

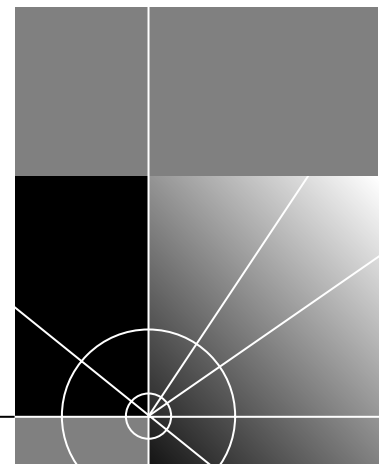


# Installing the NETBuilder II<sup>®</sup> HSS 4-Port WAN Module

A member of the NETBuilder II family

<http://www.3com.com/>

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**Santa Clara, California**  
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## 3COM CORPORATION LIMITED WARRANTY



# ABOUT THIS GUIDE

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## Introduction

This guide describes how to install, cable, and troubleshoot the high speed serial (HSS) 4-port WAN module for the NETBuilder II® system. The information in this guide applies to all NETBuilder II chassis.

For more information about NETBuilder II base system installation, See *Installing the NETBuilder II Base System*.

This guide is intended for the system administrator, network equipment installer, or network manager who is responsible for installing and managing the network hardware. It assumes a working knowledge of network operations, but it does not assume prior knowledge of 3Com® internetworking equipment.



*If the information in the release notes shipped with your product differs from the information in this guide, follow the release notes.*

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## Conventions

The following table shows the icon conventions used throughout this guide.

**Table 1** Icons

Icon	Notice Type	Description
	Information note	Important features or instructions
	Caution	Information to alert you to potential damage to a program, system, or device
	Warning	Information to alert you to potential personal injury



# 1

## INSTALLATION

This chapter describes how to install the HSS 4-Port WAN module in a NETBuilder II® system and includes information on the following:

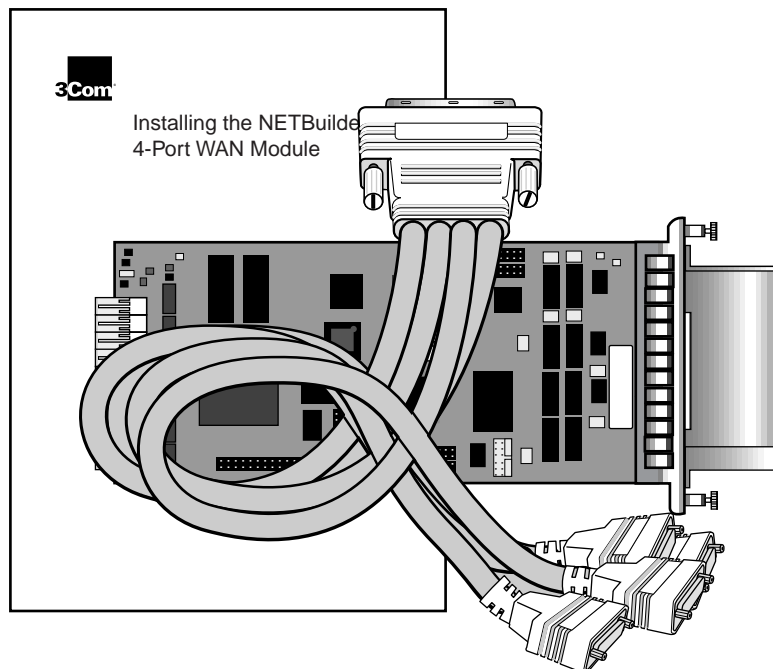
- Preinstallation procedure
- Installation in a NETBuilder II 4- or 8-Slot chassis
- Installation in a NETBuilder II 8-Slot Extended chassis
- Cabling the module

For information about the HSS 4-Port module features, see Chapter 2.

### Before Installing the Module

Before you install the module in a NETBuilder II system, follow these steps:

- 1 Make sure you have received all the package contents.



The package should contain the following items:

- HSS 4-Port WAN module
- 4-port hydra cable
- This guide

If an item is missing, contact your network supplier to obtain a replacement.

**2** Observe appropriate electrostatic discharge (ESD) precautions.

ESD can damage circuit board components. Failures resulting from ESD may not be covered under your warranty. To prevent this, follow these handling procedures:

- Keep the module in the antistatic shielded bag until you are ready to install.
- Do not touch pins, leads, or solder connections on the module.
- Handle the module by the edges only.
- Store or ship the module in static-protective packaging.

Observe proper grounding techniques when handling the module: use a foot strap and grounded mat, or wear a grounded static discharge wrist strap.

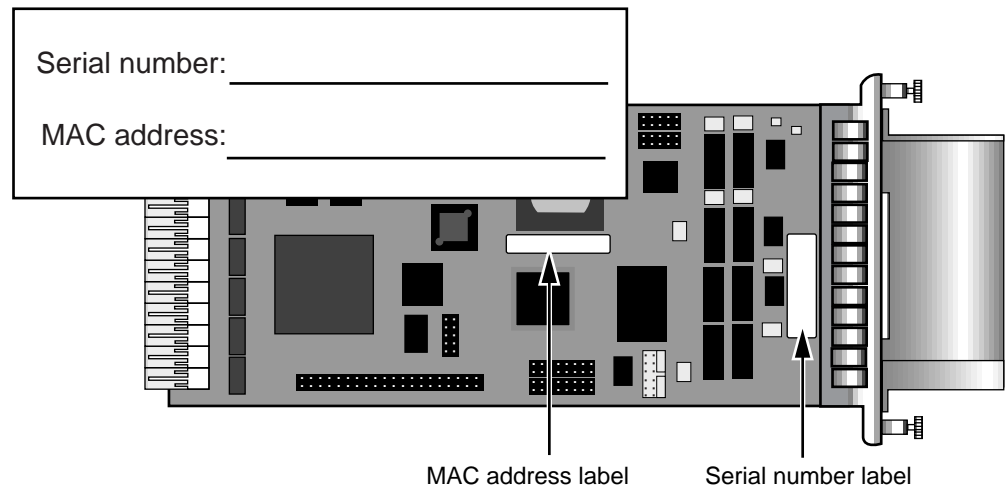
**3** Inspect the module for shipping damage.

If you find any damage, contact the shipping company to file a report. If the module must be returned to your network supplier, ship it in its original shipping carton. If the original carton was damaged in shipment, repack the module in a carton that provides equivalent protection.

**4** Write down the serial number and the MAC address on the following line. You will need this information if you have to contact your network supplier.

*Serial number example: S/N:4HPE000105*

*MAC address example: 080002 1BFEC4*



**Figure 1-1** Serial number and MAC address location

The MAC address is also encoded in the EEPROM. Use the procedure in *Installing the NETBuilder II Base System* to display the MAC address encoded in the EEPROM.

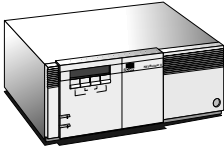
## Software/Hardware Compatibility

The HSS 4-Port WAN module requires version 10.3 or later of the NETBuilder Family Bridge/Router software.

The NETBuilder II chassis supports up to seven HSS 4-port WAN modules.



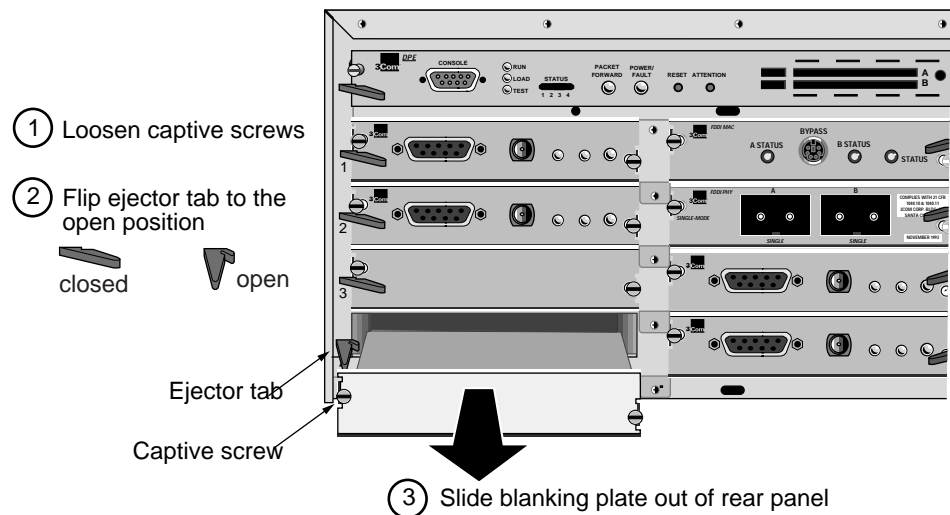
## Installing in the 4- or 8-Slot Chassis



Use this procedure to install the module in the NETBuilder II 4- or 8-Slot chassis.

- You will need a small flat-blade screwdriver.
- You can safely install a module without turning off or rebooting the NETBuilder II system.
- If there is a cable strain relief bracket installed on the rear panel of your NETBuilder chassis, you must remove it.

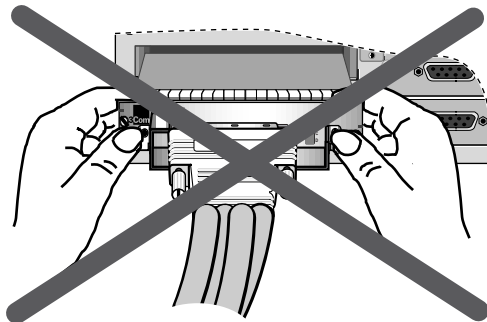
1 Remove the blanking plate from the I/O slot you have selected.



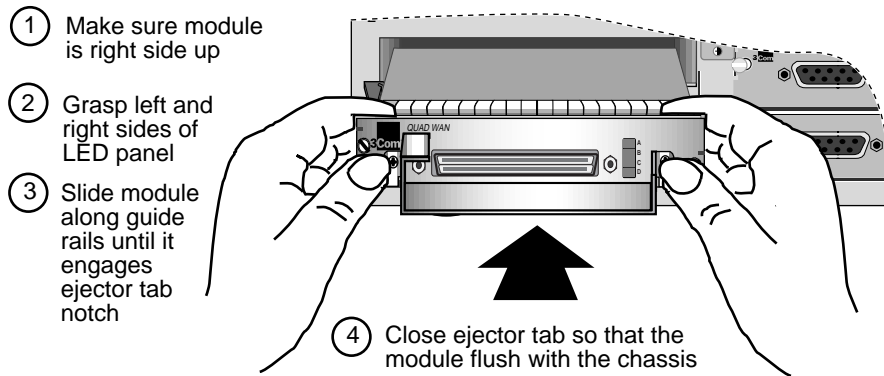
**CAUTION:** Only remove the blanking plate from an I/O slot that will house the module. All unused I/O slots require blanking plates to maintain proper cooling of the unit and meet regulatory compliance. Failure to cover open slots can result in overheating of the NETBuilder II system and may void the warranty.

2 Insert the module into the slot.

**CAUTION:** Never install a module with the cable connected. The weight of the cable may prevent a complete connection, damage the module or the motherboard and void the warranty.



Never install or remove a module with the cable attached

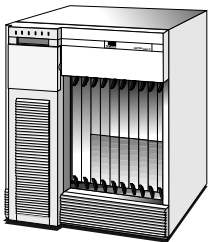


3 Tighten the captive screws with a screwdriver. Do not overtighten.

A solid connection of the connector/LED panel to the chassis is required for proper operation. Do **not** use the screws to force the board into place.

See "Cabling the Module" on page 1-6 to finish installation.

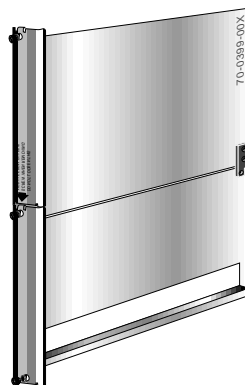
### Installing in the Extended Chassis



Use this procedure to install the module in a NETBuilder II 8-Slot Extended chassis.

- You will need a small flat-blade screwdriver.
- You can safely install a module without turning off or rebooting the NETBuilder II system.

*For some older Extended chassis models, the card carrier may need to be replaced before you install your HSS 4-Port WAN module. You can determine whether you have an older card carrier by checking the part number on the card carriers in your chassis. If the part number is 70-0399-000, you will need to replace the card carrier. Contact your network supplier for ordering instructions. The order number for the replacement card carrier is 3C6048, UPC# 662705161525.*



Part number  
 70-0399-000 = old carrier  
 70-0399-001 = new carrier

1 Remove the card carrier from the I/O slot you have selected.

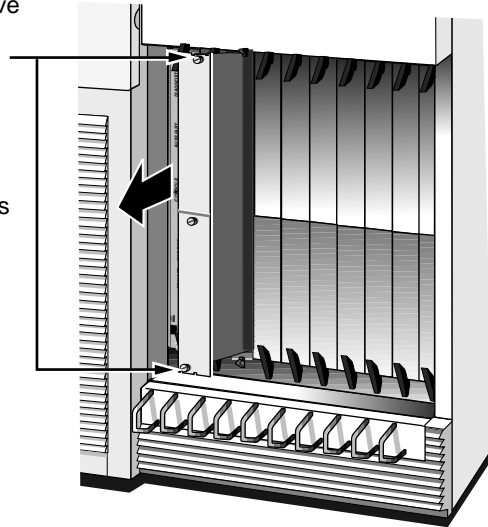
The card carrier acts as a blanking plate when a module is not installed.

You do not need to remove the cable strain relief bracket.



**CAUTION:** Only remove the card carrier from the slot that will house the module. All unused I/O slots must be covered by a card carrier to maintain proper cooling of the unit and regulatory compliance. Failure to cover open slots can result in overheating of the NETBuilder II base system and may void the warranty.

- ① Loosen top and bottom captive screws with a screwdriver. Do **not** loosen center screw.
- ② Open ejector tabs
- ③ Pull card carrier out of chassis



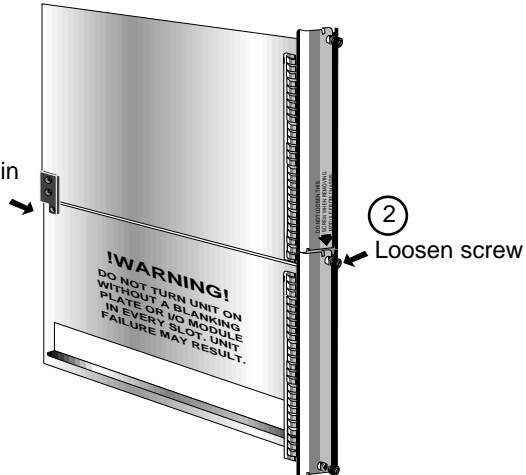
2 Install the module in the card carrier.



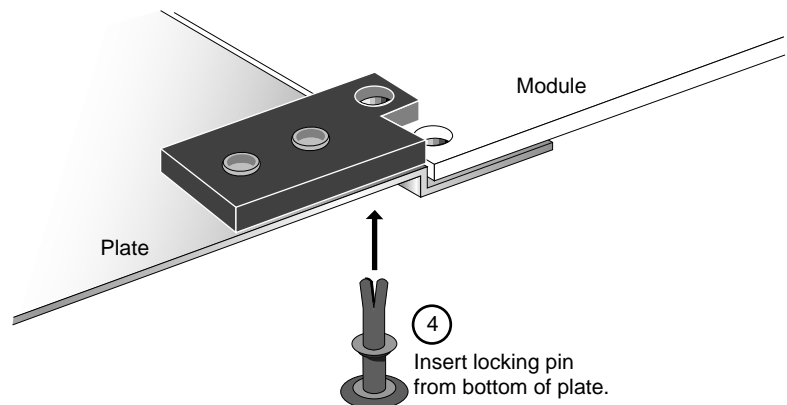
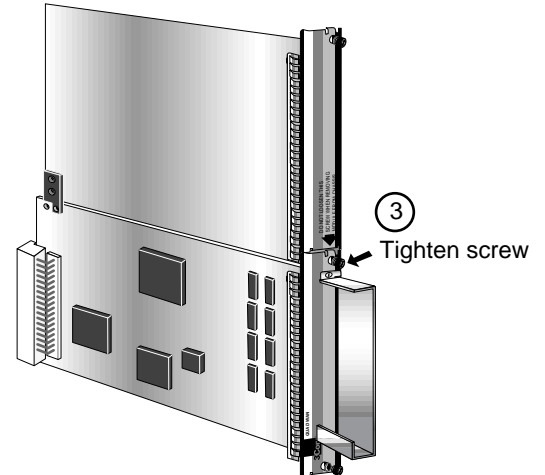
3 **CAUTION:** Never install a module with the cable connected. The weight of the cable may prevent a complete connection, damage the module or the motherboard and void the warranty.

#### Remove blanking plate from card carrier

- ① Remove locking pin

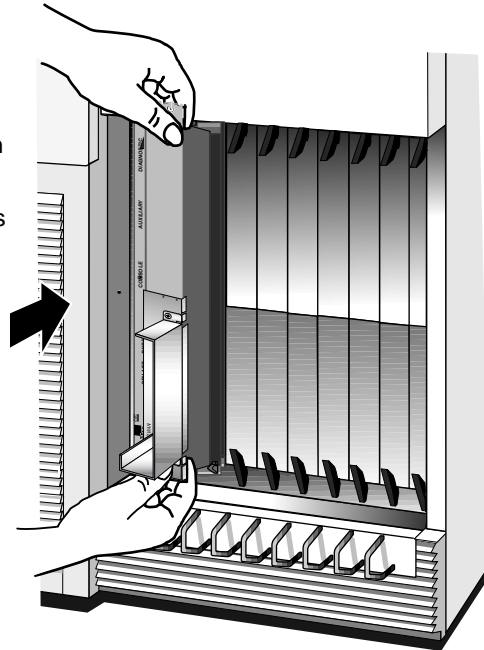


#### Install module in card carrier



- 4 Insert the card carrier into the slot.

- ① Grasp sides of LED panel
- ② Turn the board so the 3Com logo is at the bottom
- ③ Slide board along guide rails until it engages ejector tab notches
- ④ Close the ejector tabs until the module is flush with the chassis



- 5 Tighten the captive screws with a screwdriver. Do not overtighten.

A solid connection of the connector/LED panel to the chassis is required for proper operation. Do not use the screws to force the board into place.

## Cabling the Module

This section contains cabling information for the HSS 4-Port WAN module.

### Installing the 4-Port Hydra Cable

The HSS 4-Port WAN module ships with a 4-port hydra cable. This cable allows the module to support four E1/T1 connections through a single connector. The module is equipped with a cable support tray to help evenly distribute the weight of the cable and connectors.



**CAUTION:** Before connecting the hydra cable, make sure the captive screws on the module are tight and the module is securely seated. If the module is not securely seated the additional weight of the cable and connectors may damage the module or cause it to disconnect from the backplane. Use of a cable strain relief system will help prevent damage.

### Ordering FlexWAN Cables

FlexWAN cables must be ordered separately. The following cable types may be ordered in 4 and 10 foot lengths.

- FlexWAN Cable RS232 DTE (10ft) - 3C89001
- FlexWAN Cable RS-232 DTE (4 ft) - 3C89002
- FlexWAN Cable RS232 DCE (10ft) - 3C89003
- FlexWAN Cable RS-232 DCE (4 ft) - 3C89004
- FlexWAN Cable V.35 DTE (10ft) - 3C89005
- FlexWAN Cable V.35 DTE (4 ft) - 3C89006
- FlexWAN Cable V.35 DCE (10ft) - 3C89007
- FlexWAN Cable V.35 DCE (4 ft) - 3C89008

- FlexWAN Cable X.21 DTE (10ft) - 3C89009
- FlexWAN Cable X.21 DTE (4 ft) - 3C89010
- FlexWAN Cable X.21 DCE (10ft) - 3C89011
- FlexWAN Cable X.21 DCE (4ft) - 3C89012
- FlexWAN Cable RS449 DTE (10ft) - 3C89013
- FlexWAN Cable RS449 DTE (4ft) - 3C89014
- FlexWAN Cable RS449 DCE (10ft) - 3C89015
- FlexWAN Cable RS449 DCE (4ft) - 3C89016
- FlexWAN Cable EIA530 V.35 DTE (10ft) - 3C89017
- FlexWAN Cable EIA530 V.35 DTE (4ft) - 3C89018
- FlexWAN Cable V.35 DTE Extended Shroud (10ft) - 3C89019
- FlexWAN Cable V.35 DTE Extended Shroud (4 ft) - 3C89020
- FlexWAN Cable V.35 DCE Extended Shroud (10ft) - 3C89021
- FlexWAN Cable V.35 DCE Extended Shroud (4 ft) - 3C89022



*The extended shroud versions of the V.35 cables are used with selected IBM equipment, most devices DO NOT require an extended shroud.*



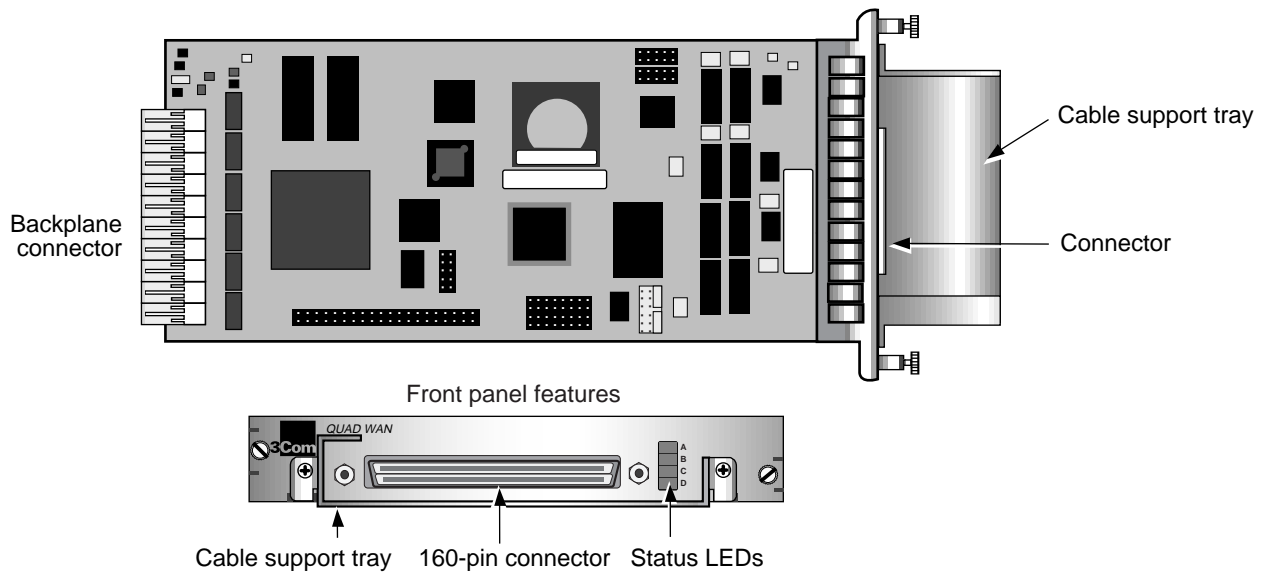
# 2

## OVERVIEW OF THE MODULE

This chapter describes the features and specifications of the HSS 4-Port WAN module.

### Module Features

Figure 2-1 identifies the HSS 4-Port WAN module components. Table 2-1 summarizes the module features.



**Figure 2-1** HSS 4-Port WAN Module components.

**Table 2-1** HSS 4-Port WAN Module Features

Feature	Summary
Hot-swap capability	Allows you to install or remove and reinstall the module without turning off the NETBuilder II system.
Cable support tray	Provides support for the hydra cable.
Status LEDs	Four status information LEDs
160-pin connector	Provides connectivity to four E1/T1 connectors. Additional FlexWAN cables may be ordered in the following formats in 4' and 10' lengths: <ul style="list-style-type: none"> <li>■ RS232 (DTE or DCE)</li> <li>■ V.35 (DTE or DCE)</li> <li>■ V.35 DTE or DCE) extended shroud</li> <li>■ X.21 (DTE or DCE)</li> <li>■ RS449 DTE or DCE</li> <li>■ E1A530 V.35 DTE</li> </ul>

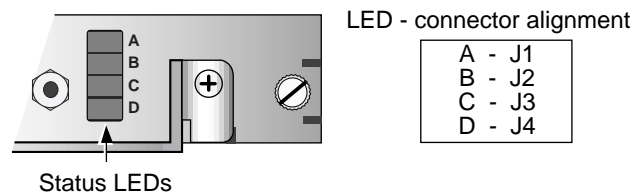
(continued)

**Table 2-1** HSS 4-Port WAN Module Features

Feature	Summary
Accessible information on the EEPROM	Provides HSS 4-Port WAN module product information that can be accessed via the software or the Monitor utility.
On-board RISC CPU	Provides full network rate filtering.
64 KB multipacket memory buffering	Enhances performance by smoothing traffic bursts.

## Specifications

This section describes the module LEDs and the board specifications.

**Figure 2-2** Status LEDs

### LEDs

The HSS 4-Port WAN module has three bi-colored LEDs for displaying information. Table 2-2 describes each of the LEDs.

**Table 2-2** HSS 4-Port WAN Module LED Display States

LED	State	Meaning
STATUS	Off	Not functioning; it may be disabled or there is no power to the system, or the cable may not be connected properly.
	Amber	Module failure or in monitor mode.
	Green	Functioning normally.

### Connectors

Table 2-3 describes the HSS 4-Port WAN module connectors.

**Table 2-3** HSS 4-Port WAN Module Connectors

Location	Connector	Pins	Purpose
Backplane connector	J1 and J3	48-pin	Connects module to the core bus.
Front panel:	FlexWAN J5	160-pin	Connects module to FlexWAN hydra cable.

### Physical Specifications

Table 2-4 and Table 2-5 list the physical dimensions and the maximum current consumption for the HSS 4-Port WAN module.

**Table 2-4** Physical Dimensions

Attribute	Description
Length	8.8 in (22.3 cm)
Width	3.9 in (9.9 cm)
Height	0.6 in (1.5 cm)
Weight	8.47 oz (0.24 kg)

**Table 2-5** Maximum Current Consumption

+5 Volts	-5 Volts	+12 Volts	-12 Volts
4.0 amps	0.0 amp	1.5 amps	0.0 amp



# 3

## TROUBLESHOOTING AND REPLACING THE MODULE

This chapter describes how to troubleshoot the HSS 4-Port WAN module.

### Troubleshooting

Table 3-1 describes common malfunctions that can occur with the module. If you are unable to resolve a problem, you will need to contact your network supplier. See Appendix A, *Technical Support*, for information about who to contact in your area.

**Table 3-1** Troubleshooting the Module

Symptom	Cause and Action
The following message is displayed at startup: <b>Module in slot &lt;x&gt; failed self test</b>	<i>Self-test failure</i> <ul style="list-style-type: none"><li>Check to see if the module is inserted completely into the NETBuilder II chassis and the securing screws are tightened.</li><li>Make sure there are no bent pins on the NETBuilder II backplane, module, or connector.</li></ul> If you still have a self-test failure, contact your network supplier.
The STATUS LED is <b>off</b> when there is power to the system and other installed modules are operating.	<i>Disabled module</i> <p>The module may not be properly connected to the NETBuilder II backplane. Remove and reinsert the module.</p> If it is still not working, replace the module.
The STATUS LED is <b>amber</b> .	<i>Error Condition</i> <ul style="list-style-type: none"><li>Check that all cable connections are intact.</li><li>Check that the NETBuilder II base system is operating correctly.</li><li>Check that the network you are connected to is operating correctly.</li><li>Check that the connected serial device is operating correctly.</li><li>Check the Transmit Echo Clock setting. When the HSS 4-Port WAN module is operating as a DTE during high data transmission rates, 3Com recommends that customers configure their DCE equipment to use Transmit Echo Clock if this option is available.</li></ul> If none of these actions solve the problem, replace the module and/or contact your network supplier for assistance.

### Replacing the Module

If any module component fails, you will need to replace the module. The module can be hot-swapped, which means that you can safely remove and install a new one without turning off or rebooting the NETBuilder II system.

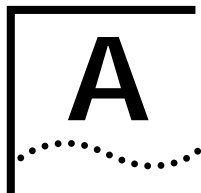
Follow these steps to remove and replace the module:

- 1 Disconnect all network cabling from the module.
- 2 Unscrew the two captive screws (use a screwdriver if necessary) that anchor the module in the slot until they disengage from the chassis. Do not remove the screws from the I/O panel.
- 3 Push the ejector tabs to the open position to disengage the module and partially eject it from the slot.

- 4 Use both hands to grasp the board and gently pull it from the slot.
- 5 Install the new module using the procedures outlined in Chapter 1, *Installation*.



**CAUTION:** *Never install the module with the cable connected. The weight of the cable may prevent a complete connection, damage the module or the motherboard and void the warranty.*



# TECHNICAL SUPPORT

3Com provides easy access to technical support information through a variety of services. This appendix describes these services.

Information contained in this appendix is correct at time of publication. For the very latest, we recommend that you access 3Com Corporation's World Wide Web site.

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## Online Technical Services

3Com offers worldwide product support 24 hours a day, 7 days a week, through the following online systems:

- World Wide Web site
- 3Com Bulletin Board Service (3ComBBS)
- 3ComFacts<sup>SM</sup> automated fax service
- 3ComForum on CompuServe online service

## World Wide Web Site

Access the latest networking information on 3Com Corporation's World Wide Web site by entering our URL into your Internet browser:

**<http://www.3com.com/>**

This service features the latest information about 3Com solutions and technologies, customer service and support, news about the company, *Net Age*<sup>®</sup> Magazine, technical documentation, and more.

## 3Com Bulletin Board Service

3ComBBS contains patches, software, and drivers for all 3Com products, as well as technical articles. This service is available through analog modem or digital modem (ISDN) 24 hours a day, 7 days a week.

### Access by Analog Modem

To reach the service by modem, set your modem to 8 data bits, no parity, and 1 stop bit. Call the telephone number nearest you:

Country	Data Rate	Telephone Number
Australia	up to 14400 bps	61 2 9955 2073
Brazil	up to 14400 bps	55 11 5181 9666
France	up to 14400 bps	33 1 6986 6954
Germany	up to 28800 bps	4989 62732 188
Hong Kong	up to 14400 bps	852 2537 5601
Italy	up to 14400 bps	39 2 27300680
Japan	up to 14400 bps	81 3 3345 7266
Mexico	up to 28800 bps	52 5 520 7835
P.R. of China	up to 14400 bps	86 10 684 92351
Taiwan, R.O.C.	up to 14400 bps	886 2 377 5840
U.K.	up to 28800 bps	44 1442 438278
U.S.A.	up to 28800 bps	1 408 980 8204

### Access by Digital Modem

ISDN users can dial in to 3ComBBS using a digital modem for fast access up to 56 Kbps. To access 3ComBBS using ISDN, use the following number:

**1 408 654 2703**

### 3ComFacts Automated Fax Service

3Com Corporation's interactive fax service, 3ComFacts, provides data sheets, technical articles, diagrams, and troubleshooting instructions on 3Com products 24 hours a day, 7 days a week.

Call 3ComFacts using your Touch-Tone telephone using one of these international access numbers:

Country	Telephone Number
U.K.	44 1442 438279
U.S.A.	1 408 727 7021

Local access numbers are available within the following countries:

Country	Telephone Number	Country	Telephone Number
Australia	1800 123 853	Netherlands	0800 0228049
Belgium	0800 71279	Norway	800 11062
Denmark	800 17319	Portugal	0505 442 607
Finland	98 001 4444	Russia (Moscow only)	956 0815
France	0800 908158	Spain	900 964 445
Germany	0130 81 80 63	Sweden	020 792954
Italy	1678 99085	U.K.	0800 626403

### 3ComForum on CompuServe Online Service

3ComForum contains patches, software, drivers, and technical articles about all 3Com products, as well as a messaging section for peer support. To use 3ComForum, you need a CompuServe account.

To use 3ComForum:

- 1 Log on to your CompuServe account.
- 2 Type **go threecom**
- 3 Press [Return] to see the 3ComForum main menu.

### Support from Your Network Supplier

If additional assistance is required, contact your network supplier. Many suppliers are authorized 3Com service partners who are qualified to provide a variety of services, including network planning, installation, hardware maintenance, application training, and support services.

When you contact your network supplier for assistance, have the following information ready:

- A list of system hardware and software, including revision levels
- Diagnostic error messages
- Details about recent configuration changes, if applicable

If you are unable to contact your network supplier, see the following section on how to contact 3Com.

**Support from 3Com**

If you are unable to receive support from your network supplier, technical support contracts are available from 3Com.

Contact your local 3Com sales office to find your authorized service provider using one of these numbers:

Regional Sales Office	Telephone Number
<b>3Com Corporation</b> P.O. Box 58145 5400 Bayfront Plaza Santa Clara, California 95052-8145 U.S.A.	800 NET 3Com
<b>3Com Asia Limited</b>	
Australia	61 2 9937 5000 (Sydney) 61 3 9866 8022 (Melbourne)
Hong Kong	852 2501 1111
India	91 11 644 3974
Indonesia	62 21 572 2088
Japan	81 6 536 3303 (Osaka) 81 3 3345 7251 (Tokyo)
Korea	82 2 3455 6300
Malaysia	60 3 732 7910
New Zealand	64 9 366 9138
Philippines	632 892 4476
P.R. of China	8610 68492568 (Beijing) 86 21 63501581 (Shanghai)
Singapore	65 538 9368
Taiwan, R.O.C.	886 2 377 5850
Thailand	662 231 8151 5

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Spain	34 1 5096900
<b>3Com Latin America</b>	
U.S. Headquarters	408 326 2093
Northern Latin America	305 261 3266 (Miami, Florida)
Argentina	541 312 3266
Brazil	55 11 5181 0869
Chile	562 633 9242
Colombia	57 1 629 4847
Mexico	52 5 520 7841/7847
Peru	51 1 221 5399
Venezuela	58 2 953 8122
<b>3Com Mediterraneo</b>	
Italy	39 2 253011 (Milan) 39 6 5279941 (Rome)

Regional Sales Office	Telephone Number
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<b>3Com Benelux B.V.</b>	
Belgium	32 2 725 0202
Netherlands	31 0346 586211
<b>3Com Canada</b>	
Calgary	403 265 3266
Edmonton	403 423 3266
Montreal	514 683 3266
Ottawa	613 566 7055
Toronto	416 498 3266
Vancouver	604 434 3266
<b>3Com France</b>	33 1 69 86 68 00
<b>3Com GmbH</b>	
Czech Republic/Slovak Republic	420 2 21845 800
Germany	49 30 34 98790 (Berlin)
(Central European HQ)	49 89 627320 (Munich)
Hungary	36 1 250 83 41
Poland	48 22 6451351
(continued)	
<b>3Com Latin America</b>	
U.S. Headquarters	408 326 2093
Northern Latin America	305 261 3266 (Miami, Florida)
Argentina	541 312 3266

Regional Sales Office	Telephone Number
<b>3Com Middle East</b>	971 4 349049
<b>3Com Nordic AB</b>	
Denmark	45 39 27 85 00
Finland	358 0 435 420 67
Norway	47 22 58 47 00
Sweden	46 8 632 56 00
<b>3Com Russia</b>	007 095 258 09 40
<b>3Com Southern Africa</b>	27 11 807 4397
<b>3Com Switzerland</b>	41 31 996 14 14
<b>3Com Technologies</b>	
Ireland	353 1 820 7077
<b>3Com U.K. Ltd.</b>	
	44 131 240 2900 (Edinburgh)
	44 161 873 7717 (Manchester)
	44 1628 897000 (Marlow)

**Returning Products for Repair**

Before you send a product directly to 3Com for repair, you must first obtain a Return Materials Authorization (RMA) number. Products sent to 3Com without RMA numbers will be returned to the sender unopened, at the sender's expense.

To obtain an RMA number, call or fax:

Country	Telephone Number	Fax Number
U.S.A. and Canada	1 800 876 3266, option 2	408 764 7120
Latin America	1 408 326 2927	408 764 7120
Europe, South Africa, and Middle East	44 1442 435860	44 1442 435822
Elsewhere	1 408 326 2926	1 408 764 7120



## 3Com Corporation LIMITED WARRANTY

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### HARDWARE

3Com warrants its hardware products to be free from defects in workmanship and materials, under normal use and service, for the following lengths of time from the date of purchase from 3Com or its Authorized Reseller:

Network interface cards	Lifetime
Other hardware products (unless otherwise specified in the warranty statement above)	1 year
Spare parts and spares kits	90 days

If a product does not operate as warranted above during the applicable warranty period, 3Com shall, at its option and expense, repair the defective product or part, deliver to Customer an equivalent product or part to replace the defective item, or refund to Customer the purchase price paid for the defective product. All products that are replaced will become the property of 3Com. Replacement products may be new or reconditioned. Any replaced or repaired product or part has a ninety (90) day warranty or the remainder of the initial warranty period, whichever is longer.

3Com shall not be responsible for any software, firmware, information, or memory data of Customer contained in, stored on, or integrated with any products returned to 3Com for repair, whether under warranty or not.

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### SOFTWARE

3Com warrants that the software programs licensed from it will perform in substantial conformance to the program specifications therefor for a period of ninety (90) days from the date of purchase from 3Com or its Authorized Reseller. 3Com warrants the media containing software against failure during the warranty period. No updates are provided. The sole obligation of 3Com with respect to this express warranty shall be (at the discretion of 3Com) to refund the purchase price paid by Customer for any defective software products, or to replace any defective media with software which substantially conforms to applicable 3Com published specifications. Customer assumes responsibility for the selection of the appropriate applications program and associated reference materials. 3Com makes no warranty or representation that its software products will work in combination with any hardware or applications software products provided by third parties, that the operation of the software products will be uninterrupted or error free, or that all defects in the software products will be corrected. For any third-party products listed in the 3Com software product documentation or specifications as being compatible, 3Com will make reasonable efforts to provide compatibility, except where the noncompatibility is caused by a "bug" or defect in the third party's product.

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### STANDARD WARRANTY SERVICE

Standard warranty service for *hardware* products may be obtained by delivering the defective product, accompanied by a copy of the dated proof of purchase, to the 3Com Corporate Service Center or to an Authorized 3Com Service Center during the applicable warranty period. Standard warranty service for *software* products may be obtained by telephoning the 3Com Corporate Service Center or an Authorized 3Com Service Center, within the warranty period. Products returned to the 3Com Corporate Service Center must be preauthorized by 3Com with a Return Material Authorization (RMA) number marked on the outside of the package, and sent prepaid, insured, and packaged appropriately for safe shipment. The repaired or replaced item will be shipped to Customer, at the expense of 3Com, not later than thirty (30) days after receipt of the defective product by 3Com.

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### WARRANTIES EXCLUSIVE

IF A 3COM PRODUCT DOES NOT OPERATE AS WARRANTED ABOVE, CUSTOMER'S SOLE REMEDY FOR BREACH OF THAT WARRANTY SHALL BE REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT THE OPTION OF 3COM. TO THE FULL EXTENT ALLOWED BY LAW, THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, TERMS, OR CONDITIONS, EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES, TERMS, OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND SATISFACTORY QUALITY. 3COM NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, OR USE OF ITS PRODUCTS.

3COM SHALL NOT BE LIABLE UNDER THIS WARRANTY IF ITS TESTING AND EXAMINATION DISCLOSE THAT THE ALLEGED DEFECT IN THE PRODUCT DOES NOT EXIST OR WAS CAUSED BY CUSTOMER'S OR ANY THIRD PERSON'S MISUSE, NEGLIGENCE, IMPROPER INSTALLATION OR TESTING, UNAUTHORIZED ATTEMPTS TO REPAIR OR MODIFY, OR ANY OTHER CAUSE BEYOND THE RANGE OF THE INTENDED USE, OR BY ACCIDENT, FIRE, LIGHTNING, OR OTHER HAZARD.

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### LIMITATION OF LIABILITY

TO THE FULL EXTENT ALLOWED BY LAW, 3COM ALSO EXCLUDES FOR ITSELF AND ITS SUPPLIERS ANY LIABILITY, WHETHER BASED IN CONTRACT OR TORT (INCLUDING NEGLIGENCE), FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY KIND, OR FOR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS, LOSS OF INFORMATION OR DATA, OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE, OR INTERRUPTION OF ITS PRODUCTS, EVEN IF 3COM OR ITS AUTHORIZED RESELLER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND LIMITS ITS LIABILITY TO REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT THE OPTION OF 3COM. THIS DISCLAIMER OF LIABILITY FOR DAMAGES WILL NOT BE AFFECTED IF ANY REMEDY PROVIDED HEREIN SHALL FAIL OF ITS ESSENTIAL PURPOSE.

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### GOVERNING LAW

This Limited Warranty shall be governed by the laws of the State of California, U.S.A. Some countries, states, or provinces do not allow the exclusion or limitation of implied warranties or the limitation of liability of incidental or consequential damages for certain products supplied to consumers or the limitation for personal injury, so the above limitations and exclusions may be limited in their application to you. This warranty gives you specific legal rights which may vary depending on local law.

**3Com Corporation**, 5400 Bayfront Plaza, Santa Clara, CA 95052-8145 (408) 764-5000

