G3448	Fixed Point Processor Problem CPU planar, ID 63
	7015/980/98B	65G6896	CPU planar, ID 64
	7015/990	88G0262	CPU planar, ID 80
	7015/R10	65G7623	CPU planar, ID 67
	7015/R20	8184612	CPU planar, ID 72
	7015/R21	39H9200	CPU planar, ID 79
	7015/R24	88G0007	CPU planar, ID 82
	7015/R30	35H8748	CPU Card, ID A3
	7015/R40	09J4712	CPU planar, ID A4
	7015/R50	93H6274	CPU planar, ID
	7016/730	81F7888	CPU planar, ID 10
	7018/740/741	71F1378	CPU planar, ID 30
	7018/770/771	65G7623	CPU planar, ID 30
210 (cont.)	7030/3AT	11H3465	Fixed Point Processor Problem CPU planar, ID 67
	7030/3BT	11H3462	CPU card, ID 58
	7030/3BT	11H3462	CPU card, ID 57
	7030/3CT	88G3536	CPU card, ID 59
	SPCL/POK 9076/2008		System board, ID 81 Note: When working on a 9076, refer to the following publications: <i>RS/6000 Scalable POWERparallel Systems POWERparallel Maintenance Information Volume 2</i> , and <i>Maintenance Analysis Procedures and Parts Catalog</i> .
212			Cache Problem Note: For type/model and FRU information, refer to FFC 210.
214	7012/G30 7012/G40	35H8832 09J4774	Memory Control Unit Problem System board Note: For type/model and FRU information, other than the machine type or models listed refer to FFC 210.
	7013/J30 7013/J40 7013/J50	19H0242 35H8778 09J4816	
	7015/R30 7015/R40 7015/J50	19H0242 35H8778 09J4816	

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
215	7013/520	71F1378	Optic Channel Support Problem CPU planar, ID 30
	7013/52H	00G3528	CPU planar, ID 34
	7013/530	81F7888	CPU planar, ID 10
	7013/53H	31F4350	CPU planar, ID 18
	7013/540	53F3349	CPU planar, ID 14
	7013/550	52G0020	CPU planar, ID 1C
	7013/560	51G9947	CPU planar, ID 5C
	7013/570	65G7623	CPU planar, ID 67
	7013/580	52G7363	CPU planar, ID 66
	7015/930	53F3350	CPU planar, ID 02
	7015/950	52G5762	CPU planar, ID 2E
	7015/970/97B	65G3448	CPU planar, ID 63
	7015/980/98B	65G6896	CPU planar, ID 64
	215 (cont).	7016/730	81F7888
7018/740/741		71F1378	CPU planar, ID 30
7018/770/771		65G7623	CPU planar, ID 66
216			OCS ROM Problem Note: For type/model and FRU information, refer to FFC 210.
217	7012/G30 7012/G40	35H8832 09J4774	System ROS/FEPR0M System board
	7013/J30 7013/J40 7013/J50	19H0242 35H8778 09J4816	System board
	7015/R30/R40 7015/R50	35H8780 09J4760	I/O card Note: For type/model and FRU information, other than the machine type or models listed refer to FFC 210.
218			Processor IOCC problem (IOCC located in the Processor) Note: For type/model and FRU information, refer to FFC 210.
219			Common memory logic problem Refer to Appendix C for memory card and memory module FRU numbers.
220		58F2903	Cable, RGB 3-position video

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
221	7006/41T/41W	12H1281	System I/O Control Logic Problem System board
	7006/42T/42W	39H8152	System board
	7008	43G2429	System board
	7009/C10/C20	65G7904	System board
	7011/220	65G7374	System board
	7011/230	8184088	System board
	7011/250	51G8101	System board (66MHz)
	7011/250	8184306	System board (80MHz)
	7012/320/32H	43G0534	System board
	7012/340/350	51G8812	System board
	7012/355/365/375	51G9107	System board
	7012/34H/360/36T/ 370/37T	00G2793	System board
	7012/380/390/39H	52G4325	System board
	7012/397	93H5557	System board
221 (cont.)	7012/G30 7012/G40	35H8832 09J4774	System I/O Control Logic Problem System board
	7013/520/530/540/ 550/560/52H/53H	00G3165	I/O planar
	7013/55L	00G2793	System board
	7013/570/580/58H/ 590/591/59H	43G2211	I/O planar
	7013/595	40H7517	I/O planar
	7013/J30/J40	35H8780	I/O card
	7013/J30/J40/J50	95H0010	Micro-channel adapter planar
	7013/J50	09J4760	I/O card
	7015/930/950	00G3165	I/O planar, CPU drawer
	7015/930/950	59F3785	I/O planar, async drawer
	7015/970/97B	65G3400	Combination planar
	7015/970/97B	31F4324	Second I/O planar

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
221 (cont.)	7015/980/98B	65G3400	System I/O Control Logic Problem Combination planar
	7015/980/98B	31F4324	Second I/O planar
	7015/990	52G6071 31F4324	Combination planar Second I/O planar
	7015/R10/R20/R21	65G3009	I/O planar
	7015/R24	52G6071 31F4324	I/O planar Second I/O planar
	7015/R30/R40	35H8780	IOD Card
	7015/R30/R40/R50	35H8834	Micro-channel I/O planar (PME)
	7015/R50	09J4760	I/O Card
	7016	00G3165	I/O planar
	7018/740/741	00G3165	I/O planar
	7018/770/771	52G1504	I/O planar
	7030/3AT/3BT/3CT	52G4325	System Planar
	SPCL/POK 9076/2008		System board, ID 81 Note: When working on a 9076, refer to the following publications: <i>RS/6000 Scalable POWERparallel Systems POWERparallel Maintenance Information Volume 2</i> , and <i>Maintenance Analysis Procedures and Parts Catalog</i> .

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
223	7006	See note 1	<p>OCS Problem</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. For type/model and FRU information, refer to FFC 221. 2. For type/model and FRU information refer to FFC 210.
	7008	See note 1	
	7009	See note 2	
	7011	See note 1	
	7012/320/32H	See note 1	
	7012 All others	See note 2	
	7012/G30/G40	See note 1	
	7013 Below 570 except 55L	See note 1	
	7013/55L	See note 2	
	7013/J30/J40/J50	See note 1	
	7013 All others	See note 2	
223 (cont.)	7015/930/950	See note 1	<p>OCS Problem</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. For type/model and FRU information, refer to FFC 221. 2. For type/model and FRU information refer to FFC 210.
	7015/R30/R40/R50	See note 1	
	7015 All others	See note 2	
	7016	See note 1	
	7018/740/741	See note 1	
	7018/770/771	See note 2	
	7030	See note 2	
226			<p>System Status Logic Problem</p> <p>Note: For type/model and FRU information, refer to FFC 221.</p>
227			<p>Micro Channel Logic Problem</p> <p>Note: For type/model and FRU information, refer to FFC 221.</p>
229	7204	42F7300	Fan

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
232		00G0972	Terminator, SCSI card edge
233		15F6743	Terminator, SCSI controller external
234			Terminator, external SCSI device. Refer to the Cabling SCSI Devices section in <i>Adapters, Devices, and Cable Information</i> manual.
239	7018/740	31F4221	Cable, SCSI controller, except High-Availability
	7018/741	31F4223	
240			Token-ring network problem
241			Ethernet network problem
242			3270 network problem
244			X.25 network problem
245			Async Network Problem
251		8529214	Cable, parallel printer
252	7006	31F4590	Serial Dual Port cable
	7009		
	7012/320/32H	00G0943	Standard I/O 10-pin to 25-pin converter cable, 12 in. (0.3 m)
	7012/G30/G40	6450242	Cable, 9-pin to 25-pin converter (3m)
	7013 Below 570 except 55L	00G0943	Standard I/O 10-pin to 25-pin converter cable, 12 in. (0.3 m)
	7015 Below 970	81F8977	CPU drawer standard I/O 10-pin to 25-pin converter cable, 10 ft. (3 m)
	7015/R30/R40/R50	6450242	Cable, 9-pin to 25-pin converter (3m)
	7016	00G0943	Standard I/O 10-pin to 25-pin converter cable, 12 in. (0.3 m)
253			Cable, multiprotocol, EIA-422A, customer-provided
254		71F0165	Cable, 4-port multiprotocol EIA-232, V.24
255		6247480	Cable, GIO adapter, power/signal, Dials/LPFK
256		6339098	Cable, token-ring, 10 ft. (3.04 m)
		53F3930	Cable, token-ring, 20 ft. (6.08 m)
257		71F0162	Cable, 4-port multiprotocol, V.35
258		40F9897	4-Port multiprotocol cable
259		6323741	Cable, async EIA-232D, V.24
260		71F0164	Cable, 4-port multiprotocol, X.21
261		58F2861	Printer/terminal interposer, EIA-232
262		00F5524	Multiport interface cable
263		30F8966	Terminal cable, EIA-422A
264		81F8234	Operator panel, async expansion drawer

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
265		00G1109	64-Port controller cable
266		59F3432	RJ-45 to DB-25 converter cable (4 cables)
267	7015	81F8570	Cable assembly, 4-port multiprotocol jumper
268	7015	71F1379	Cable, async expansion drawer signal
269	7015	53F3048	Cable assembly, 8/16-port extension
270		39F8228	Cable, signal, serial port, Dials/LPFK
271		53F3926	Cable, X.25 attachment cable, X.21
272		53F3927	Cable, X.25 attachment cable, V.24
273		53F3928	Cable, X.25 attachment cable, V.35
274		6247480	Cable, graphics input device dials
		6247480	Cable, graphics input device LPFK
275		0123786	Fuse, graphics input device adapter
276		31F4221	Cable, SCSI controller cable
277			Cable, Internal SCSI Problem Note: For type/model and FRU information, refer to FFC 190.
278	7018/740	31F4222	Cable, SCSI device-to-device
	7018/741	31F4224	Cable, SCSI device-to-device
279		40F9736	Fuse, SCSI plug-in style adapter
		1383417	Fuse, integrated SCSI adapter Note: If the system unit uses PTC resistors, refer to Chapter 6, "MAP 0050: SCSI Problems Isolation Procedure" on page 6-1.
280			Check power from display and serial attachment power and signal cables.
281		58F2903	Cable, 3-position video
283	7210	81F8216	Cable, Internal SCSI
284		93H8878	Speaker Cable
288	7015	59F3785	I/O planar, async expansion drawer
290		43G0462	16-Port interface cable, EIA-422A
291		43G0463	16-Port interface cable, EIA-232
297		93H6057	DIMM Memory Module for the GXT800M Graphics Adapter
650			Unknown IBM disk drive. Note: This FFC indicates the disk drive could not properly configure. Refer to the disk drive FRU part number.
668		41H8917	25MB ATM MCA Adapter

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
678		59H2839	12GB 4mm SCSI Tape Drive
679		83H7105	4.5GB SCSD SE Disk Drive
680		93H9297	POWER GXT800M 3D Graphics Adapter
681		59H6926	9.1GB Ultra-SCSI 16-bit Disk drive
682		93H8055	20x (MAX) SCSI-2 CD ROM Drive
684		93H6563	Enhanced Remote Async Node, 16-port RS-422
689		76H2697	4.5GB Ultra SCSI SE Disk Drive
690		76H2698	9.1GB Ultra SCSI SE Disk Drive
692		59H3121	7205-311 30GB DLT Tape Bridge Box
694		93H5497	Eicon ISDN DIVA MCA Adapter for PowerPC Sys.
700		74G6995	1.1GB 8-bit single-ended disk drive assembly
		74G6998	Electronics card assembly
	7013/J30/J40/J50/J01	10H0265	Carrier with DC3 card for the above drive.
701		74G7006	1.1GB 16-bit single-ended disk drive assembly
		74G7014	Electronics card assembly
	7013/J30/J40/J50/J01	19H0207	1.1GB 16-bit single-ended disk drive with carrier
		19H0209	Carrier with DC6 card for the above drive.
702		74G7009	1.1GB 16-bit differential disk drive assembly
		74G7015	Electronics card assembly
703		74G6996	2.2GB 8-bit single-ended disk drive
		74G6998	Electronics card asm. for 74G6996
	7013/J30/J40/J50/J01	10H0265	Carrier with DC-3 Card
704		74G8824	2.2GB 16-bit SE disk drive
		74G8824	2.2GB 8-bit SE disk drive Note: Add a jumper on pins 23 to 24 to operate in 8 bit mode. Used with 16 to 8 bit converter cable and connector
		93H6991	Cable: 68 pin
	87G4587	Connector: 68 to 50 pin	
	7013/J30/J40/J50/J01	19H0203	2.2GB Disk Drive with carrier
705		74G7010	2.2GB 16-bit differential disk drive assembly
		74G7015	Electronics card assembly

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
706		74G7008	4.5GB, 16 bit, SE SCSI Disk Drive
		74G7014	Electronics card assembly use with Part # 74G7008
	7013/J30/J40/J50/J01	19H0208	4.5GB Drive with carrier
707		74G7011	4.5GB 16-bit differential disk drive assembly
		74G7015	Electronics card assembly
710		93H1527	POWER GXT150M Graphics Subsystem
711			Unknown adapter
713		61G2916	ARTIC960 co-processor platform
714		88G3711	Ultimedia Video I/O Adapter
715		88G2774	Ultimedia Audio Adapter
717		39H8817	TP Ethernet Adapter
718	7006	11H8879	GXT500 Graphics Adapter
721			Unknown SCSI device
722			Unknown disk drive
723			Unknown CD-ROM drive
724			Unknown tape drive
725	7008	43G0059	Display unit, Northern Hemisphere
		43G0069	Display unit, Southern Hemisphere
	other		Unknown display adapter type
726			Unknown input device
727			Unknown async device
728			Unknown parallel device
730			Unknown diskette drive
733			140GB 8mm Tape Drive
734		88G4921	Quad Speed SCSI-2 600MB CD-ROM Drive
736			Quiet Touch Keyboard and Speaker Cable Note: The part number is printed on the underside of the keyboard.
741		84G9475	1080MB SCSI Disk Drive
745		7332/005	16GB 4mm Tape Autoloader
		7332/110	48GB 4mm Tape Autoloader Note: Service documentation for this device will supply FRU part numbers.
748			Keyboard/Mouse Adapter Refer to FFC 821 for FRU part number

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
749			7331 Model 205 8mm Tape Library Note: Service documentation for this device will supply FRU part numbers.
757		87G4858	SCSI 13GB 1/4 Inch Tape Drive
772	7013/J30/J40/J50/J01	93G2970	4.5GB SCSI F/W Disk Drive
		74G7014	Electronics card asm.
		19H0209	Carrier with DC6 card for the above drive
773	7013/J30/J40/J50/J01	93G2972	9.1GB SCSI F/W Disk Drive
		74G7014	Electronics card asm.
		19H0209	Carrier with DC6 card for the above drive
774	7204	27H1677	9.1GB External SCSI Differential Disk Drive Model 339
77c	7013/J30/J40/J50/J01	45G9467	1GB 16-bit Single-Ended SCSI-2 Disk Drive
		19H0202	1GB 16-bit Single-Ended SCSI-2 Disk Drive with carrier
		19H0209	Carrier with DC6 card for the above drive
783		06H7541	24/48GB 4mm DDS-2 Tape Autoloader (vertical orientation)
		42H2362	24/48GB 4mm DDS-2 Tape Autoloader (horizontal orientation)
		41H8714	Tape Magazine
784		93H7151	2.1GB 8-bit SCSI-2 Disk Drive
		93H7152	2.1GB 16-bit SCSI-2 Disk Drive
789		50G0212	7209 Model 003 External 2.6GB Rewritable Optical Disk Drive
791		74G8824	2.2GB 16-bit single-ended disk drive assembly
792		93G2970	4.5GB 16-bit single-ended disk drive assembly
793		93G2972	9.1GB 16-bit single-ended disk drive assembly
794		93H7888	10/100MB MCA Ethernet Adapter
797		55H9378	TURBOWAYS 155 ATM UTP/STP Adapter
798		73H1685	Video Streaming Adapter
800		72H3043	TURBOWAYS 155 ATM MMF Adapter
804		73H2601	8x Speed SCSI-2 CD-ROM Drive
807			SCSI Device Enclosure being configured
80c			4-port SSA Adapter problem. Refer to <i>SSA Adapters: User's Guide and Maintenance Information</i> .

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
811			System direct-attach bus
812	7006/41T/41W	12H1281	Common Standard Adapter Logic System board
	7006/42T/42W	39H8152	System board
	7008	43G2429	System board
	7009	65G7904	I/O planar
	7011 All models	31F4289	Serial/parallel riser card
	7011/220	65G7374	System board
	7011/230	8184088	System board
	7011/250	51G8101	System board (66MHz)
	7011/250	8184306	System board (80MHz)
	7012/320/32H	43G0534	System board
812 (cont.)	7012/340/350	51G8812 32G0176	System board Serial Flex Cable
	7012/355/365/375	51G9107 32G0176	Common Standard Adapter Logic System board Serial Flex Cable
	7012/34H/360/36T/ 370/37T	00G2793 32G0176	System board Serial Flex Cable
	7012/380/390/39H	52G4325 88G3623	System board Serial Hard Card
	7012/397	93H5557	System board
	7012/G30 7012/G40	35H8832 09J4774	ELM System board
	7013/520 thru 560	53F3345	Standard I/O planar
	7013/55L	00G2793 94F3617	Standard I/O planar Serial Flex Cable
812 (cont.)	7013/570/580/590/ 591/58H/59H	43G2211 52G7347	I/O planar Standard I/O flex circuit
	7013/591	11H2515	Common Standard Adapter Logic I/O planar
	7013/595	40H7517	I/O planar
	7013/J30	35H8780 35H8668	I/O card System Interface Board
	7013/J40	35H8780 35H8779	I/O card System Interface Board
	7013/J50	09J4760 35H8779	I/O card System Interface Board
	7015/930/950	53F3345	Standard I/O planar, CPU drawer
	7015/970/97B/980/ 98B	65G3400	Combination planar

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
812 (cont.)	7015/990	52G6071	Common Standard Adapter Logic Combination planar
	7015/R10	65G3009	I/O planar
	7015/R20	65G3009	I/O planar
	7015/R21	65G3009	I/O planar
	7015/R24	52G6071	I/O planar
	7015/R30	35H8780 40H0421	I/O card System Interface Board
	7015/R40	35H8780 40H0421	I/O card System Interface Board
	7015/R50	09J4760	I/O card
	7016	53F3345	Standard I/O planar
	7018/740/741	72X8488	Fuse, standard I/O planar
	7018/770/771	52G1504	Flex circuit and I/O planar
	7030/3AT/3BT/3CT	52G4325 88G3623	System board Serial Hard Card
	SPCL/POK 9076/2008		System board, ID 81 Note: When working on a 9076, refer to the following publications: <i>RS/6000 Scalable POWERparallel Systems POWERparallel Maintenance Information Volume 2</i> , and
813			Time of Day Battery Note: Refer to FFC 151.
814	For 7009 refer to note 1. For other mach. types except G, J, and R series refer to note 2.		NVRAM Problem Notes: 1. For type/model and FRU information, refer to FFC 210. 2. For type/mocel and FRU information, refer to FFC 221.
	7012/G30 7012/G40	35H8832 09J4774	System board
	7013/J30/J40	35H8780	IOD card
	7013/J50	09J4760	I/O card
	7015/R30/R40	35H8780	IOD card
	7015/R50	09J4760	I/O card
815			Floating-Point Processor Problem refer to FFC C68 Note: Refer to FFC 210.

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
816	7006/41T/41W	12H1281	Operator Panel Logic Problem System board
	7006/42T/42W	39H8152	System board
	7008	43G2429	System board
	7009/C10	40H5691	CPU card
	7009/C20	40H5693	CPU card
	7011/220	65G7374	System board
	7011/230	8184088	System board
	7011/250	51G8101	System board (66MHz)
	7011/250	8184306	System board (80MHz)
	7012/320/32H	43G0534	System board
	7012/340/350	51G8812	System board
	7012/355/365/375	51G9107	System board
816 (cont.)	7012/34H/360/36T	00G2793	Operator Panel Logic Problem System board
	7012/370/37T	00G2793	System board
	7012/380/390/39H	52G4325	System board
	7012/397	93H5557	System board
	7012/G30 7012/G40	35H8832 09J4774	System board
	7013 Below 570 except 55L	00G3165	Standard I/O planar
	7013/55L	00G2793	I/O planar
	7013/55L	94F3617	Operator panel assembly, flex
	7013/55L	65G7525	Operator panel riser card
	7013/570/580/590 /58H	43G2211	I/O planar

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
816 (cont.)	7013/570/580/590 /58H/59H	94F3592	Operator Panel Logic Problem Operator panel assembly, flex
	7013/591/59H	43G2211	I/O planar
	7013/595	40H7517	I/O planar
	7013/J30/J40	35H8780	I/O card
	7013/J50	09J4760	I/O card
	7015/930/950	53F3345	Standard I/O planar, CPU drawer
	7015/970/97B/980/ 98B	65G3400	Combination planar
	7015/990	52G6071	Combination planar
	7015/R10/R20/R21	65G3009	I/O planar
	7015/R24	52G6071	I/O planar
	7015/R30/R40	35H8780	I/O card
	7015/R50	09J4760	I/O card
816 (cont.)	7016	00G3165	Operator Panel Logic Problem I/O planar
	7018/740/741	00G3165	I/O planar
	7018/770	52G1504	I/O planar
	7018/770	52G1446	Operator panel assembly
	7018/771	52G1504	I/O planar
	7018/771	52G1485	Operator panel assembly
	7030	52G4325	System board Notes: After replacement of this FRU the following must be done by you or the customer: 1. Time and date must be set. 2. Network IP addresses should be set (for machines that IPL from a network). 3. The bootlist should be set to reflect the customers preference for the IPL devices (when set different than the default values).

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
817	For 7009 refer to note 1. For other mach. types except G, J, and R/30/R40/R50 refer to note 2.		Time-of-day Logic Problem Notes: 1. For type/model and FRU information, refer to FFC 210. 2. For type/model and FRU information, refer to FFC 221
	7012/G30 7012/G40	35H8832 09J4774	System board
	7013/J30/J40	35H8780	I/O card
	7013/J50	09J4760	I/O card
	7015/R30/R40	35H8780	I/O card
	7015/R50	09J4760	I/O card
819		22F9758	Graphics input device adapter Note: Check the fuse before exchanging the adapter.
821	All models except those listed		Built-in Keyboard Adapter Problem Note: For type/model and FRU information, refer to FFC 812.
	7012/G30/G40	11H3890	Keyboard/Mouse Daughter Card
	7012/G30	35H8832	System board
	7012/G40	09J4774	System board
	7013/J30/J40/J50	40H7496	MCA Keyboard/Mouse Adapter
	7015/R30/R40/R50	35H8780 40H7012	I/O Planar System Interface Board (SIB)
823	All models except those listed		Built-in Mouse Adapter Problem Note: For type/model and FRU information, refer to FFC 812.
	7012/G30/G40	11H3890	Keyboard/Mouse Daughter Card
	7012/G30	35H8832	System board
	7012/G40	09J4774	System board
	7013/J30/J40/J50	40H7496	MCA Keyboard/Mouse Adapter
	7015/R30/R40/R50	35H8780 40H7012	I/O Planar System Interface Board (SIB)
824	Not applicable to G, J, and R series models		Built-in Tablet Adapter Problem Note: For type/model and FRU information, refer to FFC 812.
825	Not applicable to G, J, and R series models		Built-in Speaker Adapter Problem Note: For type/model and FRU information, refer to FFC 812.

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
826	All (except those listed below)		Built-in Serial Port S1 Problem Note: For type/model and FRU information, refer to FFC 812. For 7013/J30 and 7015/R30, refer also to FFC C88.
	7015/970/97B/980/98B/990/R24/	02G7307	Serial/Parallel ports data signal cable
827	All (except those listed below)		Built-in Parallel Adapter Problem Note: For type/model and FRU information, refer to FFC 812. For 7013/J30 and 7015/R30, refer also to FFC C88.
	7015/970/97B/980/98B/990/R24/	02G7307	Serial/Parallel ports data signal cable
828			Built-in Diskette Adapter Problem Note: For type/model and FRU information, refer to FFC 812. For 7013/J30 and 7015/R30, refer also to FFC 165
831	All (except those listed below)		Built-in Serial Port S2 Adapter Problem Note: For type/model and FRU information, refer to FFC 812. For 7013/J30/J40/J50 and 7015/R30/R40/R50, refer also to FFC C88.
	7015/970/97B/980/98B/990/R24/	02G7307	Serial/Parallel ports data signal cable
834		32G1412	64-port async controller
835		43G0893	16-port async concentrator
836		52G4894	128-port async controller
837		51G8139 93H6549	Remote Async Node, 16-port EIA-232 Enhanced Remote Async Node, 16-port EIA-232
		40H2589	Rack Mount Remote Async Node, 16-port EIA-232
838		51G8538	Network Terminal Accelerator Adapter, 256
		51G8539	Network Terminal Accelerator Adapter, 2048
839			Network Terminal Accelerator connection station
841		32G1257	8-port async adapter, EIA-232
842		52G4757	8-port async adapter, EIA-422A
843		00G2436	8-port async adapter, MIL-STD 188

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
844	7135		RAIDiant Array SCSI subsystem controller Note: Refer to 7135 documentation.
845	7135		RAIDiant Array SCSI 2.0GB disk drive Note: Refer to 7135 documentation.
846	7135		RAIDiant Array SCSI 1.3GB disk drive Note: Refer to 7135 documentation.
847		11H5762	16-port async adapter, EIA-232
848		52G4739	16-port async adapter, EIA-422A
849		51G9060	X.25 Interface co-processor/2 (for Multiport/2 adapter refer to FFCs B60 through B66)
850		00G2652	Token-Ring network adapter
		65G7568	Auto Token-Ring LANstreamer MC 32 Adapter
851		51G9083	T1/J1 Portmaster Adapter/A (U.S. and Japan)
852		00G3368	Ethernet LAN adapter
854		22F9743	3270 connection
855		52G4322	4-Port Multiprotocol Communications Controller (for Portmaster Adapter/A refer to FFCs B69 through B74)
		8184299	Interface card
858		09G3667	5080 attachment adapter
859		81F9003	Fiber Distributed Data Interface (FDDI) Single-Ring Adapter (2-6)
		65G1879	FDDI-Fiber Single-Ring Adapter (2-R)
		81F9014	FDDI Dual Ring Upgrade Kit Adapter (2-7)
		43G0856	FDDI Dual Ring Upgrade Kit Adapter (2-S)
		65G1878	FDDI-STP Single Ring Adapter (2-T)
		43G0876	FDDI-STP Dual Ring Upgrade Kit Adapter (2-U)
85c		60G1593	Auto Token-Ring LANstreamer MC32 adapter
861		59F2969	Serial optical channel converter
862		02G7425	Block Multiplexer Channel Adapter
865		56G0294	ESCON channel adapter or emulator processor card

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
866		11H4779	SCSI-2 SE I/O controller Note: Check the SCSI controller fuse or PTC resistor before exchanging the planar. Refer to "SCSI-1 Adapter Fuse Blowing" on page 6-4.
867		53F3621	Async expansion adapter
868	7006/41T/41W	12H1281	Integrated SCSI I/O Controller Problem System board (integrated SCSI adapter) uses PTC
	7006/42T/42W	39H8152	System board
	7008	43G2429	System board (integrated SCSI adapter)
	7009	65G7904	I/O planar (integrated SCSI adapter) uses PTC
	7011/220	65G7374	System board (integrated SCSI adapter)
	7011/230	8184088	System board (integrated SCSI adapter) uses PTC
	7011/250	51G8101	Sys planar (integrated SCSI adptr) uses PTC (66MHz)
	7011/250	8184306	Sys planar (integrated SCSI adptr) uses PTC (80MHz)
	7012/340/350	51G8812	System board (integrated SCSI adapter)
	7012/34H/360/36T/370/37T	00G2793	System board (integrated SCSI adapter)
	7012/355/365/375	51G9107	System board (integrated SCSI adapter)
	7012/380/390/39H	52G4325	System board
	7012/397	93H5557	System board
	7013/55L	00G2793	System board (integrated SCSI adapter)
868 (cont.)	7013/570/580/58H/590/59H	43G2211	Integrated SCSI I/O Controller Problem I/O planar (integrated SCSI adapter)
	7013/591	43G2211	I/O planar (integrated SCSI adapter)
	7013/595	40H7517	I/O planar (integrated SCSI-2)
	7015/970/97B/980/98B	65G3400	Combination planar (integrated SCSI adapter)
	7015/990	52G6071	I/O planar (integrated SCSI adapter)
	7015/R10/R20/R21	65G3009	I/O planar
	7015/R24	52G6071	I/O planar
	7018/770/771	52G1504	I/O planar (integrated SCSI adapter)
	7030/3AT/3BT/3CT	52G4325	System board Note: Check the SCSI controller fuse or PTC resistor before exchanging the planar. Refer to "SCSI-1 Adapter Fuse Blowing" on page 6-4.

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
869		51G9425	SCSI I/O controller
		40F9736	Fuse Note: Check the fuse before exchanging the planar. Refer to "SCSI-1 Adapter Fuse Blowing" on page 6-4.
870		52G1071	High-performance disk drive subsystem adapter (40M-byte/sec, Type 4-3)
		00G3357	High-performance disk drive subsystem adapter (80M-byte/sec, Type 4-5)
		67G1862	High-performance disk drive subsystem adapter (40/80M-byte/sec, Type 4-8)
		07G4859	cable, serial link, 3m (10 ft.)
		07G4860	cable, serial link, 10m (33 ft.)
871	7016	53F6532	Graphics subsystem adapter Note: If the problem still exists after exchanging the Graphics Subsystem Adapter, exchange the following cards, one at a time, in the order listed.
		34F3156	CVME interface card
		74F3384	Graphics control processor card
		88G2965	Drawing processor card
		74F3118	Shading processor card
		53F6536	8-bit pixel memory card
		53F6538	24-bit pixel memory card
871 (cont.)	7235	74F3158	Graphics subsystem adapter Note: If the problem still exists after exchanging the Graphics Subsystem Adapter, exchange the following cards, one at a time, in the order listed. For ordering purposes, refer to the part number on the card.
		09G3515	CVME interface card
		74F3384	Graphics control processor card
		88G2965	Drawing processor card
		74F3118	Shading processor card
		53F6536	8-bit pixel memory card
		53F6538	24-bit pixel memory card
872		71F1224	Grayscale graphics adapter
874		71F1223	Color graphics adapter
876		71F1117	8-Bit color graphics card, MDE1

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
877		00G1117	Base graphics card, POWER Gt3
		43G0681	POWER Gt3i
		51G8022	POWER Gt4e
878		51G9397	Graphics processor card, POWER Gt4 Note: If the video is malfunctioning, first check that the setting of the display frequency switch (if present) agrees with the card frequency. The card default frequency is 60 Hz; 77 Hz can be set via software. If the problem still exists after exchanging the processor card, exchange the following, one at a time, in the order listed:
		88G3988	Base graphics card, POWER Gt4
		51G9395	Field upgrade graphics card, 8- to 24-bit, POWER Gt4
		70F9664	Performance option card, POWER Gt4
		51G9225	Cable, two-position. Note: This FRU contains two cables, one with black connectors, 51G9224, and one with brown connectors, 71F0253. If either of the connectors on the cable being replaced is brown, the replacement cable with the brown connectors must be used; if neither of the connectors on the cable being replaced is brown, the replacement cable with the black connectors must be used.
		51G9227	Cable, three-position Note: This FRU contains two cables, one with black connectors, 51G9226, and one with brown connectors, 71F0254. If either of the connectors on the cable being replaced is brown, the replacement cable with the brown connectors must be used; if neither of the connectors on the cable being replaced is brown, the replacement cable with the black connectors must be used.
		40H3441	POWER Gt4i processor card
		40H3446	POWER Gt4xi processor card
		11H4912	POWER Gt4xi 8-bit graphics card
		11H4913	POWER Gt4i 24-bit graphics card
51G9225	Connector cable (two-position)		
879		71F1114	24-bit color graphics card, MEV2

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
880	7008	43G2429	System board
	7011/220/230	10G8659	Graphics adapter, POWER Gt1
887	7006/41T/41W	12H1281	Integrated Ethernet Problem System board, integrated Ethernet adapter
	7006/42T/42W	39H8152	System board
	7008	43G2429	System board
	7011/220	65G7374	System board
	7011/230	8184088	System board, integrated Ethernet adapter (66MHz)
	7011/250	51G8101	System board, integrated Ethernet adapter (80MHz)
	7011/250	8184306	System board, integrated Ethernet adapter
	7012/340/350	51G8812	System board, integrated Ethernet adapter
	7012/34H/360/36T/370/37T	00G2793	System board, integrated Ethernet adapter
	7012/355/365/375	51G9107	System board, integrated Ethernet adapter
	7012/380/390/39H	52G4325	System board, integrated Ethernet adapter
	7012/397	93H5557	System board, integrated Ethernet adapter
	7013/55L	00G2793	System board, integrated Ethernet adapter
	7030	52G4325	System board, integrated Ethernet adapter
889		11H2447	SCSI-2 differential high performance external I/O controller Note: Check the SCSI controller PTC resistor before exchanging the planar. Refer to "PTC Tripping (SCSI-2 SE Controller, Integrated SCSI on 7012/340 thru 375, 7013/550L, 570 thru 59H, 7015/R10 thru R24" on page 6-6.
890		65G7315	SCSI-2 Differential Fast/Wide Adapter/A
		11H3600	SCSI-2 Single-Ended Fast/Wide Adapter/A
		52G3380	Enhanced SCSI-2 Differential Fast/Wide Adapter/A
	7013/595	40H7517	I/O planar Integrated SCSI Fast/Wide
891			Vendor SCSI adapter
892			Vendor display adapter

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
893			Vendor LAN adapter
894			Vendor async communications adapter
897		65G1828	S/370 Channel Emulator/A
898	7011/220/230	51G7773	POWER Gt1x graphics adapter
89c	7006	88G4898	600MB Double Speed Tray-Loading CD ROM
	7009		
	7012/380/390/G30/G40		
	7013/J30/J40/J50/J01	19H0206	600MB Double Speed Tray-Loading CD ROM with carrier.
		19H0264	Carrier with DC5 card for the above device.
	7013 other models	88G4898	600MB Double Speed Tray-Loading CD ROM
	7015 models after 950 and all R series		
7030			
901			Vendor SCSI device
902			Vendor display
903			Vendor async device
904			Vendor parallel device
905			Other vendor device
908	7250 (All models)	40H3571	POWER GXT1000 Graphics Attachment Adapter (SPAN)
910	All	40H2648	1/4GB Fibre Channel/266 Standard Adapter
911	All	12H1292	Fibre Channel 1063 Short Wave Adapter
912		86F0119	2.0GB SCSI-2 differential disk drive
		86F0125	Differential frame electronics Note: Check RETAIN for frame electronics availability. Exchange the complete drive assembly whenever possible. Exchange the logic card only when the data on the disk must be saved.
913		6374682	1GB differential disk drive, half-height
		6374683	Differential frame electronics Note: Check RETAIN for frame electronics availability. Exchange the complete drive assembly whenever possible. Exchange the logic card only when the data on the disk must be saved.
914		16G8492	5GB 8mm differential tape drive

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
915	All except 7013/J series	21H5172	4GB 4mm tape drive
	7013/J30/J40/J50	19H0213	4GB 4mm tape drive with carrier
		19H0264	Carrier with DC5 card for the above device.
917		86F0767	2.0GB Differential Fast/Wide Disk Drive Note: If the disk drive is in a 7134 drawer, replace with FRU P/N 67G3022
918		86F0766	2.0GB 16-bit Single-Ended Fast/Wide Disk Drive
		19H0201	2.0GB 16-bit Single-Ended Fast/Wide Disk Drive carrier
		19H0209	Carrier with DC6 card for the above drive.
921			101 Key Keyboard
		51G8572	Keyboard U.S. English
		8184692	Keyboard, U.S. (Soft Touch) English
		1394609	Keyboard cable
922		1396079	Keyboard, Arabic
		1394543	Keyboard, Belgium-French/Dutch
		88G3936	Keyboard, Brazilian
		1394544	Keyboard, Danish
		43G2778	Keyboard, Dutch/Netherlands
		1394545	Keyboard, Finnish/Swedish
		1394546	Keyboard, French
		1394541	Keyboard, French-Canadian
		1394542	Keyboard, German
		1396078	Keyboard, Greek
922 (cont.)		1396080	Keyboard, Hebrew
		1395968	Keyboard, Icelandic
		1394547	Keyboard, Italian
		1394548	Keyboard, Norwegian
		1394549	Keyboard, Portuguese
		1394550	Keyboard, Spanish
		1394551	Keyboard, Swiss-German/French
		1396077	Keyboard, Turkish (ID 179)
		43G2775	Keyboard, Turkish (ID 440)
		1395985	Keyboard, U.K. English
	1394609	Keyboard cable	

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
923			106 keys International Keyboard
		30F9388	Keyboard, Japanese-Kanji
		02G7352	Keyboard, Korean
		02G7353	Keyboard, Taiwanese
924		61X8923	2-Button mouse
925		11H4878	3-Button mouse
926		6247450	Tablet, 5083 Model 21
		74F3130	Tablet, 6093 Model 11
927		6247452	Tablet, 5083 Model 22
		74F3140	Tablet, 6093 Model 12
		93H7714	Tablet, 6093 Model 21
929		39F8227	Dials, 6094 Model 10
		39F8302	Cable, serial attachment, power
930		39F8226	Lighted Program Function Keyboard (LPGK), 6094 Model 20
		39F8302	Cable, serial attachment, power
931		6487683	5085 Keyboard, U.S.
		6487686	5085 Keyboard, France
		59X1088	5085 Keyboard, Germany
		6487687	5085 Keyboard, Italy
		60X5726	5085 Keyboard, Japan
		6487689	5085 Keyboard, Sweden (obsoleted)
		6487685	5085 Keyboard, U.K. English
		6247440	5086 Keyboard, U.S.
		6247442	5086 Keyboard, France
		6247444	5086 Keyboard, Germany
		6247443	5086 Keyboard, Italy
		6247446	5086 Keyboard, Japan
		6247445	5086 Keyboard, Sweden
		6247441	5086 Keyboard, U.K. English

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes	
935	7006/41T/41W /42T/42W	52G3400	4M-byte (2.88 M-byte), 3.5-inch diskette drive	
	7009			
	7011			
	7012	88G4768	2M-byte (1.44 M-byte), 3.5-inch diskette drive	
				7013
				7015
				7016
7018	53F3423			
936		71F1042	5.25-inch diskette drive, 1.2M-byte, internal	
937		51G9994	HIPPI Micro Channel Adapter Card	
942	7011/250	52G3206	GXT100 Graphics adapter error	
		52G3207	GXT150 Graphics adapter error	
944	7009/C10	73G9821	100MB ATM adapter being configured	
	7013/59H			
945		45G9467	1.0GB 16-bit SCSI differential disk drive	
946	7012/G30	35H8832	Standard Serial Port 3 Problem System board	
	7012/G40	09J4774	System board	
	7013/J30/J40	35H8780	I/O card	
	7013/J50	09J4760	I/O card	
	7015/R30/R40	35H8780	I/O card	
	7015/R50	09J4760	I/O card	
949			Unknown direct-attached disk drive is failing	
950			Unknown SCSI device is missing.	
951		53F3429	670M-byte SCSI disk drive assembly	
		6373521	Logic card Note: Exchange the complete drive assembly whenever possible. If extreme data-saving measures are necessary, exchange the logic card.	
952		53F3427	355M-byte SCSI disk drive assembly	
		6373521	Logic Card Note: Exchange the complete drive assembly whenever possible. If extreme data-saving measures are necessary, exchange the logic card.	

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
953		93X0961	320M-byte SCSI disk drive assembly
		93X0901	Logic card and frame assembly Note: Exchange the complete drive assembly whenever possible. Exchange the logic card only when the data on the disk must be saved.
954		73F9001	400M-byte disk drive assembly
		73F8994	Logic card and frame assembly Note: Exchange the complete drive assembly whenever possible. Exchange the logic card only when the data on the disk must be saved.
955		45G9495	857M-byte disk drive assembly
		95X2346	857M-byte logic card and frame assembly
		95X2432	857M-byte logic card and frame assembly
		91F0935	Isolator kit for 7016 Note: Check RETAIN for frame electronics availability. Exchange the complete drive assembly whenever possible. Exchange the logic card only when the data on the disk must be saved. Refer to RETAIN TDR -064942 for more information. 95X2346 must be used with the 95X2431 disk enclosure.
956		6373521	355/670M-byte logic card.
957	7012/320	53F3425	120M-byte Direct Bus Attach disk drive
		81F8900	Riser card, disk drive
958	7012/320	00G2603	160M-byte Direct bus attach disk drive
	7012/32H	81F8900	Riser card, disk drive
959	7008/M2A/M20	1383417	Fuse, riser card
	7011/220/230/250	31F4288	Riser card, disk drive
	7012/340/34H/350/355/360/36T/370/37T	00G2603	160M-byte SCSI disk drive
960		52G0061	1.37GB SCSI disk drive assembly
		31G9756	Logic card Note: Logic card stocking will be limited, and special ordering may be required. Check RETAIN for logic card availability. Exchange the complete drive assembly whenever possible. Exchange the logic card only when the data on the disk must be saved.
962	3161		Use device documentation.
963	3163		Use device documentation.

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
964		59H3879	12GB External 4mm Tape Drive
		59H2839	20GB 8mm SCSI Tape Drive (internal)
		59H2835	20GB 8mm SCSI Tape Drive (external)
		59H2842	400GB 8mm SCSI Tape Autoloader
968		55F9902	1GB single-ended disk drive assembly, half-height
		55F9909	Single-ended frame electronics
		19H0265	Carrier with DC3 card for the above drive. Note: Check RETAIN for frame electronics availability. Exchange the complete drive assembly whenever possible. Exchange the logic card only when the data on the disk must be saved.
970	9348		1/2-Inch 9-Track Tape Drive Use device documentation.
971		16G8423	150M-byte 1/4-Inch Tape Drive
972		16G8421	2.3GB 8 mm Tape Drive
973			Other SCSI tape drive
974		88G3929	CD-ROM drive (Type A or Type B bezel)
977		51G8018	M-Audio Capture and Playback Adapter
980	4216		Use device documentation.
981		51G8237	540M-byte SCSI-2 single-ended disk drive
		19H0265	Carrier with DC3 card for the above drive.
982	3852		Use device documentation.
983	4201		Use device documentation.
984	7013/J30/J40/J50/J01	45G9467	1GB 8-bit disk drive (one-inch height)
		19H0202	1GB 8-bit disk drive (one-inch height) with carrier.
		19H0265	Carrier with DC3 card for the above drive.
985			M-Video Capture Adapter (M-VCA)
		32G0258	NTSC version (U.S.)
		92F3713	NTSC cable set
		32G0263	PAL version (non-U.S.)
		92F3714	PAL cable set
986		36G0454	2.4GB SCSI disk drive assembly Note: For field repair assembly, see Failing Function Code C11.

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes	
987	7012/G30/G40	88G4898	600MB CD-ROM-2 drive (Type B bezel, has white underside on unload button)	
	7013/59H/J30/J40/J50/J01			
	7013/J30/J40/J50/J01	19H0206	600MB CD-ROM-2 drive with carrier	
		19H0266	Carrier with DC5 card for the above device.	
	All other models	65G7563	600MB CD-ROM-2 drive	
989		43G1842	200M-byte SCSI disk drive	
990		86F0118	2.0GB SCSI-2 single-ended disk drive	
		86F0110	Single-ended frame electronics	
		7013/J30/J40/J50/J01	19H0201	2.0GB SCSI-2 single-ended disk drive with carrier.
			19H0265	Carrier with DC3 card for the above drive. Note: Check RETAIN for frame electronics availability. Exchange the complete drive assembly whenever possible. Exchange the logic card only when the data on the disk must be saved.
991	7207	46G2700	525M-byte 1/4-inch SCSI tape drive	
992	5202		Use device documentation.	
993	5204		Use device documentation.	
994	All models	21H5151	5/10GB 8-mm internal tape drive	
	7013/J30/J40/J50/J01	19H0204	5/10GB 8-mm internal tape drive with carrier	
		19H0266	Carrier with DC5 card for the above device.	
995		8191184	1.2GB 1/4-inch cartridge tape drive	
996		43G0656	Multi-Protocol Adapter	
997		65G1878	FDDI-STP (shielded twisted-pair) single-ring adapter	
998		55F9306	2.0GB 4mm-tape drive	
*		61F5396	Voice Server Attachment Adapter (VSCA) (61F5396 obsolete) * No Failing Function Code exists. For detailed diagnostic information, refer to the DirectTalk/6000 Problem Solving Guide, form number SC-22-0105.	
*		34F0873	Voice Server Attachment Adapter cable * No Failing Function Code exists. For detailed diagnostic information, refer to the DirectTalk/6000 Problem Solving Guide, form number SC22-0105.	

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
*		43G3317	Voice Server Dual Attachment Adapter (VSDA) * No Failing Function Code exists. For detailed diagnostic information, refer to the DirectTalk/6000 Problem Solving Guide, form number SC-22-0105.
999	3514 7137		Disk Array Subsystems Note: Refer to the 3514 or 7137 documentation.
B01		00G2916	Processor card, POWER Gt3
B04		92F6697	Cable, Block Multiplexer Channel Adapter
B05		25F9401	Channel cable interface box
B06	7012/34H/355/360 /36T/365/370 /37T/375/380 /390/39H/397	43G0382	Ethernet thick and thin riser card Note: Check the Ethernet fuse before replacing the planar.
	7013/550L		
	7030		
B07	7012/34H/355/360 /36T/365/370 /37T/375/380 /390/39H/397	00G1276	Ethernet twisted-pair riser card Note: Check the Ethernet fuse before replacing the planar.
	7013/550L		
	7030		
B08		02G7431	Ethernet 10 Base Twisted-pair transceiver
B09		02G7437	Ethernet/ISO 8802/3 (formerly IEEE 802.3) transceiver
B10		81F8129	System board fuse or PTC (thermal fuse) Note: If a thermal fuse has opened, it should reset within ten minutes after powering off the system. If the thermal fuse does not reset, a faulty device may be drawing excessive power through the fuse.
B11	7012/355/360/ 36T/365/370/ 37T/375	00G1295	Fuse for thick/thin riser card
	7012/380/390/39H/397	43G0382	
	7030		
B14	All except 7011/220/230	81F9014	Fiber Distributed Data Interface (FDDI) dual ring upgrade adapter
		43G0856	FDDI-Fiber dual ring upgrade adapter
B15	All except 7011/220/230	81F9012	Fiber Distributed Data Interface (FDDI) crossover cable
		93F1162	FDDI-Fiber crossover cable
B16		70F9664	Performance Option card, POWER Gt4

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
B19	7012/320	91F1009	Socketed TCW Memory DIMM Problem CPU Card
	7012/32H	81F8232	
	7012/340	52G4190	
	7012/350	52G4007	
	7012/34H/355/360 /36T/365/370 /37T/375	90X8624	Translation Control Word (TCW) memory module
	7012/380	11H3465	CPU Card
	7012/390/39H	11H3462	
	7012/397	93H5557	System board
	7013/520	71F1378	CPU Planar
	7013/52H	00G3528	
	7013/530	81F7888	
	7013/53H	31F4350	
	7013/540	53F3349	
	7013/550	52G0020	
	7013/560	51G9947	
B19 (cont.)	7013/55L/570/580 /58H/590/591	90X8624	
	7013/59H	8184612	CPU Planar
	7015/970/97B/980 /98B/R10/R20 /R21	90X8624	Translation Control Word (TCW) memory module
	7015/990/R24	52G6128	CPU Planar
	7030/3AT	11H3465	CPU Card
	7030/3BT	11H3462	
	7030/3CT	88G3536	
B20	7012/350	52G4007	CPU card
B21	7012/340	52G4190	CPU card
B23	7015/970/97B	65G3448	CPU planar
B24	7011/220	65G7374	System board
B26	7012/340/350	51G8812	System board

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
B28	7012/397	93H5557	System board
	7013/570/58H/590/59H	43G2211	I/O planar
	7013/591	11H2515	
	7013/595	40H7517	
	7015/970/97B/980/98B	65G3400	Standard I/O planar
	7015/990/R24	52G6071	
	7015/R10/R20/R21	65G3009	I/O planar
B29	7011/220	65G7374	System board
B31			Unknown keyboard type
B34	7008	43G2429	System board (video RAM)
	7011/220	00G2393	POWER Gt1 video RAM (1M-byte)
B35	7011/220/230	31F4292	POWER Gt1 riser card
B36			Unidentifiable Memory module
		19H0240	MR2 8MB Memory module
		19H0271	MR4 32MB Memory module
		35H8694	8MB memory JEDEC Memory module
		19H0288	16MB memory JEDEC Memory module
		19H0289	32MB memory JEDEC Memory module
		35H8751	64MB memory JEDEC Memory module
B37	7006	8184416	2M-byte memory module
	7009		
	7011/250		
B38	7006	51G8553	4M-byte memory module
	7009		
	7011/220/230/250		
B39	7006	51G8554	8M-byte memory module
	7009		
	7011/220/230/250		
B40	7011/220/230	1383417	Planar ethernet fuse Note: If a thermal fuse has opened, it should reset within ten minutes after powering off the system. If the thermal fuse does not reset, a faulty device may be drawing excessive power through the fuse.
B41	7011	31F4288	I/O slot riser card
B42	7011/220/230	31F4292	Graphics adapter riser card
B45		43G0876	FDDI-STP dual ring upgrade kit

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
B46		93F1162	FDDI-STP crossover cable
B47		56G0295	ESCON channel adapter or emulator fiber optic subassembly
B48			Unidentifiable Memory Card
		35H8694	MRE memory card without memory modules
		19H0234	MRB2 memory card without memory modules
		19H0236	NFx memeory card without memory modules
		19H0284	MRB4 memory card without memory modules
		11H5059	RLx memory card without memory modules
		73H1567	SF5 memory card without memory modules
B50	7235	09G3549	Drawing processor card
B51	7235	09G3521	Shading processor card
B52	7235	09G3533	8-bit pixel memory card
B53	7235	09G3534	24-bit pixel memory card
B54		43G0936	128-port async controller cable, 0.2 m (9 in.)
		43G0937	128-port async controller cable, 4.6 m (15 ft.)
B56		32G1866	S3.3 memory base card
B57	7012	43G1796	16M-byte memory card module
	7013		
	7015		
B58		43G0681	POWER Gt3i graphics adapter
B59		51G8022	POWER Gt4e graphics adapter
B60		09F1888	Multiport/2 512K-byte base card
B61		09F1962	Multiport/2 1M-byte base card
B62		91F7976	4-port EIA-232-C Multiport/2 Interface Card
B63		91F7974	8-port EIA-232-C Multiport/2 Interface Card
B64		91F7966	4-port EIA-232-C/4-port EIA-422-A Multiport/2 Interface Card
		15F8858	8-port EIA-422-A Multiport/2 Interface Card
B65		91F7963	6-port synchronous EIA-232-C Multiport/2 Interface Card

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
B66		15F8858	8-port EIA-422-A Multiport/2 Interface Card
B67		16F2267	Multiport/2 256K-byte memory module package
B68		16F2265	Multiport/2 512K-byte memory module package
B69		53F2603	Portmaster base card
B71		53F2612	8-port EIA-232-D Portmaster Interface Card
B72		53F2615	8-port EIA-422-A Portmaster Interface Card
B73		72F0164	6-port V.35 Portmaster Interface Card
B74		04G5500	6-port X.21 Portmaster Interface Card
B75	7008	43G2429	System board
B76	7008	43G0059	Display unit, Northern Hemisphere
		43G0069	Display unit, Southern Hemisphere
B77		53F2662	Portmaster 1M-byte memory module
B78		53F2666	Portmaster 2M-byte module
B79		00F5524	Multiport/2 interface cable (non-synchronous) Note: If cable has an 8 port or 6 port fanout box.
B80		15F8868	Multiport/2 synchronous interface cable
B81		53F2621	8-port Portmaster interface cable
B82		72F1966	6-port V.35 Portmaster interface cable
B83		04G5501	6-port X.21 Portmaster interface cable
B84	7015/980	65G6896	CPU planar
B85	7013/580	8184913	CPU planar
B86	7013/570/580/590/58H/59H/591	43G2211	I/O planar
	7013/595	40H7517	
	7015/R10/R20/R21	65G3009	
B87	7012/34H/360/36T/370/37T	00G2793	System board
	7012/355/365/375	51G9107	
	7013/55L	00G2793	

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
B88			<p>Generic SCSI I/O controller</p> <p>Note: Refer to the FRU Name Cross-Reference List in this book for the FFCs of the SCSI and SCSI-2 adapters that this generic FFC represents. Choose the FFC for the appropriate SCSI I/O controller.</p> <p>Check the SCSI controller fuse or PTC resistor before exchanging the planar. Refer to "PTC Tripping (SCSI-2 SE Controller, Integrated SCSI on 7012/340 thru 375, 7013/550L, 570 thru 59H, 7015/R10 thru R24" on page 6-6.</p> <p>Check that the SCSI disable jumper is in the enabled position.</p> <p>Check the FRU number of the installed external terminator:</p> <p style="padding-left: 20px;">Low density - 51G7736 High density - 51G7737</p> <p>For 7012/G series, 7013/J series, and 7015/R30 system units refer also to FFC 221 and C90.</p>
B89	7012/360/36T/365	51G9437	CPU card
	7013/55L	51G9433	
B90	7012/370/37T/375	51G9441	CPU card
B91	7012/34H/355	51G9433	CPU card
B92	7013/570	65G7623	CPU card
	7015/R10		
B93	7011/230	8184088	System board
B94		19H0283	MRB2 base memory card (without memory modules)
B96		19H0240	8 MB MR2 Memory module
B97		19H0271	32 MB MR4 Memory module
B98			SMP Data Cross Bar
	7012/G30	35H8832	System Planar
	7012/G40	09J4774	
	7013/J30	19H0242	
	7013/J40	35H8778	
	7013/J50	09J4816	
	7015/R30	19H0242	
	7015/R40	35H8778	
7015/R50	09J4816		
C08		51G9996	HIPPI Transmit Card
C09		51G9995	HIPPI Receive Card

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
C10		51G9226	Top-card cables
C11		36G4280	2.4GB SCSI disk drive field repair assembly Note: The field repair assembly includes one disk drive, the electronics planar, and the 5-1/4 inch form factor "cage." The remaining "good" drive is removed from the failed disk drive assembly and installed in the field repair assembly to create a complete dual-disk drive assembly. If saving data is critical, as a last resort try installing the "bad" drive in place of one of the two "good" drives in the now-complete field repair assembly. If the "bad" drive operates satisfactorily, the problem was probably in the electronics planar.
C12	7016	88G2965	Drawing processor
	7235/001/7235/002		
	7235/01i/7235/02i	09G3549	
C13	7016	74F3118	Shading processor
	7235/002	74F3118	
	7235/02i	09G3521	
C14	7016	53F6538	24-bit pixel memory card
	7016	53F6536	8-bit pixel memory card
	7235/001	53F6536	8-bit pixel memory card
	7235/002	53F6538	24-bit pixel memory card
	7235/01i	09G3533	8-bit pixel memory card
	7235/02i	09G3534	24-bit pixel memory card
C16			Generic reference for the Portmaster interface card. The FRU for this FFC could be associated with any of the following: B69, B71, B72, B73 or B74. Refer to information for the applicable FFC.
C17			Generic reference for the Multiport/2 interface card. The FRU for this FFC could be associated with any of the following: B62, B63, B64, B65 or B66. Refer to information for the applicable FFC.
C18		51G9361	E1 Portmaster Adapter/A (Europe)
C19		51G9431	T1/J1 Portmaster cable (U.S. and Japan)
C20		51G9432	E1 Portmaster cable (Europe)
C21		68F7209	S/370 Channel Emulator/A Interface cable

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
C22		49G0935	RJ-45 to DB-25 converter cable kit (four cables)
C23	7012/340	52G4190	CPU card
	7012/350	52G4007	
	7012/34H/355	51G9433	
	7012/360/36T/365	51G9437	
	7012/370/37T/375	51G9441	
	7013/55L	51G9433	
C24			Fiber optics cable
C25	7011/250	8184016	Riser card, graphics adapter
C26		65G7315	SCSI-2 Differential Fast/Wide Adapter/A
C27	7006/41T/41W	12H1281	System board
	7006/42T/42W	39H8152	
	7009/C10/C20	65G7904	
	7011/250	51G8101	System board (66MHz)
	7011/25F	8184306	System board (80MHz)
C28	7006/41T/41W	93H1527	GXT150 Graphics adapter error
	7011/250	52G3206	POWER GXT100 graphics adapter
		52G3207	POWER GXT150 graphics adapter
C29	7006	51G8479	RJ-45 Ethernet converter
	7011/250		
C30		65G6452	32M-byte S4.5 memory module
C31	7006	8184379	16M-byte memory module
	7009		
	7011/250		
C32	7006	88G2807	32M-byte memory module
	7009	73G3235	
	7011/250		
C33	7250/001 with S/Ns		
	7250-26-nnnnn	40H6494	GPSS board
	7250-26-Annnn	11H8507	
	7250/002 with S/Ns		
	7250-26-nnnnn	40H4123	GPSS board
	7250-26-Annnn	11H8491	GPSS board

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
C34	7250/001 with S/Ns		
	7250-26-nnnnn	11H8539	RSS board
	7250-26-Annnn	11H8484	
	7250/002 with S/Ns		
	7250-26-nnnnn	40H4063	RSS board
	7250-26-Annnn	11H8490	RSS board (without memory sockets)
C35	7250 (All models)	65G4887	VOO board
C36	7250 (All models)	65G4892	Attachment adapter cable
C37	7012/39H	88G3536	CPU Card (If slot callout is slot location D.)
	7030/3CT		
	9076/SP2	65G1803	S4.5 base memory card (If slot callout is any slot except D.)
	All other models refer to table in Appendix C		
C38		59F4581	1M-byte memory memory
C39		59F4582	2M-byte memory module
C40		70F9973	4M-byte memory module
C41		70F9976	8M-byte memory module
C42		43G1796	16M-byte memory module
C43	7013	65G6452	32M-byte memory module
	7015		
C44	7250 (All models)	65G4894	VOO/RSS Crossover cable
C45	7250/002 (Base and AG Mem.)	65G4889	12M VRAM memory module
C46	7250/002 (Base and AG Mem.)	65G4890	16M VRAM memory module
C47	7250/002 (TX Memory)	65G4891	16M DRAM memory module
C48	7250 (All models)	65G4893	RSS/GPSS Crossover board
C49		40H3441	POWER Gt4-i processor card
C50		40H3446	POWER Gt4-i processor card
C51		11H4912	POWER Gt4-i 8-bit graphics card
C52		11H4913	POWER Gt4-i 24-bit graphics card

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
C53	7015/990	88G0262	CPU planar ID 80
C54	7012/397	93H5557	System board ID 94
	7013/590	8184825	CPU planar ID 70
	7013/591	39H9200	CPU planar ID 79
	7013/595	39H9164	CPU planar ID 89
C55	7012/380/390/39H	52G4325	Integrated SCSI-2 Fast/Wide Adapter on the system board. Replace the system board.
	7012/397	93H5557	System board
	7030	52G4325	System board
C56	7013/58H	11H2375	CPU planar
C57	7013/58H	43G2211	I/O planar
C58	7015/990	52G6071	Combination planar
C59	7012/G30	35H8832	System board
	7012/G40	09J4774	System board
	7013/J30/J40	35H8780	I/O card
	7013/J50	09J4760	I/O card
	7015/R30/R40	35H8780	I/O card
	7015/R50	09J4760	I/O card
C61	7012/G30	35H8832	System board
	7012/G40	09J4774	
	7013/J30	19H0242	
	7013/J40	35H8778	
	7013/J50	09J4816	
	7015/R30	19H0242	
	7015/R40	35H8778	
	7015/R50	09J4816	
C62			E1M Single CPU card
C63		35H8748	C1D Dual CPU card with 1MB cache
C64		19H0284	MRB4 base memory card
C65		35H8750	E1D Dual CPU card with 512KB cache
C66			RLx memory card without memory modules

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
C68			Unidentifiable CPU Card
	7012/G30	35H8832	System board (ELM card)
		35H8750	E1D Dual CPU Card with 512KB cache
	7012/G40	09H4774	System board
		09J4713	E4D Dual CPU Card with 512KB cache
		09J4714	E4M Mono CPU Card with 512KB cache
		93H6274	X4D CPU card, two way
	7013/J30	35H8748	C1D Dual CPU Card with 1MB cache
	7013/J40	09J4712	C4D Dual CPU Card with 1MB cache
	7013/J50	93H6274	X4D, 604E CPU card
	7015/R30	35H8748	C1D Dual CPU Card with 1MB cache
	7015/R40	09J4712	C4D Dual CPU Card with 1MB cache
	7015/R50	93H6274	X4D, 604E CPU card
C69	7006/41T/41W	12H1281	System board
	7006/42T/42W	39H8152	System board
C70	7009/C10	40H5691	CPU card
C72	7006	8184016	MCA I/O Riser Card
C74	7009	12H0304	MCA I/O Riser Card
C75	7006	88G2547	POWER GXT155L adapter
C76	7015/R24	88G0007	CPU planar
C77	7013/59H	8184612	CPU planar
	7015/R20		
C78	7012/390	11H3462	CPU card
	7030/3BT		
C79	7012/380	11H3465	CPU card
	7030/3AT		
C81	7012/380/390/39H	52G4325	System board
	7012/397	93H5557	System board
	7030/3BT/3AT/3CT	52G4325	System board
C82	7015/R24	52G6071	I/O planar
C83	7013/59H	43G2211	I/O planar
C84	7009	65G7904	I/O planar
C85	7006/41T/41W	12H1281	System board
	7006/42T/42W	39H8152	
C87	7006	88G2479	POWER GXT150L graphic adapter

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
C88	7012/G30	35H8832	System Planar
	7012/G40	09J4774	
	7013/J30/J40	35H8779	SIB System Interface Board (base unit)
	7013/J01	35H8779	
	7015/R30/R40	40H0421	
C89	7013/J01	35H8779	SIB System Interface Board (expansion unit)
C90	7012/G30	35H8832	System Planar
	7012/G40	09J4774	
	7013/J30/J40/J50	95H0010	MCA planar base unit (MP)
	7013/J01	35H8834	MCA expansion planar (MPe)
	7015/R30/R40/R50	35H8834	MCA expansion planar (MPe)
C91	7013/J01	35H8834	MCA expansion planar (MPe)
	7015/R30/R40/R50		
C93	7013/J30/J40/J50	19H0500	Base unit backplane (BP)
	7013/J01	19H0325	Expansion unit backplane
C94		59F4581	ARTIC960 1MB packet memory module
		70F9973	ARTIC960 4MB packet memory module
		71G6450	ARTIC960 8MB packet memory module
		43G1796	ARTIC960 16MB packet memory module
C95		61G2961	ARTIC960 co-processor platform application interface board (AIB) (4-port interface board)
		06H4650	ARTIC960 co-processor platform application interface board (AIB) (8-port X.21 AIB)
		11H3786	ARTIC960 co-processor platform application interface board (AIB) (8-port EIA-232E AIB)
		11H3795	ARTIC960 co-processor platform application interface board (AIB) (6-port V.36 AIB)

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
C97		53G0632	ARTIC960 AIB 100-pin wrap plug
		33F8995	ARTIC960 EIA-232-D 25-pin wrap plug
		53G0639	ARTIC960 EIA-530-D 25-pin wrap plug
		53G0641	ARTIC960 ISO-4902-D 37-pin wrap plug
		53G0638	ARTIC960 ISO-4903-D 15-pin wrap plug
		06H3357	ARTIC960 8-port X.21 AIB wrap plug
		68F7208	ARTIC960 8-port EIA-232E AIB wrap plug
		72F0168	ARTIC960 6-port V.36 AIB wrap plug
		33F8985	ARTIC960 8-port EIA-232E cable wrap plug
C98		61G2919	ARTIC960 EIA-232-D shell cable
		61G2924	ARTIC960 EIA-530-D shell cable
		61G2934	ARTIC960 ISO-4902 (V.36)-D shell cable
		61G2929	ARTIC960 ISO-4903 (X.21)-D shell cable
		06H4648	ARTIC960 8-port X.21 cable
		71G5053	ARTIC960 8-port EIA-232E cable
		11H3796	ARTIC960 6-port V.36 cable
C99		81F9003	FDDI Network adapter (Type 2-6)
		81F9014	FDDI Network adapter (Type 2-7)
		43G0855	FDDI Network adapter (Type 2-R)
		43G0856	FDDI Network adapter (Type 2-S)
		43G0875	FDDI Network adapter (Type 2-T)
		43G0876	FDDI Network adapter (Type 2-U)
Cable		See note	Standard HIPPI cable (customer supplied) Note: A short HIPPI cable suitable for wrap testing is available from IBM. Part Number 90F6492. However, any standard HIPPI cable up to 25 meters in length will suffice.

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
D01	7006	88G2731	.5MB L2 cache (Riser card with L2 cache)
	7009	65G7929	1MB L2 cache (CPU feature card)
	7012/380/390/39H	88G3893	.5MB L2 cache memory module
		88G4012	1MB L2 cache memory module
	7013/59H	88G3894	.5MB L2 cache memory module
	7015/R20	88G3894	.5MB L2 cache memory module
	7015/R21		
	7015/R24	88G4012	1MB L2 cache memory module
	7030/3AT3BT/3CT	88G3893	.5MB L2 cache memory module
		88G4012	1MB L2 cache memory module
D03	7013/59H	88G3894	0.5MB L2 cache memory module
	7015/R20	88G3894	0.5MB L2 cache memory module
D04	7009	65G7929	1MB L2 cache memory module
	7015/R24	88G4012	1MB L2 cache memory module
D05	7006	88G2731	Riser Card with L2 cache
D06		88G3650	64 Port to 128 Port Converter kit (four to a pack). Note: Converter part number is 88G3651
D07	7006		Graphics cable Note: Refer to "Setting the Display Switches on the POWER GXT150L Adapter" in the 7006 Graphics Workstation Operator Guide
D08	7134	88G5722	DC fan assembly
D09	7012/39H	88G3536	CPU Card
	7030/3CT		
D10		00F5524	Multiport/2 Interface Cable
		15F8868	Note: If cable has an 8 port or 6 port fanout box. Multiport/2 Synchronous Interface Cable
D11		88G3717	Ultimedia Video I/O card (CODEX daughter card)
D15	7011/250	51G8101	System board (66MHz)
		8184306	System board (80MHz)

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
D16	7013/J30/J40	19H0219	Main fan (base unit)
		19H0270	Fan asm. only
	7013/J50	09J4751	Main fan (base unit)
		19H0270	Medium speed fan asm. only
		09J4752	High speed fan asm. only
	7013/J01	19H0219	Main Fan (expansion unit)
		19H0270	Fan asm. only
7015/R30/R40/R50	11H2694	Media Fans	
D17	7013/J30/J40/J50	19H0222	MCA Fan Module (base unit)
	7013/J01	19H0222	MCA Fan Module (expansion unit)
	7015/R30/R40/R50	11H2694	Media Fans
D18	7013/J30/J40/J50	19H0224	Disk Fan Module (base unit)
		19H0270	Fan asm. only
	7013/J01	19H0224	Disk Fan Module (expansion unit)
		19H0270	Fan asm. only
D19	7013/J30/J40/J50	39H9222	AC power supply
	7015/R30/R40/R50	11H8275	AC power supply
		11H2714	DC power supply
D21	7015/R30/R40	11H2686	Disk/CPU/Memory Fan module (rear fan)
	7015/R50	93H5822	
D22	7015/R30/R40/R50	11H2694	Media fans
D24	7013/J01	19H0413	Expansion unit power switch module
D26	7009/C20	40H5693	CPU card
D27		35H8739	NFx memory card without memory modules
D28	7012/G30/G40	35H8739	NFx memory board
	7012/G40	35H8751	NFx memory board (populated w/64MB memory modules)
	7012/G30/G40	35H8694	MRE memory board
	7013/J30/J40	35H8739	NFx memory board
D32		35H8694	MRE memory card without memory module
D33		19H0287	MRE/NFx 8MB memory Jecde Memory module
D34		19H0288	MRE/NFx 16MB memory Jecde Memory module
D35		19H0289	MRE/NFx 32MB memory Jecde Memory module
D37	7013/J30/J40/J50	19H0230	SCSI Interface Card
D40	7012/G30/G40	71F1128	MCA Fans

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
D41	7012/G30/G40	11H3884	CPU Fans
D45	7012/G40	09J4713	E4D Dual CPU (604) Card with 512KB Cache
D46		60G1066	Type 3 Media filter token-ring cable. .254m (10inch)
		60G1063	Standard token-ring cable. 3m (10ft)
D47		52G3380	Enhanced SCSI-2 Differential Fast/Wide Adapter/A
D49		31F4126	Serial Dual Port Y-cable.
D51	7006	11H8885	GXT500D Graphics Adapter
D52	7012/G40	35H8737	E4M Single CPU (604) Card
D53	7006/42T/42W	39H8152	CPU card
D54	7013/J40	09J4712	C4D Dual CPU (604) Card with 1MB Cache
	7015/R40		
D56		12H1204	EIA-232E Printer/ Terminal Serial Cable
D58			Backup power supply
D61		12H1331	S5.0 base memory card
D62		39H8924	4MB memory card memory module
D63		39H8925	8MB memory card memory module
D64		39H8312	32MB memory card memory module
D66	7250 with S/Ns 7250-26-Annnn	11H4436	RSS board (with memory sockets)
D79	7013/591	39H9200	CPU planar
	7015/R21		
D81		39H8826	T2 Ethernet Adapter
D82			Generic Ethernet Adapter
		39H8826	T2 Ethernet Adapter
		39H8817	TP Ethernet Adapter
E00	7012/G30/G40	vendor logoed	C4M 604 CPU (1MB L2 cache)
E01			Generic reference for the CPU For type/model and FRU information refer to FFC 210.
E02			Generic reference for IO/System Board For type/model and FRU information refer to FFC 221.
E03			Generic Ethernet Adapter type.
E04			Generic Token-Ring Adapter type
E05		35H8751	64MB Memory module

Failing Function Code	Machine Type/Model	FRU Part Number	Description and Notes
E07			Generic I/O controller adapter Note: Refer to the FRU Name Cross-Reference List in this book for the FFCs of the I/O controller adapter that this generic FFC represents. Choose the FFC for the appropriate I/O controller adapter. If the IPL device is a SCSI device refer to FFC B88.
E09	7012/G40 7013/J50 7015/R50	93H7274	X4D Dual CPU Card w/ 2MB cache
E25	7013/J series 7015/R30/R40/R50	19H0232 19H0231 40H0723 40H0727 40H0729 40H0725	Expansion unit micro channel bus cable (FXE) Base unit micro channel bus cable (FXB) Flex cable (For I/O planar 1) Flex cable (For I/O planar 0) Flex cable (to horizontal conn. on I/O card) Flex cable (to vertical conn. on I/O card)

Chapter 24. FRU Cross-References

The FRU Cross-References enable the service technician to determine FRU numbers if the part name is known or to determine a FRU description if the FRU number is known.

Using the FRU Name Cross-Reference List

The following procedure is used to find a FRU part number when the FRU name is known. FRU names are listed in alphabetic order.

1. Find your FRU name in the FRU name column.
2. Record the failing function code for the FRU.
3. Go to the Failing Function Code List in Chapter 23, "Failing Function Codes (FFCs)" on page 23-1 to find the FRU part number and description.

FRU Name Cross-Reference List

Description and Notes	Failing Function Code
Adapter, 8-port async, EIA-232	841
Adapter, 8-port async, EIA-422A	842
Adapter, 8-port async, MIL-STD 188	843
Adapter, 16-port async, EIA-232	847
Adapter, 16-port async, EIA-422A	848
Adapter, 64-port async controller	834
Adapter, 128-port async controller	836
Adapter, 3270 Host Connection Program 2.1 and 1.3.2 for AIX connection	854
Adapter, 5080 attachment	858
Adapter, 3D color graphics, 24-bit color graphics card, MEV2	879
Adapter, 3D color graphics, 24-bit Z-buffer option, MZB1	118
Adapter, 3D color graphics, 8-bit color graphics card, MDE1	876
Adapter, 3D color graphics base card, MGE2	130
Adapter, 3D color graphics video card, MRV2	128
Adapter, ARTIC960 Co-processor platform	713
Adapter, ARTIC960 Co-processor platform AIB card	C95
Adapter, async expansion	867
Adapter, 25MB ATM MCA	668
Adapter, ATM 100MB	944
Adapter, TURBOWAYS ATM 155 MMF	800
Adapter, TURBOWAYS ATM 155 UTP/STP	797
Adapter, TURBOWAYS ATM 155	798
Adapter, Auto Token-Ring LANstreamer MC 32	85c
Adapter, vendor async communications	894
Adapter, block multiplexer channel	862
Adapter, Disk Drive Subsystem	E07
Adapter, diskette (Built-in)	828
Adapter, color graphics display	874
Adapter, vendor display	892
Adapter, ISDN Basic Rate Interface	694
Adapter, ESCON channel adapter or emulator	865
Adapter, ESCON channel adapter or emulator fiber optic subassembly	B47
Adapter, ethernet, 7012/340/350 system planar	887
Adapter, ethernet, 7011/220 system planar	887
Adapter, 10/100MB MCA Ethernet	794

Description and Notes	Failing Function Code
Adapter, ethernet LAN	852
Adapter, Fibre Channel/266	910
Adapter, Fiber Distributed Data Interface (FDDI), single ring	859
Adapter, Fiber Distributed Data Interface (FDDI), dual ring upgrade	B14
Adapter, FDDI-Fiber, single ring	859
Adapter, FDDI-Fiber, dual ring upgrade	B14
Adapter, FDDI network	C99
Adapter, FDDI, Shielded Twisted Pair(STP), single ring	997
Adapter, FDDI, Shielded Twisted Pair(STP), dual ring upgrade	B45
Adapter, graphics input device	819
Adapter, graphics subsystem	871
Adapter, graphics subsystem, 8-bit pixel memory card	112
Adapter, graphics subsystem, 24-bit pixel memory card	115
Adapter, graphics subsystem, CVME interface card	110
Adapter, graphics subsystem, drawing processor card	114
Adapter, graphics subsystem, graphics control processor card	111
Adapter, graphics subsystem, Kanji ROM	117
Adapter, graphics subsystem, shading processor card	113
Adapter, grayscale graphics display	872
Adapter, GXT500 Graphics	718
Adapter, GXT500D Graphics	D51
Adapter, high-performance, disk drive subsystem	870
Adapter, HIPPI micro channel	937
Adapter, HIPPI transmit card	C08
Adapter, HIPPI receive card	C09
Adapter, keyboard (Built-in)	821
Adapter, vendor LAN	893
Adapter, M-Audio Capture and Playback	977
Adapter, mouse (Built-in)	823
Adapter, Multiport/2 interface card (generic reference)	C17
Adapter, Multiport/2 512K-byte base card	B60
Adapter, Multiport/2 1MB base card	B61
Adapter, Multi-Protocol	996
Adapter, Network Terminal Accelerator	838
Adapter, Parallel (Built-in)	827
Adapter, Portmaster base card	B69
Adapter, Portmaster interface card (generic reference)	C16

Description and Notes	Failing Function Code
Adapter, E1 Portmaster (Europe)	C18
Adapter, T1/J1 Portmaster (US and Japan)	851
Adapter, 4-port multi-protocol communications controller	855
Adapter, multi-protocol interface card	186
Adapter, M-Video Capture	985
Adapter, Ultimedia Video I/O	714
Adapter, POWER Gt4 Performance Option	B16
Adapter, POWER Gt1, graphics subsystem	880
Adapter, POWER Gt1x graphics	898
Adapter, POWER GXT800M 3D Graphics Adapter DIMM Memory Module for GXT800M Graphics Adapter	680 297
Adapter, POWER GXT1000 Graphics Attachment (SPAN)	908
Adapter, POWER GXT150L graphic 7006	C87
Adapter, POWER GXT155L	C75
Adapter, POWER Gt3, processor card	B01
Adapter, POWER Gt3, base graphics card	877
Adapter, POWER Gt3i graphics	B58
Adapter, POWER Gt4, graphics processor card	878
Adapter, POWER Gt4, base graphics card	119
Adapter, POWER Gt4, 8- to 24-bit field upgrade card	120
Adapter, POWER Gt4 performance option card	878
Adapter, POWER Gt4i processor card	878 C49 C50
Adapter, POWER Gt4xi processor card	878
Adapter, POWER Gt4xi 8-bit graphics card	878
Adapter, POWER Gt4i 8-bit graphics card	C51
Adapter, POWER Gt4i 24-bit graphics card	878 C52
Adapter, POWER Gt4e, graphics	B59
Adapter, POWER GXT100 graphics	942
Adapter, POWER GXT150 graphics	C28
Adapter, POWER GXT150M graphics	710
Adapter, S/370 Channel Emulator/A	897
Adapter, vendor SCSI	891
Adapter, Generic SCSI I/O Controller	E07
Adapter, SCSI I/O controller	869
Adapter, SCSI-2 I/O controller, single-ended	866
Adapter, SCSI-2 I/O controller, differential	889

Description and Notes	Failing Function Code
Adapter, SCSI-2 Differential Fast/Wide	890
Adapter, SCSI-2 Single-Ended Fast/Wide	890
Adapter, Enhanced SCSI-2 Differential Fast/Wide Adapter/A	890
Adapter, Enhanced SCSI-2 Differential Fast/Wide Adapter/A	D47
Adapter, SCSI-2 Differential Fast/Wide	C26
Adapter, Serial port S1 (Built-in)	826
Adapter, Serial port S2 (Built-in)	831
Adapter, speaker (Built-in)	825
Adapter, Serial Storage Architecture (SSA) Note: Refer to SSA Service Guide for more information	E07
Adapter, tablet (Built-in)	824
Adapter, token-ring network	850
Adapter, voice server attachment (VSAA/VSCA)	*
Adapter, voice server dual attachment (VSDA)	*
Adapter, X.25 interface co-processor/2	849
Adapter, X.25 memory DRAM SIP	185
Adapter, Ultimedia Audio	715
Adapter, Ultimedia Video I/O	D11
Adapter, unknown	711
Async network problem	245
Async expansion drawer, operator panel	264
Backplane (BP)	C93
Backplane, SCSI (generic)	199
Battery, backup unit	161
Battery, time-of-day and NVRAM	151
Board, GPSS	C33
Board, NFx, MRE memory	D28
Board, RSS	C34
Board, GPSS/RSS crossover	C48
Board, VOO	C35
Board, System Interface Board base unit (for SMP units)	C88
Board, System Interface Board expansion unit (for SMP units)	C89
Box, channel cable interface	B05
Bulk Head SCSI (BHS)	D37
Bus, System direct-attach	811
Bus, Micro-channel bus problem	133
Cable, 8/16-port extension	269
Cable, 4-port multi-protocol jumper	267

Description and Notes	Failing Function Code
Cable, 16-Port interface cable - EIA-232	291
Cable, 16-port interface cable - EIA-422A	290
Cable 3D-adapter, card connector	128
Cable, 4-port multi-protocol	258
Cable, 64-port controller signal	265
Cable, 128-port asynchronous controller signal	B54
Cable, ARTIC960 EIA-232, EIA-530, ISO-4902, ISO-4903	C98
Cable, Attachment adapter	C36
Cable, async EIA - 232D, V.24	259
Cable, async expansion drawer signal	268
Cable, battery backup unit,	162
Cable, block multiplexer channel adapter	B04
Cable, GIO adapter signal/power, dials/6094	255
Cable, crossover, FDDI	B15
Cable, crossover, FDDI-Fiber	B15
Cable, crossover, FDDI-STP	B46
Cable, CVME signal	116
Cable, diskette drive signal	181
Cable, Display	RGB
Cable, external diskette	184
Cable, external power. See the installation and service guide for the system unit.	
Cable, graphics input device, dials/6094	274
Cable, graphics 7006	D07
Cable, HIPPI top-card cables	C10
Cable, keyboard	921, 922
Cable, keyboard speaker	284
Cable, media drawer, SCSI	277
Cable, Multiport interface	262
Cable, Multiport/2 interface	B79 D10
Cable, Multiport/2 synchronous interface	B80
Cable, multi-protocol - EIA-232/V.24	254
Cable, multi-protocol - EIA-422A	253
Cable, multi-protocol - V.35	257
Cable, multi-protocol - X.21	260
Cable, optical, 6 m	205
Cable, optical, 10 m	205

Description and Notes	Failing Function Code
Cable, optical, 20 m	205
Cable, optical, 60 m	205
Cable, optical, 100 m	205
Cable, optical, 4 m	C24
Cable, optical, 6 m	C24
Cable, optical, 10 m	C24
Cable, optical, 60 m	C24
Cable, optical, 100 m	C24
Cable, parallel printer	251
Cable, Portmaster 8-port	B81
Cable, Portmaster 6-port V.35	B82
Cable, Portmaster 6-port X.21	B83
Cable, E1 Portmaster (Europe)	C20
Cable, T1/J1 Portmaster (US and Japan)	C19
Cable, power, serial attachment, dials/6094	929
Cable, RGB 3-position video	220
Cable, RGB 3-position video, internal	116
Cable, RJ-45 to DB-25 converter, 64 port	266
Cable, RJ-45 to DB-25 converter, 128 port	C22
Cable, S/370 Channel Emulator/A Interface Cable	C21
Cable, SCSI-integrated planar, external device (1.5 m)	868
Cable, SCSI controller	276
Cable, SCSI controller, except Increased Availability	239
Cable, SCSI device to device	278
Cable, SCSI device drawer external signal	195
Cable, SCSI device drawer internal signal	197
Cable, SCSI internal signal	283
Cable, SCSI internal disk drive	190
Cable, passthru terminator, controller to first device, SCSI	190
Cable, serial link, high-performance disk drive subsystem	870
Cable, signal, serial attachment, Dials6094	270
Cable, standard I/O 10-pin to 25-pin converter	252
Cable, terminal cable, EIA-422A	263
Cable, token ring	256
Cable, Type 3 media filter token ring .254m (10inch) or Auto Token-Ring LANstreamer MC 32 Standard token ring cable	D46
Cable, two-position, POWER Gt4	878
Cable, three-position, POWER Gt4	878

Description and Notes	Failing Function Code
Cable, VOO/RSS	C44
Cable, X.25 attachment cable - X.21	271
Cable, X.25 attachment cable - V.24	272
Cable, X.25 attachment cable - V.35	273
CD ROM, unknown	723
CD ROM drive, Type A or B bezel	974
CD ROM-2 drive, Type B bezel (Unload button has a white underside)	987
CD ROM 600MB Double Speed Tray-Loading, Type C bezel	89c
CD ROM, Quad Speed 600MB Tray-Loading,	734
CD ROM, 8x Speed SCSI-2 Drive	804
CD ROM, 20x (MAX) SCSI-2 Drive	682
CD ROM, 7209 External 2.6GB Rewritable Optical Disk Drive	789
Color display, model 16	121
Color display, model 19	122
Concentrator, async, 16-port	835
Converter, serial optical channel	861
Converter, ethernet RJ-45	C29
Converter, 64 port to 128 port kit	D06
Controller, RADiant Array disk drive subsystem	844
Controller, SCSI I/O	B88 869
Controller, SCSI-2 Single-ended I/O	866
Controller, SCSI-2 differential high performance external I/O	889
CPU card	210 D09 D26
CPU card, 7006	D53
CPU card, 7009	C70
CPU card, 7012/G30	C62
CPU card, 7012/G30, 7013/J30, 7015/R30	C63
CPU card, 7012/350	B20
CPU card, 7012/340	B21
CPU card, 7012/360/36T/365, 7013/55L	B89
CPU card, 7012/370/37T/375	B90
CPU card, 7012/34H/355	B91
CPU card, 7012/340 thru 375, 7013/55L	C23
CPU card, 7012/390 7030/3BT	C78
CPU card, 7012/380 7030/3AT	C79

Description and Notes	Failing Function Code
CPU card, 7013/570, 7015/R10	B92
CPU card, 7013/590	C54
CPU card, 7013/59H	C77
CPU planar	210 215
CPU planar, 7013/580/58H	B85 C56
CPU planar, 7015/970/97B	B23
CPU planar, 7015/980	B84
CPU planar, 7015/990	C53
CPU planar, 7015/R24	C76
Dials, model 10	929
Device, ASYNC unknown	727
Device, vendor ASYNC	903
Device, Diskette unknown	730
Device, Input unknown	726
Device, other vendor	905
Device, Parallel unknown	728
Device, vendor Parallel	904
Device, vendor SCSI	901
Device, SCSI unknown	721
Device, missing unknown SCSI	950
Disk drive, unknown	722
Disk drive, unknown direct attached	949
Disk drive, unknown IBM	650
Disk drive assembly, 120MB direct bus attached	957
Disk drive assembly, 160MB direct bus attached	958
Disk drive assembly, 160MB SCSI	959
Disk drive assembly, 200MB SCSI, 3.5 inch	989
Disk drive assembly, 320MB SCSI	953
Disk drive, 320MB SCSI, logic card and frame assembly	953
Disk drive assembly, 355MB SCSI	952
Disk drive, 355MB SCSI, logic card and frame assembly	952
Disk drive assembly, 400MB SCSI	954
Disk drive, 400MB SCSI, logic card and frame assembly	954
Disk drive assembly, 540MB SCSI-2 (one-inch height)	981
Disk drive assembly, 670MB SCSI	142 951
Disk drive, 670MB SCSI, logic card and frame assembly	142

Description and Notes	Failing Function Code
Disk drive assembly, 857MB SCSI	141
Disk drive enclosure, 857MB SCSI	141
Disk drive, 857MB SCSI, logic card and frame assembly	955
Disk drive, 1080MB SCSI	741
Disk drive assembly, 1GB SCSI, single-ended	968
Disk drive assembly, 1GB SCSI, differential	913 945
Disk drive, 1GB SCSI, logic card and frame assembly	968
Disk drive assembly, 1.0GB SCSI (one-inch height)	984
Disk drive assembly, 1.1GB single-ended	700
Disk drive assembly, 1.1GB 16-bit single-ended	701
Disk drive assembly, 1.1GB 16-bit differential	702
Disk drive SCSI 1.3GB, 7135 RADiant Array	846
Disk drive assembly, 1.37GB SCSI	960
Disk drive, 1.37GB SCSI, logic card	960
Disk drive assembly, 2.0GB SCSI-2, single-ended	990
Disk drive assembly, 2.0GB SCSI-2, differential	912
Disk drive assembly, 2.0GB SCSI-2, differential Fast/Wide	917
Disk drive assembly, 2.0GB SCSI-2, single-ended Fast/Wide	918
Disk drive SCSI 2.0GB, 7135 RADiant Array	845
Disk drive, 2.1GB 8-bit SCSI	784
Disk Drive, 2.1GB 16-bit SCSI	784
Disk drive assembly, 2.2GB single-ended	703
Disk drive assembly, 2.2GB 16-bit single-ended	704
Disk drive assembly, 2.2GB 16-bit differential	705
Disk drive assembly, 2.2GB 16-bit differential	791
Disk drive assembly, 2.4GB SCSI	986
Disk drive assembly, 4.5GB 16-bit single-ended	706
Disk drive assembly, 4.5GB 16-bit single-ended	772
Disk drive assembly, 4.5GB SCSD Single Ended	679
Disk drive assembly, 4.5GB Ultra SCSI Single Ended	689
Disk drive assembly, 4.5GB 16-bit differential	707
Disk drive assembly, 4.5GB 16-bit differential	792
Disk drive assembly, 9.1GB SCSI F/W Single Ended	773
Disk drive assembly, 9.1GB SCSI F/W Single Ended	793
Disk drive assembly, 9.1GB Ultra SCSI Single Ended	690
Disk drive, 9.1GB Ultra SCSI 16-bit 1-inch high	681
Disk drive assembly, 9.1GB External SCSI Differential	774

Description and Notes	Failing Function Code
Diskette drive, 3.5-inch	935
Diskette drive, 5.25-inch external	184
Diskette drive, 5.25-inch internal	936
Diskette redrive card	183
Display unit, 7008	B76 725
Display, Attached	Display
Display, vendor	902
Extender, SCSI bus	189
Ethernet network problem	241
Fan assemblies	158, 160, 166, 167, 170, 229
Fan assembly, SCSI device drawer	158
Fan, CPU 7013/J30, 7015/R30	D21
Fan, Disk Fan Module (SMP units)	D18
Fan, Main Fan Module (SMP units)	16
Fan, Media 7013/J30, 7015/R30	D22
Fan, MCA Fan Module (SMP units)	D17
Fan, Power supply (SMP units)	D19
Fan, Power supply 7013/J30, 7015/R30	D23
Field repair assembly, 2.4GB SCSI disk drive	C11
Fuse, Ethernet riser, thick/thin	B11
Fuse, graphics input device adapter	275
Fuse, planar	B10
Fuse, planar, ethernet	B40
Fuse, SCSI I/O controller	279
Fuse, riser card, SCSI disk drive	959
Interface card, 4-port multi-protocol controller	855
Interface card, Multiport/2, 4-port EIA-232-C	B62
Interface card, Multiport/2, 8-port EIA-232-C	B63
Interface card, Multiport/2, 4-port EIA-232-C/4-port EIA-422-A	B64
Interface card, Multiport/2, 6-port synchronous EIA-232-C	B65
Interface card, Multiport/2, 8-port EIA-422-A	B66
Interface card, Portmaster, 6-port V.35	B73
Interface card, Portmaster, 6-port X.21	B74
Interface card, Portmaster, 8-port EIA-232-C	B71
Interface card, Portmaster, 8-port EIA-422-A	B72

Description and Notes	Failing Function Code
Interface card, System Bus	D25
IPO module	209
Keyboard, Kanji	923
Keyboard, Quiet Touch and Speaker Cable	736
Keyboard U.S.	921
Keyboard, WT	922
Keyboard, 5085/5086	931
Keyboard, Type unknown	B31
Keylocks	168
Lighted Program Function Keyboard (6094, model 20)	930
Logic, System status	226
Logic, Micro-channel	227
Logic card, 355/670MB	956
Memory card, S1 base	171
Memory card, S1.5 base	178
Memory card, S3 base	157, 219
Memory card, S3.3 base	180
Memory card, U1 base	180
Memory card, S4.5 base	C37
Memory card, 128 MB S4	B56
Memory card, MRB2 (SMP units)	B94
Memory card, MRB4 (SMP units)	C64
Memory card, 8-bit pixel	B52 C14
Memory card, 24-bit pixel	B53 C14
Memory, unidentified error	131
Memory, control unit problem	214
Memory, POWER Gt1, video RAM (1 MB)	B34
Memory module, 1MB S1	173
Memory module, 1MB	C38
Memory module, 1MB S3 Or S4	175
Memory module, 1MB, 4MB, 8MB, and 16MB ARTIC960 memory module	C94
Memory module, 2MB S1	174
Memory module, 2MB	C39
Memory module, 2MB 7006, 7009, 7011/250	B37
Memory module, 2MB S3 or S4	179
Memory module, 4MB U1	187

Description and Notes	Failing Function Code
Memory module, 4MB	C40
Memory module, 4MB S1.5	176
Memory module, 4MB S3 or S4 base	172
Memory module, 4MB S3, 7011	B38
Memory module, 8MB	C41
Memory module, 8MB S1.5	177
Memory module, 8MB S3	182
Memory module, 8MB (MD2) (SMP units)	B96
Memory module, 16MB S3 or S4	154
Memory module, 16MB	C42
Memory module, 8MB S3, 7011	B39
Memory module, 16MB S3, 7011	C31
Memory module, 32MB	C43
Memory module, 32MB S3, 7011	C32
Memory module, 32MB S4.5	C30
Memory module, 32MB (MD2) (SMP units)	B97
Memory module, L2 cache	D01
Memory module, L2 cache 7013/59H, 7015/R20	D03
Memory module, L2 cache 7009, 7015/R24	D04
Memory module, Multiport/2, 256KB	B67
Memory module, Multiport/2, 512KB	B68
Memory module, Portmaster base card, 1MB	B77
Memory module, Portmaster base card, 2MB	B78
Memory module, standard 8MB, 16MB, 32MB for 7012/G30, 7013/J30	D33
Memory module, Translation Control Word (TCW),	B19
Memory module, 16MB S4	B57
Memory module 12MB VRAM	C45
Memory module 16MB VRAM	C46
Memory module 16MB DRAM	C47
Module, ROM	217
Module, OCS ROM	216
Mouse, 2-button	924
Mouse, 3-button	925
Network, Async problem	245
Network, Ethernet problem	241
Network, Token-ring problem	240
Network, 3270 problem	242
Network X.25 problem	244

Description and Notes	Failing Function Code
Node, Remote Async, 16-Port EIA-232-D Node, Remote Async, Enhanced 16-Port EIA-232 Node, Rack Mount Remote Async, 16-Port EIA-232	837
Node, Remote Async, Enhanced 16-Port EIA-422	684
NVRAM problem	814
OCS, problem	223
Operator panel	165
Operator panel (SMP units)	C60
Operator panel, async expansion drawer	165 264
Planar, async expansion drawer	288
Planar, combination	221 C58
Planar, combination 7015/990	C58
Planar, CPU	210
Planar, CPU (for SMP units)	C62
Planar, I/O	221 C57
Planar, I/O for SMP units	C59
Planar, Integrated SCSI-2 Fast/Wide Adapter on the system planar	C55
Planar, MCA planar base unit (MP) for SMP units	C90
Planar, MCA expansion planar base unit (MPe) for SMP units	C91
Planar, Option I/O	221
Planar, standard I/O	816 B28 B86
Planar, I/O 7009	C84
Planar, I/O 7013/59H	C83
Planar, I/O 7015/R24	C82
Planar, IOC	946
Planar, system	169 B29 B87
Planar, system 7006	C69 C85
Planar, system 7011/220	B24
Planar, system 7011/250	C27 D15
Planar, system 7012/340/350	B26
Planar, system 7012/380/390, 7030/3AT/3BT	C81
Planar, system (for SMP units)	C61

Description and Notes	Failing Function Code
Plug, wrap ARTIC960	C97
Power, display, serial attachment, and/or signal cables	280
Power distribution board, rack system unit	208
Power supplies	152
Power supplies (SMP units)	C92 or D19
Power supplies, external units	203
Power supply, portable disk drive	192
Power supply, SCSI device drawer	153
Power supply and display assembly, 7008	B76
Printer/terminal interposer, EIA-232	261
Processor card, drawing	B50 C12
Processor card, shading	B51 C13
Processor card, GT4i	C49 C50
Processor, floating point problem	815
Processor, IOCC problem	218
Program, damaged	132
5.25-inch external diskette drive	184
RADiant Array SCSI disk drive subsystem controller (7135)	844
Remote async node, 16-port EIA-232-D	837
Relay, expansion unit power control 7013/J30	D24
Riser card, disk drive	189, 957, 958, 959
Riser card, ethernet, thick/thin,	B06
Riser card, ethernet, twisted pair	B07
Riser card, external diskette	184
Riser card, I/O slot	B41
Riser card, operator panel,	812
Riser card, with L2 cache 7006	D05
Riser card, MCA I/O Riser card 7006	C72
Riser card, MCA I/O Riser card 7009	C74
Riser card, POWER GT 7011/220/230	B35
Riser card, POWER Gt1 graphics adapter	B42
Riser card, POWER GXT graphics adapters	C25
Riser card, SCSI, 7013/55L	812
ROM module	217

Description and Notes	Failing Function Code
ROM, OCS problem	216
SCSI disk drive subsystem controller, 7135 RADiant Array	844
SIMM, Translation Control Word (TCW) memory	B19
SMP with 1 processor (single CPU)	C62
SMP with 2 processor (dual CPU)	C63
Status panel, battery backup unit, 7015	163
Status, System status logic	226
Stylus, tablet	188
Switching unit, battery backup unit	164
System workstation	System
Tablet cursor	159
Tablet, Model 21 or 6093/11	926
Tablet, 5083/22 or 6093/12 to Tablet, 5083/22 or 6093/12 or 6093/21	927
Tape drive, unknown	724
Tape drive, 1/2-inch 9-Track	970
Tape drive, 150MB 1/4-Inch	971
Tape drive, 525MB 1/4-Inch	991
Tape drive, 1.2GB 1/4-inch	995
Tape drive, 2.0GB 4 mm	998
Tape drive, 4GB 4 mm	915
Tape drive, 2.3GB 8 mm	972
Tape drive, 5GB 8 mm Single-Ended	994
Tape drive, 5GB 8 mm Differential	914
Tape drive, other SCSI	973
Tape drive, 12GB 4mm SCSI internal	678
Tape drive, SCSI 13GB 1/4 Inch	757
Tape Drive, 12GB 4mm SCSI (external)	964
Tape Drive, 20GB 8mm SCSI (external)	964
Tape Drive, 20GB 8mm SCSI (internal)	964
Tape drive, 140GB 8mm	733
Tape Bridge Box, 30GB DLT	692
Tape, 16GB 4mm Tape Autoloader Tape, 48GB 4mm Tape Autoloader	745
Tape, 24/48GB 4mm Tape Autoloader	783
Tape, 400GB 8mm SCSI Autoloader	964
Tape Library, 7331 Model 205	749
Terminator, SCSI card edge	232

Description and Notes	Failing Function Code
Terminator, SCSI controller external	233
Terminator, external SCSI device	234
Terminator, SCSI pass-through and cable assembly	277
Three-digit display	165
Time-of-day logic problem	817
Token-ring, network problem	240
Transceiver, ethernet, twisted pair	B08
Transceiver, ethernet, ISO 8802/3 (formerly IEEE 802.3)	B09
X.25 network problem	244
Ethernet adapter	962
SCSI Scanner being identified	963
3270 network problem	242
3514 External Disk Array, Models 212, and 213	999
3852 Graphics Visualization Server	982
XGA graphics adapter	983
Switching Network Interface	980
4755 Cryptographic adapter	992
File Server	993
7134 High Density SCSI Disk Subsystem DC fan assembly	D08
7135 RADiant Array SCSI subsystem controller	844

* No Failing Function Code exists; check for FRU numbers at the end of the Failing Function Code listing in the previous chapter. For detailed diagnostics information, refer to the *DirectTalk/6000 Problem Solving Guide*, form number SC22-0105.

Chapter 25. Installation Checkout

The installation checkout is used by the service representative to verify quality after initial installation or after an MES or EC is installed.

Installation Checkout Procedure

To start the checkout, go to Step 1.

Step 1. Doing a Visual Check

Perform the following actions after initial installation or system alteration:

1. Be sure the power to the system unit is turned off.
2. Be sure the power to all attached devices is turned off.
3. Visually check the system unit and attached devices for:
 - All power cables are securely attached to the system unit or devices
 - All signal cables are connected at both ends
 - All power cables are plugged into the customer's outlet
 - All covers are installed and the vent openings are not obstructed
 - All ribbons, guides, and other attachments are in place.
4. Go to Step 2.

Step 2. Checking the TTY Terminal Attributes

Checking the TTY Terminal Attributes usually needs to be accomplished only during the initial installation.

If you have trouble selecting the console display and you are using an attached terminal, check the TTY Terminal Attributes again.

When you run the diagnostic programs from an attached tty terminal, the attributes for the terminal must be set to match the defaults of the diagnostic programs. The tty terminal must be attached to the S1 port on the system unit.

Are you going to run this procedure on an attached tty terminal?

NO Go to Step 3.

YES Go to "Running the Diagnostic Programs from a tty Terminal" in "Running the Diagnostic Programs from a TTY Terminal" on page 27-10 of this book, and check the terminal attributes. Return to Step 3 when you finish checking the attributes.

Step 3. Loading the Diagnostics

The diagnostics can be run from a CD-ROM disc, from a locally attached disk, or from a server if the AIX operating system is installed.

If you are not sure whether the AIX operating system is installed, you can check by setting the mode switch to the Service position and turning the system unit on. If the system stops with two or more numbers between 221 and 296 alternating in the three-digit display, the AIX operating system is not installed.

If the AIX operating system is installed, the diagnostic programs should load from a locally attached disk or from a server.

If the AIX operating system is not used, the diagnostics can be loaded from the diagnostic CD-ROM disc.

The following procedure will attempt to load the diagnostics from a disk or from a server. If they cannot be loaded from a disk or server, the diagnostic CD-ROM disc will be used to load and run the checkout.

1. Set the mode switch to the Service position.
2. Turn on all of the attached devices.
3. Turn on the system unit.
4. Watch the operator panel display.

If the system stops with two or more numbers between 221 and 296 alternating in the operator panel display, the AIX operating system is not installed. Do the following:

- a. Insert the diagnostic CD-ROM disc into the CD-ROM drive.
- b. If *c31* displays, follow the displayed instructions to select the console display.

If the system stops for at least three minutes with a steady number or a flashing *888* displayed in the three-digit display, a problem was detected during diagnostics IPL. Check for loose cables or cards. If you do not find a problem go to MAP 0020.

5. When the diagnostic programs load correctly the DIAGNOSTIC OPERATING INSTRUCTIONS display.

Did the DIAGNOSTIC OPERATING INSTRUCTIONS display?

NO Go to MAP 0020.

YES Go to Step 4.

Step 4. Checking for the Correct Resources

Use the "Display or Change Configuration or VPD" service aid to check the resources that are present (memory cards, SCSI devices, adapters, diskette drives, disk drives, and input devices).

Note:

1. If the terminal type has not been defined, it will need to be defined before you can select the service aids. Use the Initialize Terminal option on the FUNCTION SELECTION menu to define the terminal.

2. If the Dials and LPFK are attached to serial ports S1 or S2, they will not be listed by the service aid unless they have been configured by the user. Refer to AIX operating system documentation to configure these devices.

Were all the resources listed by the service aid?

NO Check for loose cables or cards. If you do not find a problem, go to MAP 0020.

YES Go to Step 5.

Step 5. Checking the Hardware

If you are running Online diagnostics from disk, the system can be checked by one of the following methods depending on the version of diagnostic programs you are using.

To run diagnostics:

1. Select Advanced Diagnostics on the FUNCTION SELECTION menu.
2. Select System Verification on the DIAGNOSTIC MODE SELECTION menu.

All resources can be checked by selecting System Checkout on the Advanced Diagnostic Selection Menu, or selecting the All Resource option from the Resource Selection Menu. You may test individual resources by selecting the resource. If you are running from a CD-ROM check each resource.

Did all of the resources check out good?

NO Record the SRN; then go to MAP 0010.

YES Go to Step 7.

Step 6. Update the Service Boot List

To specify the order in which the devices will attempt to be loaded, the diagnostic programs must be updated using the *Display/Alter Bootlist* service aid. The following procedure will assist you in performing this task.

1. Select the Service Aid option on the FUNCTION SELECTION menu.
2. Run the Display/Alter Bootlist service aid.
3. Select the Service mode bootlist option.
4. Select the Alter Current bootlist option.
5. Use the following guideline in specifying the access order of the devices.
 - When there are multiple choices for devices to load the diagnostic program from, the disk drives should always be the last option specified. This will result in the shortest amount of time required in loading the diagnostic programs.

Step 7. Completing the Installation

Some of the following steps only apply to an initial installation. These are provided as reminders in completing the installation or finishing a MES or EC activity.

1. If present, remove the CD-ROM diagnostic disc from the appropriate drive, and store it with the system unit operator guides.
2. Set the mode switch to Secure.
3. Give the keys to the customer and explain the importance of keeping the reorder tag for the keys in a safe place.
4. File a copy of the following items in the *Account Management Planning Guide*, form number Z-ZZ9-0417:
 - Cable Planning Charts
 - Cable Planning Charts
 - SCSI Address Record from Appendix A of the installation and service guide
 - Machine History Card for each system unit and device.
5. Microcode must be installed during system installation or after the AIX operating system is installed. If the system is using the AIX operating system, all microcode is preinstalled on the boot disk for all adapters and devices that were shipped with the system.

Microcode is shipped on microcode diskettes, option diskettes and on the boot disk. For the AIX operating system, runtime microcode maintenance can be selected from the SMIT INSTALLATION AND MAINTENANCE MENU or from the Diagnostic Service Aid. The **adfutil -m** (command and flag) is normally used to install microcode shipped on option diskettes.

If the system is using another type of operating system, that operating system should include microcode installation instructions.

If you have the X.25 Interface Co-Processor or the 5080 Attachment Adapter, the microcode for them is normally not shipped with the AIX operating system. The microcode for these adapters must be installed before the adapters can be used. The 5080 Attachment Adapter Microcode is shipped on a microcode diskette. The X.25 Interface Co-Processor microcode is shipped on an option diskette.

6. Contact the person that is going to install the software or turn the system to the customer.

If needed, go to the AIX operating system *Installation Kit* to install and configure the AIX operating system.

Chapter 26. General System Information

Information in this section is common to all system units. Any service information or diagnostic procedure that is specific to a certain system unit or device is in the operator guide or service guide for that system unit or device.

AIX Operating System Message Files

English is the default language displayed by the diagnostic programs when run from disk. If you want to run the diagnostic programs in a language other than English you must install on the system the AIX operating system message locale fileset for the desired language you want displayed.

Microcode

There are two types of hardware microcode used in system units. The first type is the microcode stored on disk and used by the built-in disk drive controller. The second type is the microcode used by an adapter.

The first type of microcode is written on the disk before the original or replacement disk drive is shipped. This type of microcode only needs updating when there is an applicable Engineering Change (EC) or Miscellaneous Equipment Specification (MES). Use the "Download Microcode" on page 28-12 in to load this microcode from diskettes to disk.

The second type of microcode is stored on the disk by the AIX operating system during installation of the operating system. This type of microcode loads the adapter during the system IPL and must be installed before the diagnostics can be run from disk.

If you are using the AIX operating system, the **installp** and **adfutil** commands are used to load any microcode not shipped on the disk with the AIX operating system. All of the microcode stored on the disk for use with the AIX operating system is in either the `/etc/microcode` or the `/usr/lib/microcode` directory.

If you are using another operating system, refer to the documentation for that operating system to install microcode.

The CD-ROM diagnostic disc contain all of the required microcode for diagnostic purposes.

Microcode for the X.25 Interface Co-Processor is shipped on an option diskette.

CEREADME File

There is a CEREADME (CE read me) file available on all diagnostic media. This file contains diagnostic and system unit errata not covered in the publications.

The CEREADME file can be displayed by using the Service Hints service aid after the diagnostics are loaded. Also, the file can be read directly from the disk using the AIX **pg** command to display `/usr/lpp/diagnostics/CEREADME`. The CEREADME file can be copied or printed using the normal commands. For information refer to "Display Service Hints" on page 28-17.

Printing the CERADME File from Disk

The CERADME file that is on disk may be printed using the **cat** command. The path to this file is as follows:

```
/usr/lpp/diagnostics/CERADME
```

A copy of this file should be printed and stored with the Service Information. `lp0` is normally the printer attached to the parallel port. If a printer attached to the parallel port and is considered as `lp0`, the command for printing the file is as follows:

```
cat /usr/lpp/diagnostics/CERADME > /dev/lp0
```

Printing the CERADME File from a Source other than Disk

The CERADME file cannot be printed while diagnostics are being executed from a source other than from the disk. The file can be printed on a system when the AIX operating system is running in a normal user environment. The procedure involves copying the file from diskette to a temporary file on disk, printing the file and then deleting the file from disk. Check for directory **/tmp/diag**. To determine if this directory already exists, enter:

```
cd /tmp/diag
```

If the directory does not exist, the message `/tmp/diag: not found` displays, do NOT attempt to print the CERADME file if this message is not displayed. To print the CERADME file choose the appropriate section below and follow the steps listed.

Printing the CERADME File from Diskette

Insert diagnostic diskette 8 into the diskette drive and then enter the following commands:

```
mkdir /tmp/diag
cd /tmp/diag
cpio -iudC36      usr/lpp/diagnostics/CERADME.Z < /dev/fd0
uncompress /tmp/diag/usr/lpp/diagnostics/CERADME
cat /tmp/diag/usr/lpp/diagnostics/CERADME > /dev/lp0
cd
rm -rf /tmp/diag
```

Printing the CERADME File from CD-ROM

Insert the diagnostic CD-ROM disc into the CD-ROM drive and then enter the following commands:

```
mkdir /tmp/diag
mount -o ro -v cdrfs /dev/cd0 /tmp/diag
cd /tmp/diag/usr/lpp/diagnostics
cat CERADME > /dev/lp0
cd /tmp
unmount /dev/cd0
```

The CERADME file prints on `lp0`, which is the printer normally attached to the parallel port. If this file is not the same as the CERADME file the disk, a copy of this file should be printed and stored with the Service Information.

Testing the Line Printer

The following is a simple procedure for determining if a printer attached to your system is responding correctly. The AIX operating system should be up and running in your normal environment.

To determine what printers are available, enter the following:

```
lsdev -C -c printer
```

This command displays a list of printers currently defined on the system. Only those printers that are in the *available* state can be used (for example, those printers marked as *defined* can *not* be used). Ensure that a printer actually connected at the location specified in the output of the command.

To begin printing, enter the following:

```
cat /usr/lpp/diagnostics/CEREADME > /dev/lpx
```

Note: In the above step, you must substitute for x the value obtained from the **lsdev** command.

After the command is entered, the contents of the CEREADME file should print.

System Unit Error Isolation Features

Most RISC platforms have the following features to detect and correct errors:

- Parity checking the processor bus
- Parity checking the microchannel bus
- Error checking and correction (ECC) on the memory
- Bit steering on memory
- ECC on all of the media devices
- Parity checking the SCSI bus
- Parity checking the internal buses of most of the adapters
- Processor complex internal error detection on the buses and cache memory.

The ECC function on the memory and media is able to detect and correct single-bit errors; it can detect multiple bit errors but does not correct them.

The bit steering feature on the memory allows use of an extra bit position in the memory word to replace a failing bit position. The memory is checked after initial power-on, and any failing bit positions are assigned to the alternate bit.

The processor complex is checked during Built-In Self-Test (BIST) after initial power-on and is constantly monitored for error detection during normal system operation. When possible, the following types of errors are detected and logged in the error log:

- **Check stops** are detected by the processor. When a check stop occurs, the system unit is reset, and an initial program load (IPL) is begun. If another check stop occurs during this IPL, the system stops and displays 113.
- **Machine checks** are caused by uncorrectable memory errors or by certain privileged software sequences. The system stops and displays a flashing 888.

- **Data storage interrupts** are caused by uncorrectable memory errors during a load or store operations to an I/O device. The system stops and displays a flashing 888.
- **External checks** are caused by memory addressing errors that occurred during direct memory access (DMA) operations. The system stops and displays a flashing 888.
- **Instruction storage interrupt checks** are caused by memory addressing errors that occurred during instruction fetch operations. The system may stop and display a flashing 888.
- **Program interrupt checks** can be caused by floating-point operation errors, invalid program operations, invalid privileged operations, or software error traps. The system may stop and display a flashing 888.
- **Floating-point unavailable interrupt checks** are caused by attempted floating-point operations while the floating-point processor is not available. The system may stop and display a flashing 888.
- **Alignment interrupt checks** are caused by instructions on the wrong memory boundary.
- **Memory scrubbing** is a software and hardware function that corrects single bit ECC errors. It operates in the background with the least favored priority and has minimal effect on the overall performance of the system. Memory scrubbing prevents single bit errors from becoming double bit errors, which are fatal to the system. Memory scrubbing is not supported on the AIX Diskless Workstation and, RISC System/6000 models 220, 230 and 250.

Operator Panel Features

The following operator panel features are used during hardware problem determination.

Power-On Light

The power-on light located on system unit and CPU drawer operator panels is used to help analyze power problems. When the power-on light is on, it indicates that all voltages in the power supply are present and within limits and that the fans are running. If a fan that is sensed by the power supply does not start to turn or stops turning, the power supply turns the system unit off.

Mode Switch

The mode switch has three positions:

- The Secure position prevents the system from performing an initial program load (IPL). This position does not lock the keyboard or block system network communication. When the mode switch is in the Secure position, the Reset button is disabled to prevent resetting the system unit. If an IPL is attempted the mode switch in the Secure position, the number 200 is displayed in the operator panel display.
Note: Models 570/580 do not power-on in the Secure position. If an IPL is attempted from the power-off state, the system does not power up.
- In the Normal position, the operating system loads from a disk after the Power-On Self-Test (POST) and configuration programs run.
- In the Service position, the diagnostic controller program loads. On the CPU drawer, the mode switch must be in the Service position to turn off the system unit. The load

program searches for the diagnostic programs on the load devices in the following order:

1. From any diskette drive
2. From a non-disk SCSI load device
3. From the disk drives
4. From the server (using the network).

The load program then repeats the search of the above load devices looking for the diagnostic programs.

- The mode switch is also used to indicate to the diagnostic program that there is no console available. The operator panel display is used to communicate the error.

Reset Button

The Reset button located on the system unit operator panel has several purposes:

- Reset the system unit and cause an IPL of the following:
 - Operating system when the mode switch is in the Normal position
 - Diagnostic controller program when the mode switch is in the Service position.
- Read out a crash message or a diagnostic message after a flashing 888 is displayed.
- Start the dump program when a dump is needed.

Operator Panel Display

The operator panel display carries out the following functions:

- Tracks and controls the progress of the BIST, POST, and configuration programs
- Displays a crash message when the system control program comes to an abnormal end
- Displays a diagnostic program message when there is no console display present.

When a flashing 888 is displayed in the operator panel display, a crash message or a diagnostic message is waiting to be read. Refer to "Reading Flashing 888 Numbers" in Chapter 22, "Diagnostic Numbers and Codes" on page 22-1 for the reading procedure.

Automatic Diagnostic Tests

All automatic diagnostic tests run after the system unit is turned on and before the AIX operating system is loaded.

The automatic diagnostic tests display event indicators in the operator panel to track test progress. If a test stops, the indicator for that test remains displayed to identify the unsuccessful test.

Built-In Self-Test

Note: This set of programs is not supported on all system units.

The Built-In Self-Test (BIST) programs run first after the system unit is turned on. These programs test the central electronics complex.

Power-On Self-Test

The Power-On Self-Test (POST) programs check the devices needed to accomplish an initial program load. The POST also checks the memory, portions of the central electronics complex, common interrupt handler, and the direct memory access (DMA) handler.

Configuration Program

The configuration program determines what features, adapters, and devices are present on the system. The configuration program which is part of the AIX operating system builds a configuration list that is used by the diagnostic programs to control which tests are run during system checkout.

The configuration program displays numbers between 500 and 999 in the operator panel display. Refer to "Configuration Program Indicators" on page 22-5 for a listing of program actions associated with displayed numbers.

Devices attached to serial and parallel ports are not configured. The Dials and Lighted Program Function Keys (LPFKs) can be tested from Online Diagnostics after they are manually configured. No other device attached to the serial and parallel ports are supported by the diagnostics.

CPU and Memory Testing and Error Log Analysis

Except for the floating-point tests, all CPU and memory testing on the system units are done by POST and BIST. Memory is tested entirely by the POST. The POST provides an error-free memory map. If POST cannot find enough good memory to boot, it stops and displays an error message. If POST finds enough good memory, the memory problems are logged and the system continues to boot.

If any memory errors were logged, they are reported by the Base System or Memory Diagnostics, which must be run to analyze the POST results. Normally, most memory problems that are detected by the POST are isolated to a single FRU.

The CPU and memory cannot be tested after the AIX based diagnostics are loaded; however, they are monitored for correct operation by various checkers such as Checkstop, or Machine Check, etc. The checkers may vary by processor type. If one of these checks intermittently occurs it is logged into the error log.

Single-bit memory errors are corrected by ECC (Error Checking and Correction) on systems equipped with ECC memory.

Diagnostic Programs

The following topics provide an overview of the diagnostic programs.

Diagnostic Controller

The diagnostic controller runs as an application program on the AIX operating system. The diagnostic controller carries out the following functions:

- Displays diagnostic menus.
- Checks availability of needed resources.
- Checks error log entries under certain conditions.
- Loads diagnostic application programs.
- Loads task and service aid programs.
- Displays test results.

When the diagnostic controller is loaded in service mode, it tests the keyboard adapter and keyboard, the built-in serial ports, and the display adapter (if present) before displaying any information. If a problem is detected while testing these functions, the diagnostic controller displays a diagnostic message in the operator panel display.

The preceding functions are not tested when the diagnostic controller is loaded during maintenance mode or concurrent mode.

Diagnostic Applications Programs

To test an adapter or device, select the device or adapter from the Diagnostic Selection menu. The diagnostic controller then loads the diagnostic application program for the selected device or adapter.

The diagnostic application program loads and runs test units to check the functions of the device or adapter.

The diagnostic controller checks the results of the tests done by the diagnostic application and determines the action needed to continue the testing.

The amount of testing the diagnostic application does depends on the mode (service, maintenance, or concurrent) under which the diagnostic programs are running.

Error Log Analysis

When you select Diagnostics or Advanced Diagnostics, the Diagnostic Selection menu is displayed (other menus may be displayed before this menu). This menu allows you to select the purpose for running diagnostics.

When you select the Problem Determination option, the diagnostic programs read and analyze the contents of the error log.

If the error log contains recent errors (approximately the last 48 hours), the diagnostic programs automatically select the diagnostic application program to test the logged function.

If there are no recent errors logged or the diagnostic application program runs without detecting an error, the Diagnostic Selection menu is displayed. This menu allows you to select a resource for testing.

If an error is detected while the diagnostic application program is running, the A PROBLEM WAS DETECTED screen displays a Service Request Number (SRN).

If either the Block Multiplexer Channel Adapter or ESCON Channel Adapter are installed, additional error log information may be available from the S/370/S/390 host system.

Note: After a FRU is replaced based on an error log analysis program, the error log entries for the problem device must be removed, or the program may continue to indicate a problem with the device. To accomplish this task either run **errclear** command from the command line; or using **SMIT** select *Problem Determination/Error Log/Clear the Error Log*. Fill out the appropriate menu items.

Enhanced FRU Isolation

The diagnostics provide enhanced Field Replaceable Unit (FRU) isolation by automatically selecting associated resources. The normal way diagnostics select a resource is to present a list of system resources and then ask you to select one. Diagnostics begin with that same type of selection.

If the diagnostic application for the selected resource detects a problem with that resource, the diagnostic controller checks for an associated resource. For example, if the test of a disk drive detects a problem, the diagnostics controller tests another disk drive on the same controller to determine if the drive or the controller is failing. This extra FRU isolation is apparent when you test a resource and notice that the diagnostic controller continues to test another resource that you did not select.

Advanced Diagnostics Function

The advanced diagnostics function is normally used by a service representative. These diagnostics may ask you to disconnect a cable and install a wrap plug.

The advanced diagnostics run in the same modes as the diagnostics used for normal hardware problem determination. The advanced diagnostics provide additional testing by allowing the service representative to do the following:

- Use wrap plugs for testing.
- Loop on a test (not available in concurrent mode) and display the results of the testing.

Task and Service Aid Functions

Tasks and service aids provide a means to display data, check media, and check functions without being directed by the hardware problem determination procedure. Refer to Chapter 28, "Introduction to Tasks and Service Aids" on page 28-1 for information and procedures about service aids.

System Checkout

The **System Checkout** option is accomplished by selecting the **All Resources** option on the **Resource Selection Menu**. This program uses the configuration list generated by the configuration procedure to determine which devices and features to test. These tests run without interaction.

Periodic Diagnostics

Periodic testing of the disk drives and battery are enabled by default. The disk diagnostics test any disk drives that are not in use and do disk error log analysis on all disks. The battery test, test the real time clock and NV-RAM battery. Problems are reported by a message to the system console and logged in the error log. Diagnostics must be run for an SRN to be reported.

Periodic diagnostics are controlled by the Periodic Diagnostic Service Aid. The Periodic Diagnostic Service Aid allows a hardware resource to be tested once a day. If the resource cannot be tested because it is busy, error log analysis is performed if supported on the resource.

The diagnostics are invoked using the **diag -c -d** device command.

Automatic Error Log Analysis (diagela)

Automatic Error Log Analysis (diagela) provides the capability to do error log analysis whenever a permanent hardware error is logged. Automatic Error Log Analysis is disabled by default on new installs. Whenever a permanent hardware resource error is logged and the diagela program is enabled, the diagela program is invoked.

The diagela program determines if the error should be analyzed by the diagnostics. If the error should be analyzed, a diagnostic application is invoked and the error is analyzed. No testing is done. If the diagnostics determines that the error requires a service action, it sends a message to your console and to all system groups. The message contains the SRN.

The diagnostics are invoked using the **diag -c -e -d** device command.

Notification can also be customized by adding a stanza to the **PDiagAtt** object class. The following example illustrates how a customer's program can be invoked in place of the normal mail message:

```
PDiagAtt:
  DType = " "
  DSClass = " "
  attribute = "diag_notify"
  value = "/usr/bin/customer_notify_program $1 $2 $3 $4"
  rep = "s"
```

Once the above stanza is added to the ODM data base, problems are displayed on the system console and the program specified in the value field of the diag_notify pre-defined attribute are invoked. The following keyword is expanded automatically as arguments to the notify program:

- \$1 the keyword "diag_notify"
- \$2 the resource name that has the problem
- \$3 the Service Request Number
- \$4 the device type

To activate the Automatic Error Log Analysis feature, log in as root and type the following command:

```
/usr/lpp/diagnostics/bin/diagela ENABLE
```

To disable the Automatic Error Log Analysis feature, log in as root and type the following command:

```
/usr/lpp/diagnostics/bin/diagela DISABLE
```

Diagela can be enabled and disabled using the Periodic Diagnostic Service Aid.

Chapter 27. Using the Standalone and Online Diagnostics

Sources for the Diagnostic Programs

The diagnostics consist of Standalone Diagnostics and Online Diagnostics. Standalone Diagnostics are resident on removable media. They must be booted before they can be run. If booted, they have no access to the AIX Error Log or the AIX Configuration Data.

Online Diagnostics, when installed, are resident with AIX on the disk or server. They can be booted in single user mode (called service mode), run in maintenance mode (called maintenance mode), or run concurrently (called concurrent mode) with other applications. They have access to the AIX Error Log and the AIX Configuration Data.

Standalone and Online Diagnostics Operating Considerations

Consider the following before using the diagnostic programs.

- The following devices are not supported on Version 4.1 and higher of diagnostics:
 - 8-bit and 24-bit 3D color graphics adapter (FFC 876 and 879)
 - M-Video Capture adapter (FFC 985)
 - M-Video Capture and Playback adapter (FFC 977)
 - Async expansion adapter and drawer (FFC 867 and 288)
 - T1/J1 Portmaster Adapter/A (FFC 851)
 - E1 Portmaster Adapter/A (FFC C18)
- Support for the following adapters has been withdrawn beginning with AIX version 4.3.
 - POWER GtO Graphics Adapter (FFC B50, B51, B52, B53, C12, C13, C14)
 - POWER Gt1 Graphics Adapter (FFC 880, B34, B35, B42)
 - POWER Gt1x Graphics Adapter (FFC 880, B34, B35, B42)
 - Network Terminal Accelerator Adapter,256 (FFC 838)
 - Network Terminal Accelerator Adapter,2048 (FFC 838)
- Some supplemental diagnostic diskettes are incompatible with version 4.1 or later diagnostics and do not work when used with version 4.1 CD-ROM or tape based diagnostics.

To test these devices use an earlier version of either the diskette diagnostics or the CD-ROM based diagnostics.

- Run Online Diagnostics in Service Mode when possible, unless otherwise directed. The Online Diagnostics perform additional functions, compared to Standalone Diagnostics. This ensures that the error state of the system is captured in NVRAM for your use in fixing the problem. The AIX error log and SMIT are only available when diagnostics are run from the disk drive.
- When running Online Diagnostics, device support for some devices may not have been installed. If this is the case, that device does not appear in the resource list.
- When running Standalone Diagnostics, device support for some devices may be contained on supplemental diagnostic media. If this is the case, the device does not appear in the resource list when running diagnostics unless the supplemental media has been processed.
- Support for some tty terminals is optionally installed. If you attach a tty terminal to a system to run diagnostics beware that it may not work properly since the AIX support for the terminal may not be installed.

Diagnostics on a System Unit Attached to Another System

If your system unit is attached to another system using a network or directly attached to the channel of another system, see “General Information About Multiple Systems” on page 27-16 before running any diagnostic procedures.

Selecting a Console Display

When you run diagnostics from diskettes, from a CD-ROM disc and, under some conditions, when you run them from disk, you need to select the console display. The diagnostic programs display c31 in the operator panel display and display instructions on any direct-attached displays and the terminal attached to S1 port.

If c31 is displayed, follow the instructions to select the console display. If you do not have a console display, set the key mode switch to Normal and then back to Service. This signals the diagnostic programs to use the operator panel display for instructions.

Identifying the Terminal Type to the Diagnostic Programs.

Note: This is a different function than selecting a console display.

When you run diagnostics, the AIX operating system must know what type of terminal you are using. If the terminal type is not known when the FUNCTION SELECTION menu is displayed, the diagnostics do not allow you to continue until a terminal is selected from the DEFINE TERMINAL option menu. Select hft for adapter-attached displays. This option sets the TERM environment variable in the AIX operating system.

Undefined Terminal Types

If an undefined terminal type from the DEFINE TERMINAL option menu is entered, the menu prompts the user to enter a valid terminal type, and the menu is redisplayed until either a valid type is entered or the user exits the DEFINE TERMINAL option.

Resetting the Terminal

If the user enters a terminal type that is valid (according to the DEFINE TERMINAL option menu) but is not the correct type for the ASCII terminal being used, difficulty may be encountered in reading the screen, using the function keys or the Enter key. These difficulties can be bypassed by pressing Ctrl-C to reset the terminal. The screen display which results from this resetting action varies with the mode which the system is being run:

- Normal or Maintenance Mode - The command prompt appears.
- Service Mode - The terminal type is reset to “dumb,” the Diagnostic Operating Instruction panel is displayed, and the user is required to go through the DEFINE TERMINAL process again.

Running Diagnostic Programs From Tape Drives

To load and execute diagnostics from a tape drive perform the following:

1. Turn on the tape drive if it is an externally attached device.
2. Set the key mode switch to the Service position, then turn on the system unit.
3. Remove any tape currently in the tape drive.
4. Insert the diagnostic programs tape into the tape drive. Close the tape drive's door if applicable.

Running Diagnostic Programs from CD-ROM

Consider the following when you run diagnostic programs from the CD-ROM disc:

- The diagnostic disc must remain in the CD-ROM drive for the entire time diagnostics are executing.
- The diagnostic CD-ROM disc cannot be ejected from the CD-ROM drive once the diagnostic programs have loaded. The disc can only be ejected after the system has been turned off and then turned on (standalone mode) or after the diagnostics program has terminated (concurrent mode). The disc must be ejected prior the system attempting to load the diagnostic programs again.
- The CD-ROM drive from which diagnostics were loaded cannot be tested.
- The SCSI adapter (or circuitry) controlling the CD-ROM drive from which diagnostics were loaded cannot be tested.
- Diagnostics from CD-ROM are not supported on systems with less than 16MB of installed memory.

To run diagnostics from a CD-ROM drive, do the following:

1. Remove any diskette from the diskette drive.
2. Turn on the CD-ROM drive if it is an externally attached device.
3. Load the diagnostic disc into the CD-ROM drive.
4. If you have a graphics adapter installed in the system that is supported only on a supplemental diagnostic diskette, insert that diskette into the diskette drive.
5. Set the key mode switch to the Service position.
6. Turn on the system unit.

Running the Diagnostic Programs from Diskettes

Consider the following when you run the diagnostic programs from diskettes:

- The diagnostic diskettes are labeled about the devices and functions the diskettes contain. The following diskettes must be inserted in the order shown before the DIAGNOSTIC OPERATING INSTRUCTIONS is displayed.
 1. Boot diskette
 2. Configuration diskette
 3. Graphics diskette (optional if the system does not contain a graphics adapter)
 4. Console Definition diskette.

- There are two different Boot diskettes, one for use in systems containing 8M bytes of memory and one for use in systems containing a minimum of 16M bytes of memory. Only one diskette can be loaded.

Note: When using the 8M-byte boot diskette only the following devices/adapters may be tested:

- | | |
|--|----------------|
| -Base system (floating point,
memory, I/O planar) | -Keyboard |
| -Async adapters | -Media devices |
| -Graphic adapters | -SCSI adapters |

All other devices/adapters do not appear on the test list. The devices listed above only show on the test list if they are normally supported in an 8M-byte system.

- There are several different graphics diskettes for configuring and testing graphics adapters. Use only the graphics diskettes for the type of graphics adapters installed in the system. For each type of graphics adapter installed in a system, you must load the graphics diskette which supports that adapter to test it.

The diskette containing the graphics adapter that is used as the console for running diagnostics should be loaded first. If there are other graphics adapter types installed in the system, load the diskette supporting those adapters immediately following the first graphics diskette.

- If a device installed in a system is not supported by one of the diskettes shipped with the system, check for the existence of a supplemental diagnostic diskette shipped with the device.
- After the DIAGNOSTIC OPERATING INSTRUCTIONS are displayed, follow the displayed instructions to test the device or to run a Service Aid.
- The diagnostic programs shipped on diskettes with the system unit have a version number on the label. The *Common Diagnostics and Service Guide* also has a version number on the cover which should match the first two version number digits of the diskettes in order for diagnostics to work correctly. You can check the version of the diagnostic programs on the Diagnostic Operating Instructions.
- When you load the diagnostic programs from diskettes, you may get the following messages on the operator panel display or on the console display:

```
c01  Insert the first diagnostic diskette
c02  Diskettes inserted out of sequence
c03  The wrong diskette is in the diskette drive
c05  A diskette error occurred
c07  Insert the next diagnostic diskette
c09  Diskette is being read or written
c31  Select the console display.
```

Running the Diskette Diagnostics From a Non-RS232 Terminal

Version 1.3 and later versions of the Diagnostic Diskette package allows a terminal attached to any RS232 or RS-422 adapter to be selected as a console device. The default device is an RS232 tty attached to the first standard serial port (S1). However, the console device may be changed by editing the `/etc/consdef` file that is provided on Diagnostic Diskette 4. The file format follows:


```

#
# This is the console definition file used to describe the terminal
# device to be used as the console. It is in the form
# attribute=value, one per line. The location is the location code
# seen when listing devices using lsdev. Spaces must not be entered
# around the = sign.
#
# Remove the # signs from the first column of each line to take
# effect. The location must be specified for any attribute in
# this file to be processed.
#
# For example, to define the console device as an rs232 terminal on
# port S1:
#
#connection=rs232
#location=00-00-S1
#speed=9600
#bpc=8
#stops=1
#xon=yes
#parity=non#term=3163

```

To change this file, take the following steps:

1. Enter:

```

cd /tmp
mkdir diag4
cd diag4

```

2. Insert Diagnostics Diskette 4 into the diskette drive.

3. Enter the following:

```

cpio -iuvmdC36 </dev/rfd0
cd etc

```

4. To edit the file, do the following:

- a. Enter `uncompress consdef`
- b. Edit the `consdef` file to work with your configuration
- c. Enter `compress consdef`.

5. Enter the following:

```

cd /tmp/diag4
find . -type f -print | cpio -ouvmC36 > /dev/rfd0

```

6. Use the new Diagnostics Diskette 4 with the new configuration.

SCSI Subsystem Diagnostic Diskette Package Version 3.0

The SCSI Subsystem Diagnostic Diskette Package Version 3.0 consists of six 1.44 diagnostic diskettes and provides a SCSI Subsystem Diagnostic package. The purpose of this package is to diagnose problems that prevent booting from a SCSI device and to support maintenance of SCSI devices.

Note: All Micro Channel system units except SMPs and system units with 604 processors are supported. Refer to Table 27-1 on page 27-6 for a listing of all RS/6000 system units which are supported.

OEM SCSI devices are no longer called 'Other SCSI Device', they are still prefixed with the 'SCSI' acronym, but now name the specific SCSI device (ie. SCSI Disk, SCSI Tape etc.).

Note: Default diagnostic and format parameters are used for OEM SCSI devices. No other diagnostic or service aid support is included.

The Diagnostic Diskette Package contains the following:

- tty console support
- graphics console support for all Micro Channel graphics adapters and local bus graphics adapters
- diagnostic support for all current Micro Channel SCSI adapters, SCSI disks, SCSI tapes, and SCSI CD-ROMs.
- SCSI Bus Service Aid
- Microcode Download Service Aid
- Service Hints Service Aid
- Diskette Media Service Aid
- Disk Media Service Aid (format, certify, and erase)
- Display/Alter Bootlist Service Aid

<i>Table 27-1. Supported RS/6000 System Units</i>	
Machine Type	Model Number
7006	41T, 41W
7009	C10
7011	220, 22G, 22S, 22T, 230, 23S, 23T, 23W, 250, 25S, 25T, 25F, 25W
7012	320, 32H, 340, 34H, 350, 355, 360, 365, 36T, 370, 37T, 375, 380, 390, 39H
7013	520, 52H, 530, 53H, 540, 550, 55L, 560, 570, 580, 58H, 590, 59H, 591
7015	930, 950, 970, 97B, 980, 98B, 990, R10, R20, R21, R24
7030	3AT, 3BT, 3CT

Diagnostic Diskette Contents and Descriptions

The following information describes the contents of each diskette:

- Diskette 1 is the Boot Diskette.
- Diskette 2 is the Configuration Diskette
- Diskette 3A contains console support for the following:
 - Color Graphics Display Adapter
 - Grayscale Graphics Display Adapter
 - POWER Gt1 Graphics Adapter
 - POWER Gt1x Graphics Adapter
 - POWER GXT100 Graphics Adapter
 - POWER GXT150 Graphics Adapter
 - POWER GXT150M Graphics Adapter

- POWER GXT150L Graphics Adapter
- POWER Gt3 Graphics Subsystem
- POWER Gt3i Graphics Subsystem
- POWER Gt4 8-Bit Graphics Subsystem
- POWER Gt4 24-Bit Graphics Subsystem
- POWER Gt4e Graphics Subsystem
- POWER Gt4x 8-Bit Graphics Subsystem
- POWER Gt4x 24-Bit Graphics Subsystem
- POWER Gt4i 24-Bit Graphics Subsystem
- POWER Gt4xi 8-Bit Graphics Subsystem
- POWER Gt4xi 24-Bit Graphics Subsystem
- Diskette 3B contains console support for the following:
 - High Performance 8-Bit 3D Color Graphics Processor
 - High Performance 24-Bit 3D Graphics Processor
 - POWER GXT1000 Graphics Subsystem
 - Graphics Subsystem Adapter
- Diskette 4 is the Console Configuration Diskette
- Diskette 5 contains Diagnostic Applications for the following:
 - SCSI Internal/External I/O Controller
 - SCSI-2 Fast/Wide Adapter/A
 - Wide SCSI I/O Controller
 - CDROM Drive
 - 3.5 Inch Diskette Drive
 - 5.25 Inch Diskette Drive
 - 1/4-Inch Cartridge Tape Drive
 - 2.3 GB 8mm Tape Drive
 - 5 GB 8mm Tape Drive
 - 5 GB 8mm DE Tape Drive
 - 4mm Tape Drive
 - 9-Track Tape Drive
 - 1/2-Inch 3490E C10,C11,C22 Tape Drive
 - 160 MB SCSI Disk Drive
 - 200 MB SCSI Disk Drive
 - 320 MB and 400 MB SCSI Disk Drives
 - 120 MB Direct Bus Attach Disk
 - 160 MB Direct Bus Attach Disk
 - 355 MB and 670 MB SCSI Disk Drives

- 540 MB SCSI Disk Drive
- 857 MB SCSI Disk Drive
- 1.0 GB SCSI Disk Drive
- 1.0 GB SCSI DE Disk Drive
- 1.0 GB 16 Bit SCSI DE Disk Drive
- 1.37 GB SCSI Disk Drive
- 2.0 GB SCSI Disk Drive
- 2.0 GB SCSI DE Disk Drive
- 2.0 GB 16 Bit SCSI DE Disk Drive
- 2.0 GB 16 Bit SCSI Disk Drive
- 2.4 GB SCSI Disk Drive (2 1.2 GB each)
- 1.1 GB 8-Bit Single-Ended Disk Drive
- 1.1 GB 16-Bit Single-Ended Disk Drive
- 1.1 GB 16-Bit Differential Disk Drive
- 2.2 GB 8-Bit Single-Ended Disk Drive
- 2.2 GB 16-Bit Single-Ended Disk Drive
- 2.2 GB 16-Bit Differential Disk Drive
- 4.5 GB 16-Bit Single-Ended Disk Drive
- 4.5 GB 16-Bit Differential Disk Drive
- 600 MB Double Speed Tray Loading CD-ROM
- 7134 High Density SCSI disk subsystem
- 8mm 7GB tape drive
- 600 MB Quad Speed Tray loading CD-ROM
- Enhanced SCSI-2 Differential Fast/Wide Adapter/A
- High Performance Disk Drive Subsystem
- Format/Certify Disk Drive Service Aid
- Serial Disk Trace Service Aid
- SCSI Bus Service Aid
- Diskette Media Service Aid
- Alter Bootlist Service Aid

In addition to the above diskettes, there may be supplemental diskettes that contain the Diagnostic Applications for other resources.

Diskettes 1, 2, and 4 are required for booting. If a graphics adapter is available as a console, then diskettes 3A and/or 3B depending on the display adapter(s) are used.

The sequence of diskettes therefore may be:

- 1, 2, 4 no graphics displays

- 1, 2, 3A, 4 select display adapter whose support code is located on diskette 3A as the system console.
- 1, 2, 3A, 3B, 4 select display adapter whose support code is located on diskette 3A or diskette 3B as the system console.
- 1, 2, 3B, 3A, 4 select display adapter whose support code is located on diskette 3A or diskette 3B as the system console.

Running the Diagnostic Programs from Disk or From a Server

Consider the following when you run the diagnostic programs from a disk:

- The diagnostics cannot be loaded and run from a disk until the AIX operating system has been installed and configured. After the **installp** command is used to install and configure the AIX operating system, all three modes of operation are available.
- The diagnostics cannot be loaded on a system (client) from a server if that system is not set up to IPL from a server over a network. When the system is set up to IPL from a server, the diagnostics are executed in the same manner as they were from disk.
- If the diagnostics were loaded from disk or a server, you must shutdown the AIX operating system before turning the system unit off to prevent possible damage to disk data. This is done in one of two ways:
 - If the diagnostic programs were loaded in standalone mode, press the F3 key until DIAGNOSTIC OPERATING INSTRUCTIONS displays; then press the F3 key once again to shutdown the AIX operating system.
 - If the diagnostic programs were loaded in maintenance or concurrent mode enter the **shutdown -F** command.
- Under some conditions c31 may appear in the operator panel display, with instructions displayed on attached displays and terminals. Follow the instructions to select a console display or set the key mode switch to Normal and back to Service if you do not have a console display.

Running the Diagnostic Programs from the Network

Consider the following when you run the diagnostic programs from a network:

- Diagnostics cannot be loaded and run from the network until AIX Version 3.2 or higher has been installed and configured on the server.
- Your system unit must be configured to receive IPL (initial program load) over the network or the server must be setup to send a service mode IPL of the diagnostics.

To run the diagnostic programs from the network:

- Enter the **shutdown -F** command to shut down the operating system.
- Turn the key mode switch to the Service position.
- Turn off the system unit, wait 30 seconds, then turn on the system unit.

Running the Diagnostic Programs with a 5080 Attached

Consider the following when you run the diagnostic programs on a system attached to a 5080 system:

- When the system unit is attached to a 5085 or 5086 system, the DIAGNOSTIC OPERATING INSTRUCTIONS are not displayed on the monitor attached to the 5085 or 5086 . See the *5080 Graphics System Installation, Operation, and Problem Determination* for information about operating the combination system.
- After turning on the system unit, the keyboard initially belongs to the graphics processor. Keyboard control can be switched to the system within two minutes of turning on the system unit by pressing and holding the Alt key and then pressing the Sw Keybd key.

Attention: Do not attach the 5085 or 5086 keyboard to the system unit without the special diagnostic cable.

- There is a special diagnostic cable available with the combination system to attach the 5085/5086 keyboard directly to the system unit. See the *5080 Graphics System Installation, Operation, and Problem Determination* manual for information setting the combination system up.

Running the Diagnostic Programs from a TTY Terminal

Consider the following when you run diagnostic programs using a tty-type terminal as the console display:

- See the operator manual for your type of tty terminal to find the key sequences you need to respond to the diagnostic programs. For the 3151, refer to the *3151 ASCII Display Station Guide to Operations*, form number GA18-2633. For the 3164, refer to the *3164 ASCII Color Display Station Description*, form number GA18-2617.
- When the diagnostic programs present display information through the S1 port, certain attributes are used. These attributes are set as if the diagnostic programs were using a 3161 display terminal. Refer to the tables in Appendix D, "General Attributes Required When Using a TTY Terminal" on page D-1 for a list of attributes for the 3161 ASCII Display Terminal and for two other ASCII display terminals commonly used with the system.
- If you have a tty terminal other than a 3151, 3161 or 3164 attached to the S1 port, your terminal may have different names for the attributes. Refer to the tables in Appendix D, "General Attributes Required When Using a TTY Terminal" on page D-1 and use the attribute descriptions to determine the settings for your terminal.

Online Diagnostics Mode of Operation

The Online diagnostics can be run in three modes:

- Service Mode allows checking of most system resources.
- Concurrent Mode allows the normal system functions to continue while selected resources are being checked.
- Maintenance Mode allows checking of most system resources

Service Mode

Service mode provides the most complete checkout of the system resources. This mode also requires that no other programs be running on the system. All system resources except the SCSI adapter, and the disk drives used for paging can be tested. However, note that system memory and the processor are only tested during POST.

Error log analysis is done in service mode when you select *the* Problem Determination option on the DIAGNOSTIC MODE SELECTION menu.

Running the Online Diagnostics in Service Mode

To run the Online Diagnostics in Service Mode, take the following steps:

1. Stop all programs including the AIX operating system (get help if needed).
2. Turn off the system unit.
3. Set the key mode switch to the Service position.

Note: When the diagnostic programs are run from a source other than the network or from the disk the diagnostics *do not* check the error log entries.

4. Turn on the system unit.

Note: If while the diagnostics are loading, some system units stop with 260, 261, or 262 displayed in the operator panel display and the console display is blank, press the 1 (one) key on the console keyboard to cause the diagnostics to continue to load.

5. After the diagnostic controller loads, DIAGNOSTIC OPERATING INSTRUCTIONS appear on the console display.

If the system unit *does not* have a console display, the diagnostics run automatically and loop on the diagnostic test until the system unit is turned off.

6. If a problem is detected while the diagnostics are loading, a flashing 888 displays in the operator panel display. See Chapter 22, "Diagnostic Numbers and Codes" on page 22-1 for instructions on reading the message.
7. Follow the displayed instructions to checkout the desired resources.
8. When testing is complete; use the F3 key to return to the DIAGNOSTIC OPERATING INSTRUCTIONS.
9. If you loaded the diagnostics from the disk, press the F3 key (from a defined terminal) or press 99 (for an undefined terminal) to shutdown the diagnostics before turning off the system unit.

Note: Pressing the F3 key (from a defined terminal) produces a "Confirm Exit" popup menu which offers two options: continuing with the shutdown by pressing F3; or returning to diagnostics by pressing Enter.

For undefined terminals, pressing 99 produces a full screen menu which offers two options: continuing with the shutdown by pressing 99 and then Enter; or returning to diagnostics by pressing Enter.

Concurrent Mode

Concurrent mode provides a way to run Online diagnostics on some of the system resources while the system is running normal system activity.

Because the system is running in normal operation, some of the resources cannot be tested in concurrent mode. The following resources cannot be tested in concurrent mode:

- SCSI adapters connected to paging devices
- The disk drive used for paging
- Some display adapters
- Memory
- Processor.

There are three levels of testing in concurrent mode:

- The **share-test level** tests a resource while the resource is being shared by programs running in the normal operation. This testing is mostly limited to normal commands that test for the presence of a device or adapter.
- The **sub-test level** tests a portion of a resource while the remaining part of the resource is being used in normal operation. For example, this test could test one port of a multiport device while the other ports are being used in normal operation.
- The **full-test level** requires the device not be assigned to or used by any other operation. This level of testing on a disk drive may require the use of the **varyoff** command. The diagnostics display menus to allow you to vary off the needed resource.

Error log analysis is done in concurrent mode when you select *the* Problem Determination option on the DIAGNOSTIC MODE SELECTION menu.

To run the Online diagnostics in concurrent mode you must be logged onto the AIX operating system and have proper authority to issue the commands (if needed, get help).

The **diag** command loads the diagnostic controller and displays the Online diagnostic menus.

Running the Online Diagnostics in Concurrent Mode

To run Online diagnostics in concurrent mode, take the following steps:

- Log on to the AIX operating system as root or superuser.
- Enter the diag command.
- When the DIAGNOSTIC OPERATING INSTRUCTIONS are displayed, follow the instructions to check out the desired resources.
- When testing is complete; use the F3 key to return to the DIAGNOSTIC OPERATING INSTRUCTIONS. Then press the F3 key again to return to the AIX operating system prompt. Be sure to vary on any resource you had varied to off.
- Press the Ctrl-D key sequence to log off from root or superuser.

Maintenance Mode

Maintenance mode runs the Online diagnostics using the customer's version of the AIX operating system. This mode requires that all activity on the AIX operating system be stopped so the Online diagnostics have most of the resources available to check. All of the system resources except the SCSI adapters, memory, processor, and the disk drive used for paging can be checked.

Error log analysis is done in maintenance mode when you select *the Problem Determination* option on the *DIAGNOSTIC MODE SELECTION* menu.

The **shutdown -m** command is used to stop all activity on the AIX operating system and put the AIX operating system into maintenance mode. Then the **diag** command is used to invoke the diagnostic controller so you can run the diagnostics. After the diagnostic controller is loaded, follow the normal diagnostic instructions.

Running the Online Diagnostics in Maintenance Mode

To run the Online diagnostics in maintenance mode you must be logged on to the customer's version of the AIX operating system as *root* or *superuser* and use the **shutdown -m** and **diag** commands. Use the following steps to run the Online diagnostics in maintenance mode:

1. Stop all programs except the AIX operating system (get help if needed).
2. Log onto the AIX operating system as *root* or *superuser*.
3. Enter the **shutdown -m** command.
4. When a message indicates the system is in maintenance mode, enter the **diag** command.
Note: It may be necessary to set *TERM* type again.
5. When *DIAGNOSTIC OPERATING INSTRUCTIONS* is displayed, follow the displayed instructions to checkout the desired resources.
6. When testing is complete; use the F3 key to return to *DIAGNOSTIC OPERATING INSTRUCTIONS*. Then press the F3 key again to return to the AIX operating system prompt.
7. Press Ctrl-D to log off from *root* or *superuser*.

Standalone Diagnostic Operation

Standalone Diagnostics provide a method to test the system when the Online Diagnostics are not installed and a method of testing the disk drives and other resources that can not be tested by the Online Diagnostics.

Error Log Analysis is not done by the Standalone Diagnostics.

If running from CD-ROM, the CD-ROM drive and the SCSI controller that controls it cannot be tested by the Standalone Diagnostics.

Running the Standalone Diagnostics

To run the Standalone Diagnostics, take the following steps:

1. Stop all programs including the AIX operating system (get help if needed).
2. Turn off the system unit.
3. Set the key mode switch to the Service position.
4. If you want to load the standalone diagnostics from diskette, insert the first diagnostic diskette into the diskette drive.
5. If you want to load the standalone diagnostics from a CD-ROM disc, insert the CD-ROM diagnostic disc into the CD-ROM drive.
6. If you want to load the standalone diagnostics from tape, insert the diagnostic tape into the tape drive.
7. Turn on the system unit.

Note: If while the diagnostics are loading, some system units stop with 260, 261, or 262 displayed in the operator panel display and the console display is blank, press the 1 (one) key on the console keyboard to cause the diagnostics to continue to load.

8. After the diagnostic controller loads, DIAGNOSTIC OPERATING INSTRUCTIONS appear on the console display.

If the system unit *does not* have a console display, the diagnostics run automatically and loop on the diagnostic test until the system unit is turned off.

When the diagnostics are run from diskette, a c07 is displayed when the test have completed.

9. If a problem is detected while the diagnostics are loading, a flashing 888 displays in the operator panel display. See Chapter 22, "Diagnostic Numbers and Codes" on page 22-1 for instructions on reading the message.
10. Follow the displayed instructions to checkout the desired resources.
11. When testing is complete; use the F3 key to return to the DIAGNOSTIC OPERATING INSTRUCTIONS.
12. Turn off the system unit after the shutdown is complete.

System Exerciser

Note: Beginning with AIX version 4.2 the System Exerciser is no longer supported.

The System Exerciser tests and exercises devices in an overlap mode and can only be run from disk in standalone or maintenance mode.

Starting the System Exerciser

When the System Exerciser is selected from the FUNCTION SELECTION menu, another menu displays all devices to be tested. Pressing the Enter key starts tests for all of the devices.

The time required to test all of the devices depends on the number of devices to be tested and can range from several minutes to approximately one hour for a fully loaded system.

Because some devices require less time to test than others, the number of times a device is tested under the System Exercise may be one or more.

Note: If the system contains tape devices, CD-ROM, or diskette drives, you are asked whether you want to use media in the devices when you are testing.

Display Screens

If the console is a graphics display, normal test patterns are displayed during the tests. After the graphics adapter test is finished, the standby screen is displayed.

If the console is an async terminal, the standby screen is displayed during testing. The time-of-day is displayed at the top of the screen and is updated approximately every minute.

After all devices have been tested at least once, a results screen is displayed until either the Enter key is pressed to restart the System Exerciser or the Exerciser is stopped. If no errors were detected, the results screen displays the No trouble found message; if errors have been detected, the results screen displays a list of devices with corresponding errors.

Stopping the System Exerciser

Although the System Exerciser can be stopped at any time, it is best to stop it while the results screen is displayed. Stopping the Exerciser at other times can cause the loss of test information.

When the System Exerciser is stopped, the screen displays all tested devices with errors flagged. Selecting a device that has an error flag provides details such as SRN, location code, number of times the device was tested, and the number of times an error was detected.

Using the System Exerciser to Check Out Repairs and Intermittent Problems

The System Exerciser can be used to check out the system following repairs and to identify intermittent problems.

When the System Exerciser is running, most built-in error recovery procedures are turned off. This can cause occasional errors to be reported that normally have no effect on system operation. Parts should only be replaced when the following occurs:

- A high number of errors are reported in relation to the number of times the device was tested.
- Errors reported by the System Exerciser are in the same area as that reported by the customer.

General Information About Multiple Systems

This chapter presents guideline information for anyone needing to run the diagnostic programs on a system unit that is attached to another system. These guidelines are intended for both the operator of the system and the service representative.

This guideline is presented by adapter type or by system configuration type.

These considerations and actions are not detailed step-by-step instructions, but are used to ensure that you have considered the attached system before you run diagnostics on this system unit.

You are directed to the detailed procedures for the various activities as needed.

These guidelines generally present considerations for the following:

- Starting and stopping the communications with the other system.
- Considerations before running diagnostics on the system.
- Analyzing the error log information.
- Using the wrap plugs with the diagnostics.

When this system unit is attached to another system, be sure you isolate this system unit before stopping the operating system or running diagnostic programs. Some system cabling changes (such as installing wrap plugs or removing a device from the configuration) may require action by the operator of the attached system before making the cabling changes on this system.

Determining System Architecture

Some of the tasks and service aids are system model architecture (platform) restricted. If tasks or service aids are needed to complete servicing your system, it may be necessary to know which platform your system is using.

This manual deals with the following platforms:

- RS6K (Risc System 6000 Platform)
- RS6KSMP (Risc System 6000 Symmetric Multiprocessor Platform)

Notes:

- Some of the tasks and service aids in this manual may be identified as being RS6K or RS6KSMP only. Assume the service aid can be accessed on either platform unless a note stating the task or service aid is RS6K or RS6KSMP only is present.

To find out the platform on which you are working, enter one of the following commands.

If you are running AIX 4.2.1 or later, then from an AIX shell enter:

lscfg | pg

A screen appears containing one of the following:

- Model Architecture: rs6k
Model Implementation: Uni Processor, MCA Bus
- Model Architecture: rs6ksmp
Model Implementation: Multiple Processor, MCA Bus

If you are running AIX 4.2.1 or later Diagnostics

- Select the Display Configuration and Resource List Task from the Task Selection Menu.

On any AIX system logged on as 'root' user.

- Run the **bootinfo -p** command.

The system platform type is returned.

Block Multiplexer Channel Adapter

The Block Multiplexer Channel Adapter allows the system unit to directly attach to a system-370/390-type block multiplexer channel.

The block multiplexer channel adapter responds to channel commands similar to a 3088 Channel-to-Channel Adapter. However, this adapter does not support full emulation of a 3088.

The block multiplexer channel adapter may also be attached to a host system using the 3044 Model 2 Channel Extender or the 9034 Model 1 ESCON Converter.

Up to two block multiplexer channel adapters may be installed in a system unit.

Since the system is directly attached to the bus and tag cables of the box multiplexer channel of the host system, careful consideration must be made before doing the following:

- Turning off the system unit.
- Loading and running the diagnostic programs.
- Changing position of the bypass switch on the interface cable.
- Connecting or disconnecting any of the cables to the adapter or interface assembly.

Use the following guidelines to understand the actions needed.

Starting or Stopping Communications With the Host System

An operator console for the system is required. The console may be a direct-attached display and keyboard or an ASCII terminal.

Changes to the on-line or off-line status of the block multiplexer channel adapter is made using the System Management Interface Tool (SMIT). If there are two block multiplexer

channel adapters installed in this system unit, the status of each adapter must be changed individually.

Stopping Communications

Use the following steps as a guideline for stopping communications with a host block multiplexer channel:

1. Have the operator of the host system stop any communications with this block multiplexer channel adapter.
2. Stop all application programs on this system that use this block multiplexer channel adapter.
3. Use SMIT to change the status of this adapter to *offline*. If needed, see the AIX Version 4.1 *Block Multiplexer Channel Adapter: User's Guide and Service Information* for procedures.

If you have another block multiplexer channel adapter in this system unit, you must use this procedure to stop it.

Starting Communications

Use the following steps as a guideline for starting communications with a host block multiplexer channel:

1. Use SMIT to change the status of this adapter to *online*. If needed, see the AIX Version 4.1 *Block Multiplexer Channel Adapter: User's Guide and Service Information* for procedures.
2. Start the application programs that need to use this block multiplexer channel adapter.
3. Have the operator of the host system start communications with this block channel adapter.

If you have another block multiplexer channel adapter in this system unit, you must use this procedure to start it.

Running the System Diagnostics

Since the system is directly attached to the bus and tag cables of the block multiplexer channel of the host system, the communications between the host system and all of the block multiplexer channel adapters must be stopped before diagnostics are run on any block multiplexer channel adapter. See "Stop Communications" for this adapter information for general guidelines, or see the AIX Version 4.1 *Block Multiplexer Channel Adapter: User's Guide and Information* for detailed procedures.

Before disconnecting *any* cables from the adapter or interface assembly, the host system block multiplexer channel must be stopped. Get the host system operator to do this for you.

The system diagnostics allow wrap testing at the adapter and at the bus and tag cable connectors. See the AIX Version 4.1 *Block Multiplexer Channel Adapter Information* for detailed procedures.

Error Log Entries

Both the error log in the Version 3 Operating System and the host system error log may provide valuable information for problem solving.

For a description of the system error logging and the error log entries representing this adapter, see the following manuals:

- *AIX Version 4.1 Problem Solving Guide and Reference*, form number SC23-2606
- *Adapters, Devices, and Cable Information*, form number SA23-2764
- *AIX Version 4.1 Block Multiplexer Channel Adapter: User's Guide and Service Information*, form number SC23-2427.

Solving System-to-Host System Communication Problems

Use the *AIX Version 4.1 Block Multiplexer Channel Adapter: User's Guide and Service Information* and the *AIX Version 4.1 Problem Solving Guide and Reference* to solve operational problems after initial installation.

For installation problems, use the *AIX Version 4.1 Block Multiplexer Channel Adapter: User's Guide and Service Information* to be sure the software is installed, the channel is cabled correctly, and the host system and operating system are configured correctly.

Cabling the System Unit to the Host System

Refer to *Adapters, Devices, and Cable Information*, form number SA23-2764, for more cabling information

Enterprise System Connection (ESCON) Adapter

The ESCON Adapter allows the system unit to directly attach to a system 390-type ESCON channel.

The ESCON channel adapter responds to channel commands similar to a 3088 Channel-to-Channel Adapter. However, this adapter does not support full emulation of a 3088.

The ESCON channel adapter may also be attached to a host system using the ESCON Director.

Up to two ESCON channel adapters may be installed in a system unit.

Since the system is directly attached to the ESCON channel of the host system, careful consideration must be made before:

- Turning off the system unit.
- Loading and running the diagnostic programs
- Connecting or disconnecting any of the cables to the adapter.

Use the following guidelines to understand the actions needed.

Starting or Stopping Communications With the Host System

An operator console for the system is required. The console may be a direct-attached display and keyboard or an ASCII terminal.

Changes to the *online* or *offline* status of the ESCON channel adapter is made using the System Management Interface Tool (SMIT). If there are two ESCON channel adapters installed in this system unit, the status of each adapter must be changed individually.

Stopping Communications

Use the following steps as a guideline for stopping communications with a host ESCON channel:

1. Have the operator of the host system stop any communications with this ESCON channel adapter.
2. Stop all application programs on this system that use this ESCON channel adapter.
3. Use SMIT to change the status of this adapter to *offline*. If needed, see the *AIX Version 3.2 Enterprise Systems Connection Adapter: User's Guide and Service Information* for procedures.

If you have another ESCON channel adapter in this system unit, you must use this procedure to stop it.

Starting Communications

Use the following steps as a guideline for starting communications with a host ESCON channel:

1. Use SMIT to change the status of this adapter to *online*. If needed, see the *AIX Version 4.1 Enterprise Systems Connection Adapter: User's Guide and Service Information* for procedures.
2. Start the application programs that need to use this ESCON channel adapter.
3. Have the operator of the host system start communications with this ESCON channel adapter.

If you have another ESCON channel adapter in this system unit, you must use this procedure to start it.

Running the System Diagnostics

Since the system is directly attached to the channel of the host system, the communications between the host system and all of the ESCON channel adapters must be stopped before diagnostics are run on any ESCON channel adapter. See "Stopping Communications" for this adapter for general guidelines, or see the *AIX Version 4.1 Enterprise Systems Connection Adapter: User's Guide and Service Information* for detailed procedures.

Before disconnecting *any* cables from the adapter, the host system ESCON channel must be stopped. Get the host system operator to do this for you.

The system diagnostics allow wrap testing at the adapter connector. See the *AIX Version 4.1 Enterprise Systems Connection Adapter: User's Guide and Service Information* for detailed procedures.

Error Log Entries

Both the error log in the Version 3 of the AIX Operating System and the host system error log may provide valuable information for problem solving.

For a description of the system error logging and the error log entries representing this adapter, see the following manuals:

- *AIX Version 4.1 Problem Solving Guide and Reference*, form number SC23-2606
- *Adapters, Devices, and Cable Information*, form number SA23-2764
- *AIX Version 4.1 Enterprise Systems Connection Adapter: User's Guide and Service Information*, form number SC23-2474.

Solving System to Host System Communication Problems

Use the *AIX Version 4.1 Enterprise Systems Connection Adapter: User's Guide and Service Information* and the *AIX Version 4.1 Problem Solving Guide and Reference* to solve operational problems after initial installation.

For installation problems, use the *AIX Version 4.1 Enterprise Systems Connection Adapter: User's Guide and Service Information* to be sure the software is installed, the channel is cabled correctly, and the host system and operating system are configured correctly.

If there is a fiber cable problem, consult *Maintenance Information for Enterprise System Connection Links*, SY27-2597.

Cabling the System Unit to the Host System

Refer to *Adapters, Devices, and Cable Information*, form number SA23-2764 for cabling information.

Enterprise System Connection (ESCON) Channel Emulator

The S/390 Enterprise Systems Connection Channel Emulator adapter provides serial ESCON channel attachment capability between the POWERstation and POWERserver family and high-performance System/390 tape units and tape library units.

The S/390 ESCON Channel Emulator adapter with the AIX ESCON Channel Tape Attachment/6000 (Feature Code 5223) can be used with the following tape products:

- 3490 Magnetic Tape Subsystem, all models
- 3490E Magnetic Tape Subsystem, all models
- 3494 Tape Library Data Server
- 3495 Tape Library Data Server

The ESCON channel emulator adapter may also be attached to a tape control unit using the ESCON Director.

Up to two ESCON channel emulator adapters may be installed in a system unit.

Since the system is directly attached to the ESCON channel of the tape control unit, careful consideration must be made before:

- Turning off the system unit.

- Loading and running the diagnostic programs
- Connecting or disconnecting any of the cables to the adapter.

Use the following guidelines to understand the actions needed.

Starting or Stopping Communications With the Tape Control Unit

AIX Version 4.1 Enterprise Systems Connection Adapter: User's Guide and Service Information

Changes to the *online* or *offline* status of the ESCON channel emulator adapter is made using the System Management Interface Tool (SMIT). If there are two ESCON channel adapters installed in this system unit, the status of each adapter must be changed individually.

Stopping Communications

Use the following steps as a guideline for stopping communications with a Tape Control Unit:

1. Have the operator of the system stop any communications with this ESCON channel emulator adapter.
2. Stop all application programs on this system that use this ESCON channel emulator adapter.
3. Use SMIT to change the status of this adapter to *offline*. If needed, see the *POWERstation and POWERserver S/390 Enterprise Systems Connection Channel Emulator Service Information* for procedures.

If you have another ESCON channel adapter in this system unit, you must use this procedure to stop it.

Starting Communications

Use the following steps as a guideline for starting communications with a tape control unit:

1. Use SMIT to change the status of this adapter to *online*. If needed, see the *POWERstation and POWERserver S/390 Enterprise Systems Connection Channel Emulator: User's Guide and Service Information* for procedures.
2. Start the application programs that need to use this ESCON channel emulator adapter.
3. Have the operator of the host system start communications with this ESCON channel emulator adapter.

If you have another ESCON channel adapter in this system unit, you must use this procedure to start it.

Running the System Diagnostics

Since the system is directly attached to the channel of the tape control unit, the communications between the host system and all of the ESCON channel emulator adapters must be stopped before diagnostics are run on any ESCON channel emulators. See "Taking the Control Unit Offline with SMIT" for this adapter for general guidelines, or see the *POWERstation and POWERserver S/390 Enterprise Systems Connection Channel Emulator: User's Guide and Service Information* for detailed procedures.

Before disconnecting *any* cables from the adapter, the tape control unit must be stopped. Get the system operator to do this for you.

The system diagnostics allow wrap testing at the adapter connector. See the *POWERstation and POWERserver S/390 Enterprise Systems Connection Channel Emulator: User's Guide and Service Information* for detailed procedures.

Error Log Entries

The error log in the Version 3 of the AIX Operating System may provide valuable information for problem solving.

For a description of the system error logging and the error log entries representing this adapter, see the following manuals:

- *AIX Version 4.1 Problem Solving Guide and Reference*, form number SC23-2606
- *Adapters, Devices, and Cable Information*, form number SA23-2764
- *POWERstation and POWERserver S/390 Enterprise Systems Connection Channel Emulator: User's Guide and Service Information* form number SA23-2722.

Solving System to Tape Control Unit Communication Problems

Use the and the *POWERstation and POWERserver S/390 Enterprise Systems Connection Channel Emulator: User's Guide and Service Information* and the *AIX Version 4.1 Problem Solving Guide and Reference* to solve operational problems after initial installation.

For installation problems, use the *AIX Enterprise Systems Connection Channel Tape Attachment/6000: Installation and User's Guide* to be sure the software is installed, the channel is cabled correctly, and the system and tape control unit system are configured correctly.

If there is a fiber cable problem, consult *Maintenance Information for Enterprise System Connection Links*, SY27-2597.

Cabling the System Unit to the Host System

Refer to *Adapters, Devices, and Cable Information*, form number SA23-2764, for more cabling information.

Fiber Distributed Data Interface (FDDI) Adapter

The Fiber Distributed Data Interface (FDDI) Adapter attaches the system unit to a FDDI network. There are two types of FDDI adapters:

- The fiber distribution data interface (FDDI) single ring adapter (Type 2-6)
- The fiber distribution data interface (FDDI) dual ring upgrade kit adapter (Type 2-7).

The communications link with the FDDI ring is established during workstation initialization; thus no special operator action is required to start using the ring.

For more information about this FDDI adapter and software, see the *Fiber Distributed Data Interface User's Guide*, form number SC23-2426. This manual is shipped with the FDDI adapter.

FDDI Single Ring Adapter Service Considerations

The single ring adapter provides a communication link to the concentrator. The concentrator links the workstations together to form a ring. The number of workstations that attach to a single concentrator is determined by the capacity of the concentrator. The concentrator may also have other concentrators attached to it to increase the number of workstations in the ring. Each workstation can communicate directly with any other workstation in the ring.

If any workstation in the ring has a failure that prevents the signal from being passed back to the concentrator, the concentrator automatically bypasses that workstation to allow communications to continue on the ring.

When you turn the system unit off or disconnect it from the concentrator, the concentrator bypasses that connection to keep communications connection good.

FDDI Dual Ring Adapter Service Considerations

The dual ring adapter provides a dual path for communication between the workstations on the ring. The purpose of the dual path is to provide increased communication availability. The dual ring may also have more than one concentrator in the ring to provide connections to other FDDI rings.

If any workstation in the ring has a failure that prevents the signal from being passed on to the next workstation or concentrator, the FDDI adapter concentrator does a *loop* back on the secondary ring to allow communications to continue on the ring.

In the event two workstations or concentrators fail at the same time the ring could become *segmented*. That would mean part of the ring would act like a ring within itself, but could not communicate with the other parts of the ring. Returning either failing workstation or concentrator to correct working order restores communications on the complete ring.

When you turn the system unit off, or disconnect one of the FDDI cables, the workstations or concentrators on each side of the system unit loops the signal back on the secondary ring. This allows continued communications between each workstation on the ring, except for the one that is turned off.

FDDI Cabling

Refer to *Adapters, Devices, and Cable Information* for additional cabling information.

High-Availability SCSI

A High-availability SCSI configuration consists of two system units or CPU drawers connected to a common set of SCSI devices. The configuration provides high-availability because either system unit or CPU drawer can continue to access the common devices while the other system is unavailable.

The actions needed to isolate a particular system unit or device from the configuration depends on the software controlling the systems and devices. Therefore, be sure you use the documentation with the software to prepare the configuration before turning a system unit or device off.

High-Availability Cabling

Refer to *Adapters, Devices, and Cable Information"* for additional cabling information

Diagnostic Summary

Memory and Processor Testing

- Memory and Fixed-Point Processors are only tested during BIST and POST.
- A complete memory test is run during POST.
- The BIST and POST only halt and report problems that prevent the system from booting.
- All other problems are logged into the IPL Control Block and are only analyzed and reported if the Base System Diagnostic is run.
- The Base System Diagnostic also tests the Floating Point Processor.

IPL Control Block Analysis

IPL Control Block is only analyzed if the Base System Diagnostic is run.

- IPL Control Block Analysis is an analysis of the IPL Control Block. It has nothing to do with the AIX Error Log Analysis.
- IPL Control Block reports problems that are logged by ROS (firmware) during boot.

Checkstops

- RS1, RS.9, RS2, and SMP systems reboot whenever a Checkstop occurs.

Checkstop information is logged into NV-RAM.

If the system is booted from disk, it is copied to the AIX Error Log Files where it can be analyzed by diagnostics. However, if the system is booted from CD-ROM, diskette, or tape, it is lost if another check occurs.

- RSC and 60x non-SMP systems displays a 185, 186, or 187 and hang whenever a Checkstop occurs. No Checkstop information is logged.

System Crashes

- System Crashes are indicated by a flashing 888 102 message.

Status information is logged into NV-RAM. If the system is booted from disk or LAN, it is copied to the AIX Error Log Files where it can be analyzed by diagnostics for hardware related causes. However, if the system is booted from CD-ROM, diskette, or tape, it is lost if another check occurs. At 4.2 support to analyze the status information in NV-RAM is included on the Standalone Diagnostics (boot from removable media).

Error Log Analysis

- Error Log Analysis is analysis of the AIX Error Log.
- Error Log Analysis is part of the diagnostic applications and is invoked by selecting a device from the DIAGNOSTIC SELECTION menu, by using the **diag** command, or selecting the Run Error Log Analysis task.
- Error Log Analysis is only performed when running online diagnostics.
- Error Log Analysis is NOT performed when running from removable media except for mounted CD-ROM.
- Error Log Analysis only report problems if the errors have reached defined thresholds. Thresholds can be from 1 to 100 depending on the error.
- Permanent errors do not necessarily mean a part should be replaced.
- Automatic Error Log Analysis (diagela) provides the capability to do error log analysis whenever a permanent hardware error is logged.

Diagnostic Modes

The Diagnostic Modes consist of Problem Determination Mode and System Verification Mode. The only difference between the two modes is one performs ELA and the other does not.

- Problem Determination Mode runs all tests unless the resource is being used. If a problem is not found, then Error Log Analysis is performed.
- In Problem Determination Mode, Error Log Analysis is performed even if a resource is being used.
- A screen always appears informing the user that the resource needs to be freed if a resource is being used.
- System Verification Mode does not do ELA. This mode should be run when doing a repair verification.
- IPL Control Block Analysis is done in either mode.

It is generally better to run Online Diagnostics versions 2.0 and later from disk than it is to run Standalone Diagnostics.

4.2 Diagnostic Changes

Tasks are operations that can be performed on a resource. Running Diagnostics, Displaying VPD, or Formatting a Device, are examples of tasks. Service Aid functionality should also be considered a task.

Resources are devices used by the system unit. Diskette Drive, and CD ROM Drive are examples of resources.

The FUNCTION SELECTION menu was enhanced with two new selections allowing either all resources, or all tasks to be displayed. When Task Selection is made and a task has been selected a list of supporting resources is displayed. Alternatively, when Resource Selection is made, and a resource or group of resources are selected, a list of supporting common tasks are displayed. Also, to aid with backward compatibility the FUNCTION SELECTION menu contains 'Diagnostic' and Advanced Diagnostic'.

The 'Display or Change Diagnostic Run Time Options' task can be used to set advanced mode diagnostics, looping capability, and ELA mode when running diagnostics from the Task Selection menu.

The following sections describe the 4.2 Diagnostic Subsystem.

diag Command Line Options:

COMMAND LINE OPTIONS:

diag Command line flags are as follows:

- a Perform missing device analysis.
- c Machine is unattended. No prompts should be displayed.
- d resource Test the named resource.
The "resource" parameter is the /dev entry.
- e Error Log Analysis.
Checks the error log for device specified in "resource" of the -d option.
- s Test the system.
- A Advanced Diagnostics
- B Base system test
- v System Verification mode.
- S Test the Test Suite Group
 - 1 - Base system
 - 2 - I/O Devices
 - 3 - Async Devices
 - 4 - Graphics Devices
 - 5 - SCSI Devices
 - 6 - Storage Devices
 - 7 - Commo Devices
 - 8 - Multimedia Devices

Entering `diag -h` from the command line prints out an appropriate usage statement.

Default execution mode is be non-advanced mode.

Chapter 28. Introduction to Tasks and Service Aids

The AIX Diagnostic Package contains programs that are called Tasks. Tasks can be thought of as "performing a specific function on a resource"; for example, running diagnostics, or performing a service aid on a resource. This chapter describes the Tasks available in AIX Diagnostics Version 4.2 and later.

To perform a Task, use the following from the Function Selection Menu:

- Task Selection (Diagnostics, Advanced Diagnostics, Service Aids, etc).

This selection lists the tasks supported by these procedures. Once a task is selected, a resource menu may be presented showing all resources supported by the task.

Note: Many of these programs work on all system model architectures. Some programs are only accessible from Online Diagnostics in Service or Concurrent mode, others may be accessible only from Standalone Diagnostics. While still other programs may only be supported on a particular system architecture, such as RS6KSMP (Risc System 6000 Symmetric Multiprocessor Platform) Platform), or RS6K (Risc System 6000 Platform). Refer to "Determining System Architecture" on page 27-16 to identify the system unit platform type.

Tasks

- Add or Delete Drawer Configuration
- Add Resource to Resource List
- AIX Shell Prompt
- Backup and Restore Media
- Certify Media
- Change Hardware Vital Product Data
- Configure Dials and LPFKeys
- Create Customized Configuration Diskette
- Delete Resource from Resource List
- Disk Maintenance
- Disk Media
- Display Checkstop Analysis Results
- Display Configuration and Resource List
- Display Hardware Error Report
- Display Hardware Vital Product Data
- Display or Change Bootlist
- Display or Change BUMP Configuration
- Display or Change Diagnostic Run Time Options
- Display or Change Electronic Mode Switch
- Display or Change Multi-processor Configuration
- Display Previous Diagnostic Results
- Display Resource Attributes
- Display Service Hints
- Display Software Product Data
- Display Test Patterns
- Download Microcode
- ESCON Bit Error Rate Service Aid
- Format Media
- Generic Microcode Download
- Local Area Network Analyzer

- Periodic Diagnostics
- Process Supplemental Media
- Run Diagnostics
- Run Error Log Analysis
- SCSI Bus Analyzer
- SCSI Device Identification and Removal
- SCSD Tape Drive Service Aids
- Service Aids for Use with Ethernet
- Spare Sectors Availability
- SSA Service Aids
- Update Disk Based Diagnostics
- 7135 RAIDiant Array Service Aids
- 7318 Serial Communications Network Server

AIX Shell Prompt

Note: Use in Online Service mode only.

This service aid allows access to the AIX command line. To use this service aid the user must know the root password (when a root password has been established).

Backup/Restore Media

This service aid allows verification of backup media and devices. It presents a menu of tape and diskette devices available for testing and prompts for selection of the desired device. It then presents a menu of available backup formats and prompts for selection of the desired format. The supported formats are tar, backup, and cpio. After the device and format are selected, the service aid backups a known file to the selected device, restores that file to /tmp, and compares the original file to the restored file. The restored file is also left in /tmp to allow for visual comparison. All errors are reported.

Create Customized Configuration Diskette

This selection invokes the Diagnostic Package Utility Service Aid which allows the user to perform the following action:

- Create a Standalone Diagnostic Package Configuration Diskette

The Standalone Diagnostic Package Configuration Diskette allows the following to be changed from the console:

- Default refresh rate for a LFT

The refresh rate used by the standalone diagnostic package is 60Hz. If the display's refresh rate is 77Hz, then set the refresh rate to 77.

- Different async terminal console

A console configuration file that allows a terminal attached to any RS232 or RS422 adapter to be selected as a console device can be created using this service aid. The default device is a RS232 tty attached to the first standard serial port (S1).

Configure Dials and LPFKeys

This service aid provides a tool for configuring and removing dials/LPFKeys to the standard asynchronous serial ports.

Since 4.1.3 a tty must be defined on the async port before the Dials and LPFKeys can be configured on the port. Before version 4.2 the Dials and LPFKeys could only be configured on the standard serial ports. At version 4.2 the Dials and LPFKeys can be configured on any async port.

This selection invokes the SMIT utility to allow Dials and LPFKeys configuration. A tty must be in the available state on the async port before the Dials and LPFKeys be configured on the port. The task allows an async adapter to be configured, then a tty port defined on the adapter, and then Dials and LPFKeys can be defined on the port.

Update Disk Based Diagnostics

This service aid allows fixes (APARs) to be applied.

This task invokes the SMIT Update Software by Fix (APAR) task. The task allows the input device and APARs to be selected. Any APAR can be installed using this task.

Certify Media

This task allows the selection of diskette or hardfiles to be certified.

- Hardfile Certify

Certify reads all of the ID and data fields. It checks for bad data and counts all errors encountered. If the unrecovered data errors exceed the threshold value, the hardfile needs to be formatted and certified. If the recovered data errors, recovered and unrecovered equipment errors exceed the threshold values, the disk needs to be replaced.

- Diskette Certify

This selection provides a way to verify the data written on a diskette. When this service aid is selected, a menu asks you to select the type of diskette being verified. The program then reads all of the ID and data fields on the diskette one time and displays the total number of bad sectors found.

This task may be run directly from the AIX command line. The following usage statement describes the syntax of the command:

Usage:

```
diag -c -d <deviceName> -T "certify"
```

Format Media

Hardfile Format

This task allows the selection of diskettes or hardfiles to be formatted.

- Hardfile Format

Writes all the disk. The pattern put on the disk is device dependent, i.e. some drives may put all 0s, while some may put hexadecimal number 5F. No bad block reassignment occurs.

- Hardfile Format and Certify

Does the same as format. After Format is completed, Certify is run. This Certify reassigns all bad blocks encountered.

- Hardfile Erase Disk

This option can be used to overwrite (remove) all data currently stored in user-accessible blocks of the disk. The Erase Disk option writes one or more patterns to the disk. An additional option allows data in a selectable block to be read and displayed on the system console.

To use the Erase Disk option, specify the number (0-3) of patterns to be written. Select the patterns to be written; the patterns are written serially. That is, the first pattern is written to all blocks. Then the next pattern is written to all blocks, overlaying the previous pattern. A random pattern is written by selecting the "Write random pattern?" option.

The Erase Disk service aid has not been certified as meeting the Department of Defense or any other organizations security guidelines. The following steps should be followed if the data on the drive is to be overwritten:

1. Use the "Erase Disk" selection to overwrite the data on the drive.
2. Do a format without certify.
3. Run a second pass of the erase disk selection.

For a newly installed drive, you can insure that all blocks on the drive are overwritten with your pattern if you use the following procedure:

1. Format the drive.
2. Check the defect map by running the Erase Disk selection.

Note: If you use the "Format and Certify" option, there may be some blocks which get placed into the grown defect MAP.

3. If there are bad blocks in the defect MAP, record the information presented and ensure that this information is kept with the drive. This data is used later when the drive is to be overwritten.
4. Use the drive as you would normally.
5. When the drive is no longer needed and is to be erased, run the same version of the Erase Disk Service Aid which was used in step 2.

Note: Using the same version of the service aid is only critical if there were any bad blocks found in step 3.

6. Compare the bad blocks which were recorded with the drive in step 3 with those which now appear in the grown defect MAP.

Note: If there are differences between the saved data and the newly obtained data, then all sectors on this drive cannot be overwritten. The new bad blocks are not overwritten.

7. If the bad block list is the same, continue running the service aid to overwrite the disk with the chosen pattern(s).

This task may be run directly from the AIX command line. The following usage statement describes the syntax of the command.

Usage:

```
diag -c -d <deviceName> -T "format [-s* fmtcert | erase -a {read | write}] [-F]"
```

Flags

fmtcert formats and certifies disk

* available in no console mode only

-F Force flag. Forces disk erasure even if all blocks cannot be erased due to errors accessing grown defect map.

Note: Erase option in command line mode uses default values. To selectively read or write, use diag in console mode.

Optical Media

- Optical Media Initialize

Formats the media without certifying. This function does not reassign the defective blocks or erase the data on the media. It provides a quick way of formatting the media and cleaning the disk.

Note: It takes approximately 1 minute to format the media.

- Optical Media Format and Certify

Formats and certifies the media. This function reassigns the defective blocks and erases all data on the media.

This task may be run directly from the AIX command line. The following usage statement describes the syntax of the command:

Usage

```
diag -c -d < deviceName > -T "format [-s {initialize | fmtcert} ]"
```

Flags

initialize Formats media without certifying.

fmtcert formats and certifies the media.

Diskette Format

This selection formats a diskette by writing patterns to it.

Spare Sector Availability

This selection checks the number of spare sectors available on the optical disk. The spare sectors are used to reassign when defective sectors are encountered during normal usage or during a format and certify operation. Low availability of spare sectors shows that the disk needs to be backed up and replaced. Formatting the disk does not improve the availability of spare sectors.

This task may be run directly from the AIX command line. The following usage statement describes the syntax of the command:

Usage:
`diag -c -d < deviceName > -T chkspares`

Disk Maintenance

- Disk to Disk Copy
- Display/Alter Sector

Disk to Disk Copy

This selection allows you to recover data from an old drive when replacing it with a new drive. The service aid only supports copying from a SCSI drive to another SCSI drive of similar size. This service aid cannot be used to update to a different size drive. The service aid recovers all LVM software reassigned blocks. To prevent corrupted data from being copied to the new drive, the service aid aborts if an unrecoverable read error is detected. To help prevent possible problems with the new drive, the service aid aborts if the number of bad blocks being reassigned reaches a threshold.

Note: Use the **migratepv** command when copying the contents to other disk drive types. This command also works when copying SCSI disk drives or when copying to a different size SCSI disk drive. Refer to *System Management Guide: Operating System and Devices* for a procedure on migrating the contents of a physical volume.

The procedure for using this service aid requires that both the old and new disks be installed in or attached to the system with unique SCSI addresses. This requires that the new disk drive SCSI address must be set to an address that is not currently in use and the drive be installed in an empty location. If there are no empty locations, then one of the other drives must be removed. Once the copy is complete, only one drive may remain installed. Either remove the target drive to return to the original configuration, or perform the following procedure to complete the replacement of the old drive with the new drive.

1. Remove both drives.
2. Set the SCSI address of the new drive to the SCSI address of the old drive.
3. Install the new drive in the old drive's location.
4. Install any other drives that were removed into their original location.

To prevent problems that may occur when running this service aid from disk, it is suggested that this service aid be run from the diagnostics that are loaded from removable media when possible.

Display/Alter Sector

This selection allows the user to display and alter information on a disk sector. Care must be used when using this service aid because inappropriate modification to some disk sectors may result in total loss of all data on the disk. Sectors are addressed by their decimal sector number. Data is displayed both in hex and in ASCII. To prevent corrupted data from being incorrectly corrected, the service aid does not display information that cannot be read correctly.

Display Checkstop Analysis Results

This selection analyzes checkstop files and displays the results. During a system reboot following a checkstop, a data file is written to `/usr/lib/ras` that contains the state of the system at the time of the checkstop. The file names begin with `"checkstop"` and end with either `".A"` or `".B"`

The analysis of a checkstop file produces a description of the problem and an action plan with repair instructions or recommendations. Following the action plan, a detailed dump of saved checkstop data is displayed.

The following options are provided:

- Analyze Checkstop Files Created within the Last 7 Days

This selection analyzes and displays the results of any checkstop file that was created in the last 7 days. This is the same file that the system planar diagnostics analyzed, but provides more detail.

- Analyze All of the Checkstop Files

This selection analyses and displays the results of all of the checkstop files.

Note: Carefully read the results of the analysis from either of the above options and perform the recommended actions.

Display or Change Bootlist

This service aid allows the bootlists to be displayed, altered, or erased.

The system attempts to perform an IPL from the first device in the list. If the device is not a valid IPL device or if the IPL fails, the system proceeds in turn to the other devices in the list to attempt an IPL.

Display or Change BUMP Configuration

This service aid is unique to the SMP system units and provides the following functions:

- Display or Change Remote Support Phone Number
This function allows the remote support phone number to be displayed and altered.
- Display or Change Diagnostics Modes
This function displays a dialog screen that lists the states of all the BUMP (Bringup Micro-Processor) Diagnostic Flags. The states can be changed via the dialog screen.
- Save or Restore Diagnostics Modes and Remote Support Phone Number
This function allows the diagnostics modes and remote support phone number to be saved and restored. The location of the save area is to be defined.
- Flash EPROM Download
This function updates the Flash EPROM.

Display Configuration and Resource List

This service aid displays the item header only for all installed resources. Use this service aid when there is no need of seeing the VPD. (No VPD is displayed.)

Display Hardware Vital Product Data

This service aid displays all installed resources along with any VPD for those resources. Use this service aid when you want to look at the VPD for a specific resource.

Change Hardware Vital Product Data

Use this service aid to display the Display/Alter VPD Selection Menu. The menu lists all resources installed on the system. When a resource is selected a menu is displayed that lists all the VPD for that resource.

Note: The user cannot alter the VPD for a specific resource unless it is not machine readable.

Add or Delete Drawer Configuration

This task invokes SMIT to provide the following options:

- List all Drawers
- Add a Drawer
- Remove a Drawer

The supported drawer types are:

- Media SCSI Device Drawer
- DASD SCSI DASD Drawer

Display Software Product Data

This task invokes SMIT to display information about the installed software and provides the following functions:

- List Installed Software
- List Applied but Not Committed Software Updates
- Show Software Installation History
- Show Fix (APAR) Installation Status
- List Fileset Requisites
- List Fileset Dependents
- List Files Included in a Fileset
- List File Owner by Fileset

Add Resource to Resource List

Use this task to add resources back to the resource list.

Note: Only resources that were previously detected by the diagnostic and deleted from the Diagnostic Test List is listed. If no resources are available to be added, then none are listed

Delete Resource from Resource List

Use this task to delete resources from the resource list.

Note: Only resources that were previously detected by the diagnostics and have not been deleted from the Diagnostic Test List are listed. If no resources are available to be deleted, then none are listed.

Display Previous Diagnostic Results

Note: This service aid is not available when you load the diagnostics from a source other than a disk drive or from a network.

Each time the diagnostics produce a service request number (SRN) to report a problem, information about that problem is logged. The service representative can look at this log to see which SRNs are recorded. This log also records the results of diagnostic tests that are run in loop mode.

When this service aid is selected, information on the last problem logged is displayed. The arrow keys can be used to look at information about previous problems.

This information is *not* from the error log maintained by the AIX operating system. This information is stored in the `/etc/lpp/diagnostics/data/*.dat` files.

Display Resource Attributes

This task displays the Customized Device Attributes associated with a selected resource. This task is similar to running the `lsattr -E -l resource` command.

Display or Change Diagnostic Run Time Options

The Display or Change Diagnostic Run Time Options task allows the diagnostic run time options to be set.

Note: The run time options are used only when selecting the Run Diagnostic task.

The run time options are:

- Display Diagnostic Mode Selection Menus

This option allows the user to select whether the DIAGNOSTIC MODE SELECTION MENU is displayed or not (the default is yes).

- Include Advanced Diagnostics

This option allows the user to select if the Advanced Diagnostics should be included or not (the default is no).

- Include Error Log Analysis

This option allows the user to select if the Error Log Analysis (ELA) should be included or not (the default is no).

Note: When running Standalone Diagnostics with Include Error Log Analysis set to Yes, ELA is only done on the error that is logged in NVRAM.

- Run Tests Multiple Times

This option allows the user to select if the diagnostic should be run in loop mode or not (the default is no).

Note: This option is only displayed when running Online Diagnostics in Service Mode.

Display Test Patterns

This service aid provides a means of adjusting system display units by providing displayable test patterns. Through a series of menus the user selects the display type and test pattern. After the selections are made the test pattern is displayed.

Generic Microcode Download

This service aid provides a means of restoring a diskette (or other media) and executing a restored program. This program does whatever is required to download the microcode onto the adapter or device.

This service aid is supported in both concurrent and standalone modes from disk, LAN, or loadable media.

When entered, this service aid displays information about what it does, it then asks for a microcode diskette to be inserted into the diskette drive. The diskette is backup format. The service aid restores the diskette to the **/tmp** directory and execute a program called **genucode**. Once genucode has completed, you are then returned to the service aid.

Display Hardware Error Report

This service aid provides a tool for viewing the hardware error log and performing error log analysis. It uses the **errpt** command.

The Display Error Summary and Display Error Detail selection provide the same type of report as the **errpt** command. The Display Error Analysis Summary and Display Error Analysis Detail selection provide additional analysis.

Display or Change Electronic Mode Switch

This service aid is unique to the SMP system units and displays the states of the Physical and Electronic Keys. It also allows the electronic keys to be set.

ESCON Bit Error Rate Service Aid

This service aid is used to check the bit error rate for an ESCON adapter to assure that the link to the host system is functioning properly. To run the ESCON Bit Error Rate Service Aid, the adapter must be connected, configured, and on-line. If the adapter is not configured properly, the service aid is not able to check the bit error rate.

Local Area Network Analyzer

This selection is used to exercise the LAN communications adapters (Token-Ring, Ethernet, and (FDDI) Fiber Distributed Data Interface). The following services are available:

- Connectivity testing between two network stations. Data is transferred between the two stations. This requires the user to input the Internet Addresses of both stations.
- Monitoring ring (Token-Ring only). The ring is monitored for a period of time. Soft and hard errors are analyzed.

Download Microcode

This selection provides a way to copy device microcode to a device. It is used to update the microcode on a device. It presents a list of devices that use microcode. The device on which the microcode is to be installed is selected. The service aid instructs the user on its use.

This task may be run directly from the AIX command line. The following usage statement describes the syntax of the command:

Usage:

```
diag -c -d -F "download [-s diskette] [-l previous] [-t* boot] [-F]"
```

Flags

- s** microcode source. **/etc/microcode** is default.
- l** microcode level. latest is default.
- t** microcode type. functional is default.
- *** applies only to the following:
 - SCSI-2 Differential F/W Adapter
 - SCSI-2 Single-Ended F/W Adapter
 - Enhanced SCSI-2 Differential F/W Adapter
- F** Force flag. Required to download microcode if the current level is unavailable on the source.

Multi-processor Service (Display or Change Multi-processor Configuration Task)

This service aid is unique to the SMP system units and provides the following functions:

- Display or Change Processor States
This function displays or changes the state of available processors.
- Bind Process
This function provides a tool for binding a process and all its threads to a specified processor.

Periodic Diagnostics

This selection provides a tool for configuring periodic diagnostics and automatic error log analysis. A hardware resource can be chosen to be tested once a day, at a user specified time. If the resource can not be tested because it is busy, error log analysis is performed. Hardware errors logged against a resource can also be monitored by enabling Automatic Error Log Analysis. This allows error log analysis to be performed every time a hardware error is put into the error log. If a problem is detected, a message is posted to the system console and a mail message sent to the user(s) belonging to the system group with information about the failure such as Service Request Number.

The service aid provides the following functions:

- Add or delete a resource to the periodic test list
- Modify the time to test a resource
- Display the periodic test list
- Modify the error notification mailing list
- Disable or Enable Automatic Error Log Analysis

Process Supplemental Media

Notes:

- This task is supported in Standalone Diagnostics only.
- Process and test one resource at a time.
- Do not process multiple supplements at a time.

Diagnostic Supplemental Media contain all the diagnostic programs and files required to test a resource. Supplemental media is normally released and shipped with the resource.

When prompted, insert the supplemental media. Then press Enter. After processing has completed, go to the resource selection list to find the resource to test.

Run Diagnostics

The Run Diagnostics task invokes the Resource Selection List menu. When the commit key is pressed, Diagnostics are run on all selected resources.

The procedures for running the diagnostics depends on the state of the Diagnostics Run Time Options. The run time options are:

- Display Diagnostic Mode Selection Menu
If this option is on, the Diagnostic Mode Selection Menu is displayed when the commit key is pressed.
- Include Advanced Diagnostics
If this option is on, Advanced Diagnostics is included.
- Include Error Log Analysis
If this option is on, Error Log Analysis is included. When running Standalone Diagnostics with Include Error Log Analysis set to Yes, ELA is only done on the error that is logged in NVRAM.
- Run Tests Multiple Times
If this option is on, diagnostic is run in loop mode. This option is only valid when running Online Diagnostics in Service Mode.

Run Error Log Analysis

The Run Error Log Analysis task invokes the Resource Selection List menu. When the commit key is pressed, Error Log Analysis runs on all selected resources.

SCSI Bus Analyzer

This service aid provides a means to diagnose a SCSI Bus problem in a free-lance mode.

To use this service aid, the user should have an understanding of how a SCSI Bus works. This service aid should be used when the diagnostics cannot communicate with anything on the SCSI Bus and cannot isolate the problem. Normally the procedure for finding a problem on the SCSI Bus with this service aid is to start with a single device attached, ensure that it is working, then start adding additional devices and cables to the bus ensuring that each one works. This service aid works with any valid SCSI Bus configuration.

The SCSI Bus Service Aid transmits a SCSI Inquiry command to a selectable SCSI Address. The service aid then waits for a response. If no response is received within a defined amount of time, the service aid displays a timeout message. If an error occurs or a response is received, the service aid then displays one of the following messages:

- The service aid transmitted a SCSI Inquiry Command and received a valid response back without any errors being detected.
- The service aid transmitted a SCSI Inquiry Command and did not receive any response or error status back.
- The service aid transmitted a SCSI Inquiry Command and the adapter showed a SCSI bus error.
- The service aid transmitted a SCSI Inquiry Command and an adapter error occurred.
- The service aid transmitted a SCSI Inquiry Command and a check condition occur.

When the SCSI Bus Service Aid is entered a description of the service aid is displayed.

Pressing the Enter key displays the Adapter Selection menu. This menu allows the user to enter which address to transmit the SCSI Inquiry Command.

When the adapter is selected the SCSI Bus Address Selection menu is displayed. This menu allows the user to enter which address to transmit the SCSI Inquiry Command.

Once the address is selected the SCSI Bus Test Run menu is displayed. This menu allows the user to transmit the SCSI Inquiry Command by pressing the Enter key. The Service Aid then indicates the status of the transmission. When the transmission is completed, the results of the transmission is displayed.

Notes:

- A Check Condition can be returned when there is nothing wrong with the bus or device.
- AIX does not allow the command to be sent if the device is in use by another process.

SCSI Device Identification and Removal

SCSI Device Identification and Removal'.

This service aid allows the user to choose a SCSI device or location from a menu and to identify a device located in a system unit that uses a SCSI Enclosure Services (SES) backplane.

The service aid also does the following:

- Generate a menu which displays all SCSI devices.
- Lists the device and all of its sibling devices.
- List all SCSI adapters and their ports.
- List all SCSI devices on a port.

SCSD Tape Drive Service Aid

This service aid provides a means to obtain the status or maintenance information from a SCSD tape drive. Only some models of SCSI tape drive are supported.

The service aid provides the following options:

- Display time since a tape drive was last cleaned.

The time since the drive was last cleaned is displayed on the screen. In addition, a message indicating whether the drive is recommended to be cleaned is also displayed.

- Copy a tape drive's trace table.

The trace table of the tape drive is written to diskettes.

The required diskettes must be formatted for DOS. Writing the trace table may require several diskettes. The actual number of required diskettes is determined by the service aid based on the size of the trace table. The names of the data files are of the following format:

'TRACE<X>.DAT' where 'X' is the a sequential diskette number. The complete trace table consists of the sequential concatenation of all the diskette data files.

- Display or copy a tape drive's log sense information.

The service aid provides options to display the log sense information to screen, to copy it to a DOS formatted diskette or to copy it to a file. The file name "LOGSENSE.DAT" is used when the log sense data is written on the diskette. The service aid prompts for a file name when the log sense data is to be copied to a file.

This service aid may be run directly from the AIX command line. The following usage statement describes the syntax of the command:

Usage:

```
/usr/lpp/diagnostic/bin/utape [-h | -?][-c[-e] | -t | -l] -d <deviceName>
```

Flags

- c** Display time since drive was last cleaned.
- e** Turn off the interactive mode.
- t** Copy trace table.
- l** Display or copy log sense information.
- h, -?** Display help.

Service Aids for use with Ethernet

This selection provides a tool for diagnosing Ethernet problems. This service aid is used to exercise the Ethernet adapter and parts of the Ethernet network. The service aid works by transmitting a data block to itself. This service aid works with a wrap plug or with any valid Ethernet network and can be used as a tool to diagnose Ethernet network problems.

When the Ethernet service aid is executed, one of the following messages is returned:

- No errors occurred.
- An adapter error occurred.
- A transmit time-out occurred.
- A transmit error occurred.
- A receive time-out occurred.
- A receive error occurred.
- A system error occurred.
- Receive and transmit data did not match.
- An error occurred that could not be identified.
- The configuration indicates that there are no Ethernet adapters in this system unit.
- Another application is currently using the adapter.
- The resource could not be configured.

Display Service Hints

This service aid reads and displays the information in the CEREA.DME file from the diagnostics media. This file contains information that is not in the publications for this version of the diagnostics. It also contains information about using this particular version of diagnostics.

Use the arrow keys to scroll through the information in the file.

SSA Service Aids

This service aid provides tools for diagnosing and resolving problems on SSA attached devices. The following tools are provided:

- Set Service Mode
- Link Verification
- Configuration Verification
- Format and Certify Disk

7135 RAIDiant Array Service Aid

The 7135 RAIDiant Array service aids contain the following functions:

- Certify LUN
This selection reads and checks each block of data in the LUN. If excessive errors are encountered the user is notified.
- Certify Spare Physical Disk
This selection allows the user to certify (check the integrity of the data) on drives designated as spares.
- Format Physical Disk
This selection is used to format a selected disk drive.
- Array Controller Microcode Download
This selection allows the microcode on the 7135 controller to be updated when required.
- Physical Disk Microcode Download
This selection is used to update the microcode on any of the disk drives in the array.
- Update EEPROM
This selection is used to update the contents of the EEPROM on a selected controller.
- Replace Controller
Use this selection when it is necessary to replace a controller in the array.

This service aid may be run directly from the AIX command line. The following usage statement describes the syntax of the command:

Flags: Adapter Microcode Download - "download [-B] [-D] [-P]"

-B Download boot block microcode (default to functional microcode)

-D Microcode is on diskette (default to /etc/microcode directory)

-P Download the previous level of microcode (default to latest level)

Physical Disk Microcode Download - "download -l <ChId> [-D] [-P]"

-l Physical disk channel/ID (i.e. 27)

-D Microcode is on diskette (default to /etc/microcode directory)

-P Download the previous level of microcode (default to latest level)

Physical Disk Format - "format -l <ChId>"

-l Physical disk channel/ID (i.e. 27)

Physical Disk Certify - "certify -l <ChId>"

-l Physical disk channel/ID (i.e. 23)

Physical Disk Identify - "identify"

7318 Serial Communications Network Server Service Aid

This service aid provides a tool for diagnosing terminal server problems.

Appendix A. Wrap Plugs

Table A-1 (Page 1 of 3).

Adapter Name	Connector Type, Port Name, or Cable	Part Number
4-Port Multiprotocol Communications Adapter	Adapter, 78-pin X.21 port V.35 port V.35 cable EIA-232 port EIA-422A port	40F9902 40F9904 40F9900 71F0163 40F9903 53F3886
4-Port EIA-232-C Multiport/2 Adapter	Adapter, 78-pin 25-pin, ports 0 and 1 25-pin, ports 2 and 3	09F1803 6425494 09F1799
4-Port EIA-232-C/4-Port EIA-422-A Multiport/2 Adapter	Adapter, 78-pin 25-pin, ports 0 and 1 25-pin, ports 2 and 3	09F1803 6425494 09F1799
4-Port EIA-232-C Multiport/2 Adapter	Adapter, 78-pin 25-pin, ports 0 and 1 25-pin, ports 2 and 3	09F1803 6425494 09F1799
6-Port Synchronous EIA-232-C Multiport/2 Adapter	Adapter, 78-pin 25-pin, ports, 0 through 5	15F8856 33F8968
6-Port V.35 Portmaster Adapter/A	Adapter, 100-pin 25-pin, ports 0 through 7	72F0168 72F0167
6-Port X.21 Portmaster Adapter/A	Adapter, 100-pin 25-pin, ports 0 through 7	85F0205 85F0206
8-Port Async Adapters	Adapter, 78-pin 25-pin, EIA-232D 25-pin, EIA-422A	22F9694 6298964 30F9159
8-Port EIA-232-C Multiport/2 Adapter	Adapter, 78-pin 25-pin, ports 0 and 1 25-pin, ports 2 through 7	09F1803 6425494 09F1799
8-Port EIA-422-A Multiport/2 Adapter	Adapter, 78-pin 25-pin, ports 0 and 1 25-pin, ports 2 through 7	09F1803 6425494 09F1799
8-Port EIA-422-A Portmaster Adapter	Adapter, 100-pin D-shell 25-pin, ports 2 through 7	68F7208 or 15F8848 33F8964
8-Port EIA-232-D Portmaster Adapter	Adapter, 100-pin D-shell 25-pin, ports 2 through 7	68F7208 or 57F0628 or 15F8848 33F8985
16-Port Async - EIA-232	Adapter, 78-pin 25-pin D-shell	53F3312 6298964
16-Port Async - EIA-422A	Adapter, 78-pin 25-pin D-shell	53F3312 30F9159

<i>Table A-1 (Page 2 of 3).</i>		
Adapter Name	Connector Type, Port Name, or Cable	Part Number
64-Port Async Controller	Adapter, RJ-45 type connector	53F3623*
16-Port Async Concentrator	Input cable wrap, RJ-45 Output connector, RJ-45 25-pin D-shell	53F3205* 53F3624* 6298964
Block Multiplexer Channel Adapter	78-pin D-shell bus cable tag cable	71F1184 8575337 8575338
Built-in parallel printer adapter	Parallel printer port	71F0690
Built-in serial adapter	Serial ports S1 and S2 25-pin D-shell	6298966 6298964
ESCON Channel Adapter	Fiber optic	5605670
Ethernet High-Performance LAN Adapter Ethernet Transceiver	15-pin D-shell BNC with 25-Ohm terminator Thin Thick	70F9625 70F9626 02G7433 02G2380
Ethernet Adapter (thick) Ethernet Adapter (thin)		
FDDI Adapter	Two-port, fiber optic, MIC	81F9016
FDDI and FDDI-Fiber Single Ring Adapters		92F9003
FDDI and FDDI-Fiber Dual Ring Upgrade Adapters		92F9003
FDDI-STP Single and Dual Ring Adapters		33G2759
Fiber optical cable Feed-through connector	Fiber optic Fiber optic	46F2438 99F0489
Graphics Input Device Adapter	Adapter 8-pin DIN	22F9689
M-Video Capture Adapter (NTSC version)	Wrap test cable, 20-pin D-shell (incl. in cable set)	92F3713 (cable set)
M-Video Capture Adapter (PAL version)	Wrap test cable, 37-pin D-shell (incl. in cable set)	92F3714 (cable set)
S/370 Channel Emulator/A	Bus cable Tag cable	5479141 5479139
Serial Optical Channel Converter	Two-port, optic Fiber optic cable Feed-through connector	56F0203** 46F2438 99F0489
Tablet adapter	Tablet connector	22F9689

Table A-1 (Page 3 of 3).

Adapter Name	Connector Type, Port Name, or Cable	Part Number
Voice Server Card adapter	Vpack cable CSU cable (T1 only) 9291, 15-pin, male connector Coax, CEPT only (all countries except France) Coax, network, CEPT only (all countries except France)	34F0874 34F0875 34F0876 61F5394 61F5395
X.25 Communications Adapter	Adapter, 37-pin X.21 Cable (07F3151) V.24 Cable (07F3161) V.35 Cable (07F3171)	07F3132 07F3153 07F3163 07F3173

* Available only as part of wrap plug kit, Part Number 53F3662.

** Shipped with converter.

Appendix B. Test Media

Device	Media or Supplies	Part Number
2.3 GB 8 mm tape drive	Tape/media kit Kit includes: - 8mm Cleaning tape cartridge - 8mm Blank data tape cartridge - 8mm Test tape cartridge Package of five 8mm blank tapes	59F3907 21F8593 21F8575 21F8577 21F8595
1/2-inch 9-track tape drive	Tape/media kit Kit includes: - Cleaning kit - Crank - CE tape assembly	21F3108 0352465 6200972 6201953
1/4-inch cartridge tape drive	1/4 inch head cleaning kit 150M-byte data tape cartridge (5-pack) 525M-byte data tape cartridge (5-pack) 1.2G-byte data tape cartridge (5-pack) 150M-byte 1/4 inch test tape cartridge 1.2G-byte 1/4 inch test tape cartridge	21F8570 21F8588 21F8587 21F8732 92X7510 21F8734
5-1/4 inch diskette drive	5-1/4 inch 360K byte blank diskette 5-1/4 inch 1.2M byte blank diskette	6023450 6109660
3-1/2 inch diskette drive	3-1/2 inch 1.0M byte blank diskette 3-1/2 inch 1.0M byte diagnostic test diskette 3-1/2 inch 2.0M byte blank diskette 3-1/2 inch 2.0M byte diagnostic test diskette 3-1/2 inch 4.0M byte diagnostic test diskette 3-1/2 inch 4.0M byte blank diskette	6404095 71F1247 6404078 71F1248 00G3352 72X6107
CD-ROM drive, bezel type A	Media kit for bezel type A Kit includes: - Test disc - Caddy - Lens cleaner Audio test device (headset)	59F3562 53F3088 22F9419 59F3563 53F3610
CD-ROM drive, bezel type B	Media kit for bezel type B Kit includes: - Test disc - Caddy Audio test device (headset)	31F4232 81F8902 22F9419 53F3610
RISC System/6000 diagnostic package	Diagnostic and test diskettes Diagnostic and tests on CD-ROM	88G3890 88G4733

Supplemental Diskette FRU Part numbers

The following table contains a listing of supplemental diagnostic diskettes and their respective part numbers.

Supplemental Diagnostic Diskette Description	FRU Part Number
Artic multiport/2 .5/1.0 MB and portmaster .5/1.0 MB	43G2259
ATM 100	73G9818
ATM 155	40H6784
Business Audio Adapter	40H2557
FDDI	65G7507
Fiber Distribution	00G2688
Fibre Channel Switch	39H9181
Fibre Channel/266	11H2519
GXT170M	11H3618
HIPPI	65G1774
Network Terminal Accelerator	40H3320
S/370 block multiplexer channel adapter	65G1829
S/370 parallel channel	32G1451
S/370 serial channel-ESCON	43G0238
Speech Accelerator 1 adapter	40G6292
Ultimedia Audio Feature Adapter	11H5718
Ultimedia Video I/O (runs off diskette only)	40H2686
Ultimedia Video I/O (can be loaded and run off of the hardfile)	40H2686
1 port MP (PS/2) adapter	43G0657
128 port cluster controller	51G8138

Appendix C. System Memory Reference

System Unit Memory Combinations

Note: The CPU ID column of the following table reflects digits 7 and 8 of the Processor Component ID; refer to VPD in diagnostics.

Machine Type	Model	CPU ID	Sys. Memory Configuration Type/Size (Min./Max.)	Base Memory Card FRU Number	Memory Module Size (Bytes)	Memory Module FRU Number	Card Pairs
7006	41T/41W	42	PS/2 16MB/256MB		2MB 4MB 8MB 16MB 32MB	8184416 51G8553 51G8554 8184379 8184380	
7009	C10	48	PS/2 16MB/256MB		2MB 4MB 8MB 16MB 32MB	8184416 51G8553 51G8554 8184379 8184380	
7008		43	PS/2 16MB/64MB	N/A	4M 8M	92F0105 64F3606	N/A
7011	220	41 or 45	PS/2 16MB/64MB	N/A	4MB 8M	92F0105 or 51G8553 64F3606 or 51G8554	N/A
7011	230	47	PS/2 16MB/64MB	N/A	4MB 8MB	51G8553 51G8554	N/A
7011	250	46	PS/2 16MB/256MB		2MB 4MB 8MB 16MB 32MB	8184416 51G8553 51G8554 8184379 8184380	
7012	320	31	S1 16MB/32MB	59F4433	1MB 2MB	59F4581 59F4582	No
7012	320	31	S1.5 16MB/128MB	81F8926	4MB 8MB	70F9973 70F9976	No
7012	32E/ 32H	35	S1 16MB/32MB	59F4433	1MB 2MB	59F4581 59F4582	No
7012	32E/ 32H	35	S1.5 16MB/128MB	81F8926	4MB 8MB	70F9973 70F9976	No
7012	340	37	S3.1 16MB/128MB	00G2208	1MB 2MB 4MB 8MB	59F4581 59F4582 70F9973 70F9976	No

Machine Type	Model	CPU ID	Sys. Memory Configuration Type/Size (Min./Max.)	Base Memory Card FRU Number	Memory Module Size (Bytes)	Memory Module FRU Number	Card Pairs
7012	340	37	S3.2 16MB/128MB	32G1022	1MB 2MB 4MB 8MB	59F4581 59F4582 70F9973 70F9976	No
7012	340	37	S3.3 16MB/256MB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	No
7012	340	37	S4.5 16MB/512MB	52G4801 88G3680	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
7012	350	38	S3.1 16MB/128MB	00G2208	1MB 2MB 4MB 8MB	59F4581 59F4582 70F9973 70F9976	No
7012	350	38	S3.2 16MB/128MB	32G1022	1MB 2MB 4MB 8MB	59F4581 59F4582 70F9973 70F9976	No
7012	350	38	S3.3 16MB/256MB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	No
7012	350	38	S4.5 16MB/512MB	52G4801 8G3680	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
7012	355	77	S3.3 16MB/128MB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	No
7012	355	77	S4.5 16MB/256MB	52G4801 88G3680	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No

Machine Type	Model	CPU ID	Sys. Memory Configuration Type/Size (Min./Max.)	Base Memory Card FRU Number	Memory Module Size (Bytes)	Memory Module FRU Number	Card Pairs
7012	360/36T	76	S3.3 for the 360 = 16MB/256MB for the 36T = 32MB/128MB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	No
7012	360/36T	76	S4.5 for the 360 = 16MB/512MB for the 36T = 32MB/256MB	52G4801 88G3680	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
7012	365	76	S3.3 16MB/64MB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	No
7012	365	76	S4.5 16MB/128MB	52G4801 88G3680	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
7012	370/37T	75	S3.3 for the 370 = 32MB/256MB for the 37T = 32MB/128MB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	No
7012	370/37T	75	S4.5 for the 370 = 32MB/512MB for the 37T = 32MB/256MB	52G4801 88G3680	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
7012	375	75	S4.5 32MB/128MB	52G4801 88G3680	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
7012	380	58	S4.5 32MB/512MB	52G4801 88G3680	2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No

Machine Type	Model	CPU ID	Sys. Memory Configuration Type/Size (Min./Max.)	Base Memory Card FRU Number	Memory Module Size (Bytes)	Memory Module FRU Number	Card Pairs
7012	390	57	S4.5 32MB/512MB	52G4801 88G3680	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
7012	397	94	S6 64MB/1GB	93H5994	32MB 64MB 128MB 256MB	39H8924 39H8925 43G1796 39H8312	Yes
7012	39F	94	S6 64MB/1GB	93H5994	32MB 64MB 128MB 256MB	39H8924 39H8925 43G1796 39H8312	Yes
7012	39H	59	S4.6 64MB/512MB	52G4801 88G3680	4MB 8MB 16MB 32MB	70F9973 70F9976 43G1796 65G6452	Yes
7012	G30	A6	MRE	35H8694	8MB 16MB 32MB	19H0287 19H0288 19H0289	
7012	G30	A6	NFX	35H8739	8MB 16MB 32MB 64MB	19H0287 19H0288 19H0289 35H8751	
7012	G30	A6	RLX	11H5059	8MB 16MB 32MB	19H0287 19H0288 19H0289	
7012	G30	A6	SF5	93H4357	8MB 16MB 32MB 64MB	19H0287 19H0288 19H0289 35H8751	
7012	G30	A6	RTX	65G7610	16M 32M	43G1796 65G6452	
7012	G40	A7	MRE	35H8694	8MB 16MB 32MB	19H0287 19H0288 19H0289	
7012	G40	A7	NFX	35H8739	8MB 16MB 32MB 64MB	19H0287 19H0288 19H0289 35H8751	
7012	G40	A7	SF5	93H4357	8MB 16MB 32MB 64MB	19H0287 19H0288 19H0289 35H8751	
7013	520	30	S1 8MB/128MB	59F4433	1MB 2MB	59F4581 59F4582	No

Machine Type	Model	CPU ID	Sys. Memory Configuration Type/Size (Min./Max.)	Base Memory Card FRU Number	Memory Module Size (Bytes)	Memory Module FRU Number	Card Pairs
7013	520	30	S1.5 8MB/512MB	81F8926	4MB 8MB	70F9973 70F9976	No
7013	52H	34	S1 8MB/128MB	59F4433	1MB 2MB	59F4581 59F4582	No
7013	52H	34	S1.5 8MB/512MB	81F8926	4MB 8MB	70F9973 70F9976	No
7013	530	10	S1 16MB/128MB	59F4433	1MB 2MB	59F4581 59F4582	Yes
7013	530	10	S1.5 16MB/512MB	81F8926	4MB 8MB	70F9973 70F9976	Yes
7013	53H	18	S3.1 16MB/512MB	00G2208	1MB 2MB 4MB 8MB	59F4581 59F4582 70F9973 70F9976	Yes
7013	53H	18	S3.2 16MB/512MB	32G1022	1MB 2MB 4MB 8MB	59F4581 59F4582 70F9973 70F9976	Yes
7013	53H	18	S3.3 16MB/1GB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	Yes
7013	53H	18	S4.5 16MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7013	540	14	U1 64MB/256MB	59F4436	4MB	59F4583	Yes
7013	550	1C	S3.1 64MB/512MB	00G2208	1MB 2MB 4MB 8MB	59F4581 59F4582 70F9973 70F9976	Yes
7013	550	1C	S3.2 64MB/512MB	32G1022	1MB 2MB 4MB 8MB	59F4581 59F4582 70F9973 70F9976	Yes
7013	550	1C	S3.3 64MB/1GB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	Yes

Machine Type	Model	CPU ID	Sys. Memory Configuration Type/Size (Min./Max.)	Base Memory Card FRU Number	Memory Module Size (Bytes)	Memory Module FRU Number	Card Pairs
7013	550	1C	S4.5 64MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7013	550	1C	S4.6 64MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7013	55L	77	S3.3 32MB/256MB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	No
7013	55L	77	S4.5 32MB/512MB	52G4801 88G3680	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
7013	55L	77	S4.6 32MB/512MB	52G4801 88G3680	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
7013	560	5C	S3.2 64MB/512MB	32G1022	1MB 2MB 4MB 8MB	59F4581 59F4582 70F9973 70F9976	Yes
7013	560	5C	S3.3 64MB/1GB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	Yes
7013	560	5C	S4.5 64MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes

Machine Type	Model	CPU ID	Sys. Memory Configuration Type/Size (Min./Max.)	Base Memory Card FRU Number	Memory Module Size (Bytes)	Memory Module FRU Number	Card Pairs
7013	560	5C	S4.6 64MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7013	570	67	S3.3 32MB/512MB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	No
7013	570	67	S4.5 32MB/1GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
7013	570	67	S4.6/ 32MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
7013	580	66	S3.3 64MB/1GB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	Yes
7013	580	66	S4.5 64MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7013	580	66	S4.6 64MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7013	58H	71	S4.5 64MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes

Machine Type	Model	CPU ID	Sys. Memory Configuration Type/Size (Min./Max.)	Base Memory Card FRU Number	Memory Module Size (Bytes)	Memory Module FRU Number	Card Pairs
7013	58H	71	S4.6 64MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7013	590	70	S4.5 64MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7013	590	70	S4.6 64MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7013	591	79	S5.0 64MB/2GB	12H1331	4MB 8MB 16MB 32MB	39H8924 39H8925 43G1796 39H8312	Yes
7013	595	89	S5.0 64MB/2GB	12H1331	4MB 8MB 16MB 32MB	39H8924 39H8925 43G1796 39H8312	Yes
7013	59H	72	S4.5 64MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7013	59H	72	S4.6 64MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7013	J30	A0	MRB2	19H0283	8MB	19H0240	
7013	J30	A0	MRB4	19H0284	32MB	19H0271	
7013	J30	A0	NFX	35H8739	8MB 16MB 32MB	19H0287 19H0288 19H0289	
7013	J30	A0	RLX	11H5059	8MB 16MB 32MB	19H0287 19H0288 19H0289	

Machine Type	Model	CPU ID	Sys. Memory Configuration Type/Size (Min./Max.)	Base Memory Card FRU Number	Memory Module Size (Bytes)	Memory Module FRU Number	Card Pairs
7013	J30	A0	SF5	93H4357	8MB 16MB 32MB 64MB	19H0287 19H0288 19H0289 35H8751	
7013	J30	A0	RTX	65G7610	16MB 32MB	43G1796 65G6452	
7013	J40	A1	MRB2	19H0283	8MB	19H0240	
7013	J40	A1	MRB4	19H0284	32MB	19H0271	
7013	J40	A1	NFX	35H8739	8MB 16MB 32MB	19H0287 19H0288 19H0289	
7013	J40	A1	RLX	11H5059	8MB 16MB 32MB	19H0287 19H0288 19H0289	
7013	J40	A1	SF5	93H4357	8MB 16MB 32MB 64MB	19H0287 19H0288 19H0289 35H8751	
7013	J50	A1	SF5	93H4357	8MB 16MB 32MB 64MB	19H0287 19H0288 19H0289 35H8751	
7015	930	02 or 20	S1 16MB/128MB	59F4433	1MB 2MB	59F4581 59F4582	Yes
7015	930	02 or 20	S1.5 16MB/512MB	81F8926	4MB 8MB	70F9973 70F9976	Yes
7015	950	2E	S3.1 32MB/256MB	00G2208	1MB 2MB 4MB 8MB	59F4581 59F4582 70F9973 70F9976	Yes
7015	950	2E	S3.2 32MB/256MB	32G1022	1MB 2MB 4MB 8MB	59F4581 59F4582 70F9973 70F9976	Yes
7015	950	2E	S3.3 32MB/512MB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	Yes
7015	950	2E	S4.5 32MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes

Machine Type	Model	CPU ID	Sys. Memory Configuration Type/Size (Min./Max.)	Base Memory Card FRU Number	Memory Module Size (Bytes)	Memory Module FRU Number	Card Pairs
7015	950	2E	S4.6 32MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7015	970	63	S3.3 128MB/1GB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	Yes
7015	970	63	S4.5 128MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7015	970	63	S4.6 128MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7015	97B	63	S3.3 128MB/1GB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	Yes
7015	97B	63	S4.5 128MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7015	97B	63	S4.6 128MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7015	980	64	S3.3 128MB/1GB	32G1866	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes

Machine Type	Model	CPU ID	Sys. Memory Configuration Type/Size (Min./Max.)	Base Memory Card FRU Number	Memory Module Size (Bytes)	Memory Module FRU Number	Card Pairs
7015	980	64	S4.5 128MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7015	980	64	S4.6 128MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7015	98B	64	S3.3 128MB/1GB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	Yes
7015	98B	64	S4.5 128MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7015	98B	64	S4.6 128MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7015	990	80	S4.5 128MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7015	990	80	S4.6 128MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7015	R10	67	S3.3 128MB/512MB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	No

Machine Type	Model	CPU ID	Sys. Memory Configuration Type/Size (Min./Max.)	Base Memory Card FRU Number	Memory Module Size (Bytes)	Memory Module FRU Number	Card Pairs
7015	R10	67	S4.5 128MB/1GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
7015	R10	67	S4.6 128MB/1GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
7015	R20	72	S4.5 128MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7015	R20	72	S4.6 128MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7015	R21	79	S5.0 64MB/2GB	12H1331	4MB 8MB 16MB 32MB	39H8924 39H8925 43G1796 39H8312	Yes
7015	R24	82	S4.5 128MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7015	R24	82	S4.6 128MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
7015	R30	A3	MRB2	19H0283	8MB	19H0240	
7015	R30	A3	MRB4	19H0284	32MB	19H0271	
7015	R30	A3	NFX	35H8739	8MB 16MB 32MB	19H0287 19H0288 19H0289	
7015	R30	A3	RLX	11H5059	8MB 16MB 32MB	19H0287 19H0288 19H0289	

Machine Type	Model	CPU ID	Sys. Memory Configuration Type/Size (Min./Max.)	Base Memory Card FRU Number	Memory Module Size (Bytes)	Memory Module FRU Number	Card Pairs
7015	R30	A3	SF5	93H4357	8MB 16MB 32MB 64MB	19H0287 19H0288 19H0289 35H8751	
7015	R30	A3	RTX	65G7610	16MB 32MB	43G1796 65G6452	
7015	R40	A4	MRB2	19H0283	8MB	19H0240	
7015	R40	A4	NFX	35H8739	8MB 16MB 32MB	19H0287 19H0288 19H0289	
7015	R40	A4	RLX	11H5059	8MB 16MB 32MB	19H0287 19H0288 19H0289	
7015	R40	A4	SF5	93H4357	8MB 16MB 32MB 64MB	19H0287 19H0288 19H0289 35H8751	
7015	R50	A4	SF5	93H4357	8MB 16MB 32MB 64MB	19H0287 19H0288 19H0289 35H8751	
7016	730	10	S1 16MB/128MB	59F4433	1MB 2MB	59F4581 59F4582	Yes
7016	730	10	S1.5 16MB/512MB	81F8926	4MB 8MB	70F9973 70F9976	Yes
7018	740 and 741	30	S1 16MB/128MB	59F4433	1MB 2MB	59F4581 59F4582	No
7018	770 and 771	67	S3.3 128MB/1GB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	No
7018	770 771	67	S4.5 128MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
7018	770 771	67	S4.6 128MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes

Machine Type	Model	CPU ID	Sys. Memory Configuration Type/Size (Min./Max.)	Base Memory Card FRU Number	Memory Module Size (Bytes)	Memory Module FRU Number	Card Pairs
7030	3AT	58	S4.5 32MB/512MB	52G4801 88G3680	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
7030	3BT	57	S4.5 32MB/512MB	52G4801 88G3680	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
7030	3CT	59	S4.6 64MB/512MB	52G4801 88G3680	4MB 8MB 16MB 32MB	70F9973 70F9976 43G1796 65G6452	Yes
9076	62MHz Thin Node	75	S3.3 32MB/256MB	32G1866	1MB 2MB 4MB 8MB 16MB	59F4581 59F4582 70F9973 70F9976 43G1796	No
9076	62MHz Thin Node	75	S4.5 32MB/512MB	52G4801 88G3680	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
9076	66MHz Thin Node	57	S4.5 32MB/512MB	52G4801 88G3680	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	No
9076	66MHz Thin Node 2	59	S4.6 64MB/512MB	52G4801 88G3680	4MB 8MB 16MB 32MB	70F9973 70F9976 43G1796 65G6452	Yes
9076	120MHz Thin Node	81	S5.0 64MB/2GB	12H1331	4MB 8MB 16MB 32MB	39H8924 39H8925 43G1796 39H8312	Yes
9076	160MHz Thin Node	94	S6 64MB/1GB	93H5994	32MB 64MB 128MB 256MB	39H8924 39H8925 43G1796 39H8312	Yes

Machine Type	Model	CPU ID	Sys. Memory Configuration Type/Size (Min./Max.)	Base Memory Card FRU Number	Memory Module Size (Bytes)	Memory Module FRU Number	Card Pairs
9076	66MHz Wide Node	70	S4.5 64MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
9076	66MHz Wide Node	70	S4.6 64MB/2GB	52G4801	1MB 2MB 4MB 8MB 16MB 32MB	59F4581 59F4582 70F9973 70F9976 43G1796 65G6452	Yes
9076	77MHz/ 135MHz Wide Node	79	S5.0 64MB/2GB	12H1331	4MB 8MB 16MB 32MB	39H8924 39H8925 43G1796 39H8312	Yes
9076	604 High Node	A4	RLX	11H5059	8MB 16MB 32MB	19H0287 19H0288 19H0289	
9076	604e High Node	A4	SF5	93H4357	64MB	07L6696	

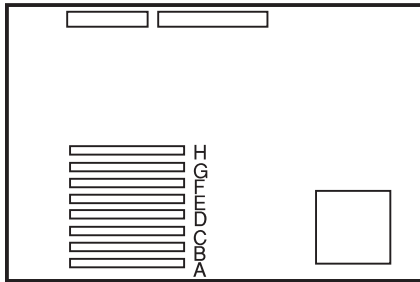
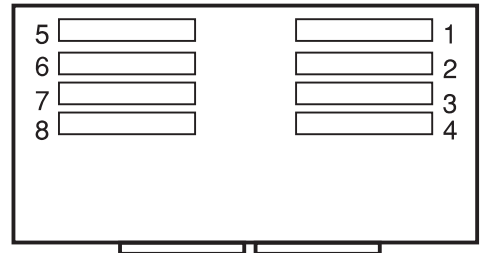
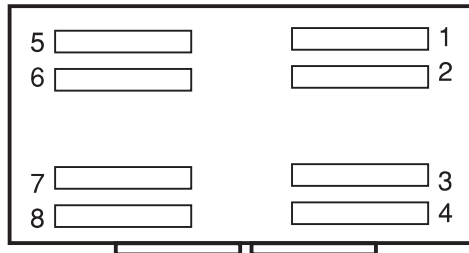
Memory card and SIMM cross reference

Use the following table to identify a base memory card or a memory SIMM.

Number Marked on SIMM	Number Marked on Card	Description	FRU Number
23F7365 23F7366 23F8549	00G2205	S3.1 base memory card 4M-byte U1 memory SIMM 4M-byte U1 memory SIMM 1M-byte S1/3.1/3.2/3.3/4.5 memory SIMM	00G2208 59F4583 59F4583 59F4581
32G8212	32G0101 32G1846 41F0521	S3.2 base memory card S3.3 base memory card 16M-byte S3.3/4.5 memory SIMM S1 base memory card	32G1022 32G1866 43G1796 59F4433
	52F3091 53F3089 53F3091 53F3099	S1 base memory card S1 base memory card S1 base memory card S1.5 base memory card	59F4433 59F4433 59F4433 81F8926
68X6271	59F3116 59F4431 65G1797	U1 base memory card S1 base memory card S4.5 base memory card 2M-byte S1/3.1/3.2/3.3/4.5 memory SIMM S4.6 base memory card	59F4436 59F4433 52G4801 59F4582 52G4801
68X6356 68X6357	70F9970 70F9974	4M-byte S1.5/3.1/3.2/3.3/4.5 memory SIMM 8M-byte S1.5/3.1/3.2/3.3/4.5 memory SIMM S1.5 base memory card S1.5 base memory card	70F9973 70F9976 81F8926 81F8926
	71F0062 71F0064 71F0853 71F0855	S1.5 base memory card S1.5 base memory card U1 base memory card U1 base memory card	81F8926 81F8926 59F4436 59F4436
	81F8924 81F8925 81F8927	S1.5 base memory card S1.5 base memory card S1.5 base memory card	81F8926 81F8926 81F8926

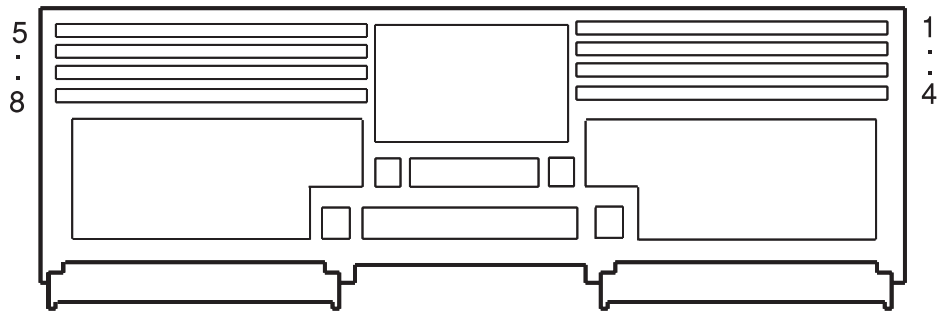
SIMM Numbering

Memory board SIMM positions vary and are numbered as follows:

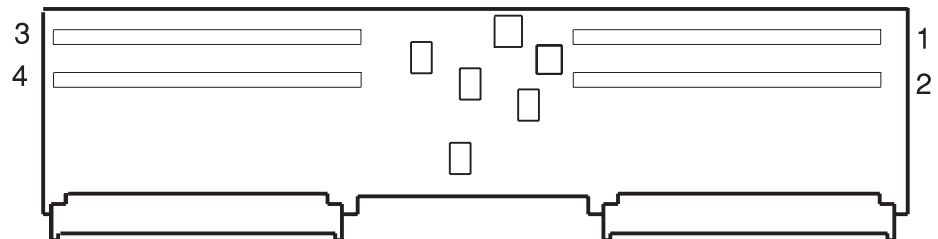


7006 System (Only)

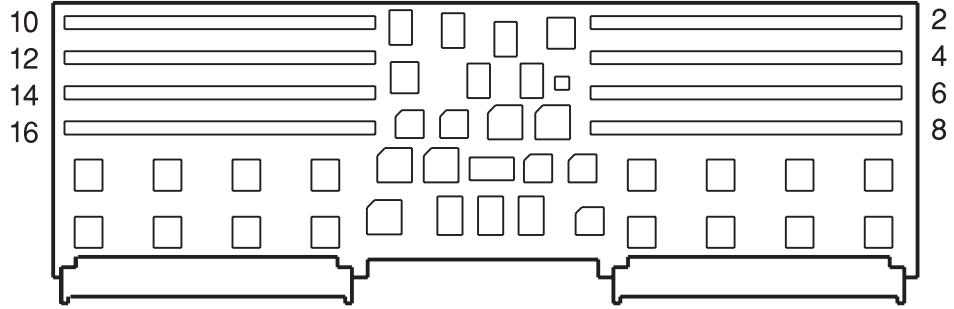
Base Memory Card (7013 J Series)



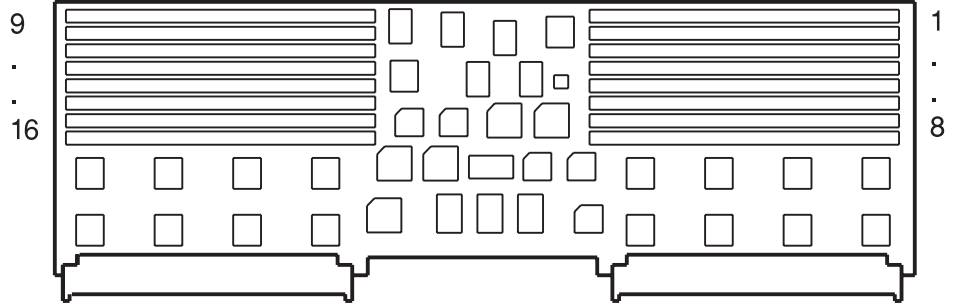
MRE Memory Card (7012 G Series)



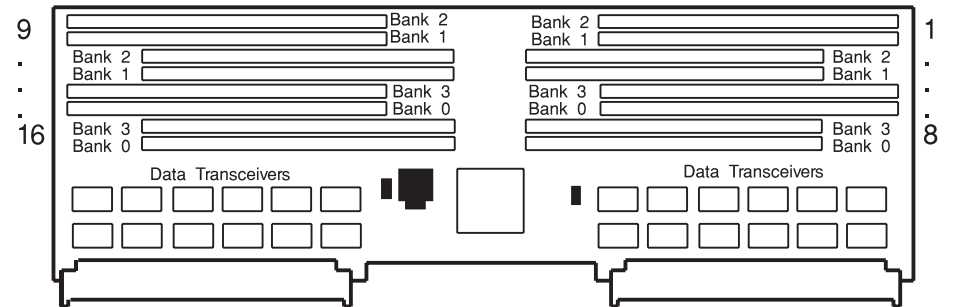
RLX Memory Card (Two Bank)



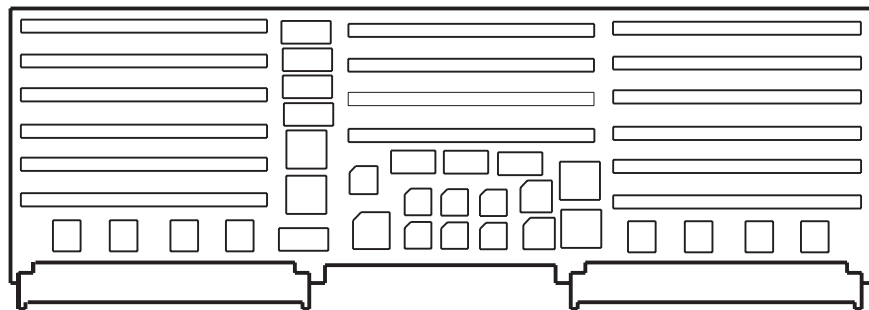
NFX Memory Card (Four Bank)



SF5 Memory Card (Four Bank)



RTX Memory Card



Appendix D. General Attributes Required When Using a TTY Terminal

The following general attributes are the default settings for the diagnostic programs. Be sure your terminal is set to these attributes.

Note: These attributes should be set before the diagnostic programs are loaded.

Refer to the following table.

General Setup Attributes	3151 /11/31 /41 Settings	3151 /51/61 Settings	3161 /3164 Settings	Description
Machine mode	IBM 3151	IBM 3151 PC	IBM 3161 or IBM 3164	The diagnostic programs are set to emulate use of the 3161 ASCII Display Terminal. If your terminal can emulate a 5085, 3161 or 3164 terminal, use the following attribute settings. Otherwise, refer to your operator's manual, compare the following attribute descriptions with those of your terminal, and set your attributes accordingly.
Generated Code Set		ASCII		
Screen	Normal	Normal		Uses the EIA-232 interface protocol.
Row and Column	24 x 80	24 x 80		Uses the EIA-232 interface protocol.
Scroll	Jump	Jump	Jump	When the last character on the bottom line is entered, the screen moves down one line.
Auto LF	Off	Off	Off	For the "On" setting, pressing the Return key moves the cursor to the first character position of the next line. For the "Off" setting, pressing the Return key moves the cursor to the first character position of the current line. The CR and LF characters are generated by the New line setting.
CRT saver	Off	Off	10	The "10" setting causes the display screen to go blank if there is no activity for 10 minutes. When the system unit sends data or a key is pressed, the screen contents are displayed again.

General Setup Attributes	3151 /11/31 /41 Settings	3151 /51/61 Settings	3161 /3164 Settings	Description
Line wrap	On	On	On	The cursor moves to the first character position of the next line in the page after it reaches the last character position of the current line in the page.
Forcing insert	Off	Off		
Tab	Field	Field	Field	The column tab stops are ignored, and the tab operation depends on the field attribute character positions.
Trace			All	Both inbound data (data to the system unit) and outbound data (data from the system unit) to and from the main port can be transferred to the auxiliary port without disturbing communications with the system unit when the Trace key is pressed.

Additional Communication Attributes

The following communication attributes are for the 3151, 3161, and 3164 terminals.

Communication Setup Attributes	3151/11 /31/41) Settings	3151 /51/61, Settings	3161 /3164 Settings	Description
Operating mode	Echo	Echo	Echo	Data entered from the keyboard on the terminal is sent to the system unit for translation and then sent back to the display screen. Sometimes called conversational mode.
Line speed	9600 bps	9600 bps	9600 bps	Uses the 9600 bps (bits per second) line speed to communicate with the system unit.
Word length (bits)	8	8	8	Selects eight bits as a data word length (byte).
Parity	No	No	No	Does not add a parity bit, and is used together with the word length attribute to form the 8-bit data word (byte).
Stop bit	1	1	1	Places a bit after a data word (byte).
Turnaround character	CR	CR	CR	Selects the carriage return (CR) character as the line turnaround character.
Interface	EIA-232	EIA-232	EIA-232	Uses the EIA-232 interface protocol.
Line control	IPRTS	IPRTS	IPRTS	Uses the 'permanent request to send' (IPRTS) signal to communicate with system unit.
Break signal (ms)	500	500	500	The terminal sends a 'break signal' to the system unit within 500 ms after the Break key is pressed.
Send null suppress	On	On		Trailing null characters are not sent to the system unit.
Send null			On	Trailing null characters are sent to the system unit.
Response delay (ms)	100	100	100	The terminal waits for 100ms for the system unit to respond.

Additional Keyboard Attributes

The following keyboard attributes are for the keyboard attached to the 3151, 3161, and 3164 terminals.

Keyboard Setup Attributes	3151/11 /31/41 Settings	3151 /51/61 Settings	3161 /3164 Settings	Description
Enter	Return	Return	Return	The Enter key functions as the Return key.
Return	New line	New line	New line	The cursor moves to the next line when the Return key is pressed.
New line	CR	CR	CR	The Return key generates the carriage return (CR) and the line feed (LF) characters. The line turnaround occurs after the CR and LF characters are generated.
Send	Page	Page	Page	The contents of the current page are sent to the system unit when the Send key is pressed.
Insert character	Space	Space	Space	A blank character is inserted when the Insert key is pressed.

Additional Printer Attributes

The following printer attributes are for a printer attached to the 3151, 3161, and 3164 terminals.

Printer Setup Attributes	3151/11 /31/41 Settings	3151 /51/61 Settings	3161 /3164 Settings	Description
Line speed	9600	9600	9600	Uses 19200 or 9600 bps (bits per second) line speed to communicate with the system unit.
Word length (bits)	8	8	8	Selects eight bits as a data word length (byte).
Parity	Even	Even	No	
Stop bit	1	1	1	Places a bit after a data word (byte).
Characters	ALL	ALL		
Line end			CR-LF	
Print			View-port	
Print EOL			Off	
Print null			Off	

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