RISC System/6000 Model C10 Compact Server

The RISC System/6000® Model C10 Compact Server provides a high-performance, compact solution for server and multi-user commercial server applications. The Model C10 Compact Server features the 80MHz PowerPC™ 601 processor and is binary-compatible with the RISC System/6000 family of systems.

This new server configuration extends the use of PowerPC technology in the RISC System/6000 family with higher performance, expandability, and configuration flexibility. The Model C10 includes 16MB of memory, a 1GB SCSI-2 disk, a 2.88MB diskette drive, and a CD-ROM-2 Drive. It also has an integrated SCSI-2 controller and a "connectivity option", selectable at initial order, of either an Ethernet LAN Adapter, Token-Ring LAN Adapter, or 8-port Asynchronous Adapter and cable. Standard ports/connectors are provided for external attachment of SCSI or SCSI-2 devices, serial and parallel devices, keyboard, tablet, and mouse.

The Model C10 Compact Server has extensive growth capability. Memory can be expanded from the base 16MB up to 256MB. Two internal disks with up to 4GB, two internal media devices (such as tape drives or CD-ROM-2 drive), and three 32-bit Micro Channel® card slots are available for optional features.

The PowerPC 601™ processor and its support electronics are packaged on a pluggable processor card, which allows for rapid replacement. In addition, a pluggable 1MB L2 (Level 2) Cache memory option is available for applications requiring increased performance.

Description	Planned Availability Date	Purchase Price
Model C10 Compact Server	June 3, 1994	$11,500
1MB L2 Cache option	June 24, 1994	3,000

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IN BRIEF . . .

♦ Introduces new compact tower configuration optimized for server and multi-user system configurations
♦ Provides flexibility in drive bays and expansion slots in a compact low-price package
♦ Uses the 80MHz PowerPC 601 processor that provides excellent price/performance for commercial applications
♦ Maintains binary compatibility with RISC System/6000 systems and the latest version of AIX/6000™ 3.2, IBM's open UNIX** operating system
♦ Maintains high reliability and availability through error checking and correction (ECC)
♦ Grows with your requirements — memory can be increased from 16MB to 256MB using PS/2® memory SIMMs
♦ Provides even higher performance with pluggable 1MB L2 Cache option
♦ Provides a wide range of standard connectivity options, selectable at initial order, of either Ethernet LAN Adapter, Token-Ring LAN Adapter, or 8-port Asynchronous Adapter
♦ Offers an open system design: the integrated SCSI-2 controller allows up to four internal and two external devices and has three available industry-standard Micro Channel slots for additional growth capability

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Description

The RISC System/6000 Model C10 Compact Server is a PowerPC 601-based system designed for entry commercial server applications.

Standard features include:

- 80MHz PowerPC 601 processor, packaged on a pluggable card
- 16MB of error checking and correction (ECC) memory, expandable up to 256MB
- Integrated SCSI-2 I/O controller (8-bit) for up to four internal and two external SCSI or SCSI-2 devices
- 1GB SCSI-2 disk drive
- 2.88MB diskette drive
- CD-ROM-2 Drive
- "Connectivity option" card, customer-selectable at initial order (installed in first Micro Channel slot)
  - 8-port Asynchronous Adapter and Multiport Interface cable
  - Token-Ring LAN Adapter and cable
  - Ethernet LAN Adapter
- Standard ports/connectors
  - One serial port standard, expandable to two serial ports with optional serial port converter cable
  - Parallel printer port
  - Keyboard, mouse, and tablet connectors
- Total of five bays
  - One available bay for 5.25-inch media devices
  - One available bay for 3.5-inch disk devices
- Total of four Micro Channel slots for expansion (three available), including communications, graphics and other attachment options (Micro Channel supports peak transfer rates up to 80MB per second.)
- A socket for optional 1MB L2 Cache
- Operator panel with key-operated, three-position switch, reset switch, and LED indicators

The following options can be selected on the initial order:

Memory

- Selects to 32MB, 64MB, or 128MB

Note: Additional memory can also be added in increments of 8MB, 16MB, 32MB, 64MB, and 128MB, for a maximum of 256MB memory.

Disk Drive:

- Selects to 2GB SCSI-2 Disk or 2GB SCSI-2 Fast/Wide Disk

Tape Drive:

- Selects from the CD-ROM-2 drive to 1.2GB ¼-Inch Cartridge Tape Drive, 4GB 4 mm Tape Drive, or 5GB 8 mm Tape Drive

Connectivity:

- Selects from Base Connectivity Options to 16-Port Async Adapter-EIA-232, 128-Port Async Controller, Network Terminal Accelerator-256, or Network Terminal Accelerator-2048

Investment Protection

The RISC System/6000 Model C10 Compact Server with AIX/6000 3.2.5 works with other IBM and non-IBM systems, expanding the usefulness of those systems and maximizing the utility of the RISC System/6000 Model C10 Compact Server. The RISC System/6000 Model C10 Compact Server, with its PowerPC 601 processor, offers outstanding integer processing and floating-point processing for commercial server applications. With its optional feature offerings, it can be configured as a file or communications server, or a multi-user system.

The system was designed to protect your investment. The PowerPC 601 Processor and its support electronics are packaged as a pluggable card so you can quickly upgrade them in the future.

User Productivity

The RISC System/6000 Model C10 Compact Server supports AIXwindows®. Environment/6000 is based on the MIT (Massachusetts Institute of Technology) X window System and includes a graphical user interface based on OSF/Motif.** Through the use of industry standard OSF/Motif, savings may be realized in end-user training and application development. Additionally, savings in hardware may be realized through the use of LAN-attached Xstations, which reduces the cost per seat.

Growth Enablement

The RISC System/6000 Model C10 Compact Server is designed to grow to meet your changing requirements. Memory can be increased to a maximum of 256MB. An optional 1MB L2 Cache feature can be added to provide increased performance. A maximum of four internal and two external SCSI or SCSI-2 devices (8-bit) can be attached. Two internal disk drives (1GB or 2GB) can be installed in the RISC System/6000 Model C10 Compact Server. Additional external devices can be attached, and by using the SCSI-2 Differential High-Performance External I/O Adapter (#2420) and external disk storage, up to 46GB of total disk storage can be configured, or up to 292GB with attached 7135 RAIDiant subsystems.

Three Micro Channel feature card slots are available for additional features such as communications processors, SCSI adapters for additional external storage expansion, and graphics adapters for graphical system management support.

By selecting one of the Network Terminal Accelerator connectivity options, terminals can be network-attached, leveraging existing investment in Ethernet wiring. The increased flexibility allows for horizontal growth, maximizing terminal connectivity. Telnet and RLOGIN terminal sessions have up to three-times better performance than over standard Ethernet (#2980). The 7318 model S20 Serial Communications Network Server with the Network Terminal Accelerator supports more terminals on a single Micro Channel slot than any other offering available today.

System Management

A system installation and management facility is provided as part of the operating system. The System Management Interface Tool (SMIT) facilitates the performance of system management tasks, such as software installation and configuration, device configuration and management, problem determination, and storage management. Support is also provided for the use of an ASCII terminal as the system console and for remote installation of the system on a LAN.

AIX/6000 is designed to meet the NCSC (National Computer Security Center)-trusted computer system evaluation criteria class C2 security support requirements.

Product Positioning

The RISC System/6000. Model C10 Compact Server marks the first use of the PowerPC-601 technology in a compact "mini-tower" server configuration with significant expansion capability: four full Micro Channel expansion slots, two disk bays, plus CD-ROM-2 and/or a choice of tape save/restore devices.

Relative to the RISC System/6000 Model 250 or 25S, the Model C10 Compact Server offers:

- Significantly faster PowerPC-601 processor: 80MHz versus 66MHz
- Optional 1MB L2 Cache for even higher performance
- Double the Micro Channel slots: four versus two
- Ability to handle the larger Micro Channel cards required by some RISC System/6000 features
- Double the disk capacity: two bays versus one
- Supports 5.25-inch media options: two bays versus none.

In terms of expansion capability, the Model C10 has much in common with the IBM RISC System/6000 Models 380 and 390 but at a lower price and performance level. The Model C10 Compact Server's integer processing performance exceeds that of the Model 370, but it does not offer as much floating-point performance.

Taken together, the Model C10 Compact Server's capability makes it ideal for use as a commercial server in small companies, a small LAN server, or a distributed enterprise server in applications such as retail in-store processing, branch banking, or other branch operations environments.

Publications

The following publications are shipped with the product. Additional copies are available for a fee.

Title	Order Number
7009 Compact Server Operator Guide	SA23-2715
7009 Compact Server Hardware Setup Procedure	SA23-2717
Documentation Overview	SC23-2456
System Unit Safety Information	SA23-2652

The following updated publications are available for a fee. To order, contact your IBM representative.

Title	Order Number
7009 Compact Server Service Guide	SA23-2716
IBM RISC System/6000 System Overview and Planning	GC23-2406
POWERstation™ and POWERserver™ Common Diagnostics and Service Guide	SA23-2687
Customer Support Information	SA23-2690
CD-ROM Hypertext Information Base Library for AIX® Version 3.2	SC23-2163
Problem Solving Guide and Reference	SC23-2204
Quick Reference	SC23-2401
Getting Started	GC23-2521

System Library Subscription Service (SLSS) is available by order number only. Customers currently subscribing to SLSS will receive publication updates automatically.

Technical Information

Specified Operating Environment

Physical Specifications:

- Width: 191 mm (7.5 inches)
- Width with Pedestal: 241 mm (9.5 inches)
- Depth: 432 mm (17 inches)
- Height: 394 mm (15.5 inches)
- Weight: 16 — 18kg (35 — 39.5 pounds)
- Thermal Output:
  - 512 BTUs per hour (maximum configuration)
  - 150 joules per second (maximum configuration)
- Noise Rating
  - 5.7 Bel sound power (operating — upper limit, typical configuration)
  - 5.3 Bel sound power (idle — upper limit, typical configuration)
  - 39dBA sound pressure — operating (mean one-meter position)
  - 38dBA sound pressure — idle (mean one-meter position)

EMC Conformance Classification:

- USA: FCC Class A
- Japan: VCCI-1
- Europe: CISPR 22 Class A

Environment: The RISC System/6000 Model C10 Compact Server was developed in compliance with corporate policy letter number 139 (Environmental Affairs).

Environmental Impact Assessment: Compliance with Corporate Standard C-S 3-0527-002 (1991-06) Control of Chemicals in IBM Facilities, Requirements, and Responsibilities.

Product Safety/Country Testing Certification:

- USA: UL
- Canada: CNL (CSA or cUL)
- Germany/Europe: GS Mark (Safety, TUV, EN60, 950)

Operating Environment:

- Temperature: 16° C to 32° C (60° F to 90° F)
- Relative Humidity: 8% to 80%
- Wet Bulb: 23° C (73° F)
- Operating Voltages:
  - 100-127 V AC 50/60Hz
  - 200-240 V AC 50/60Hz
- Power Supply Output in Watts: 272
- Power Source Loading 0.232 kVA (maximum configuration)

Hardware Requirements:

- A RISC System/6000-supported ASCII terminal or a supported display, display adapter, and keyboard.

Software Requirements: AIX Version 3.2.5 for RISC System/6000 and additional program temporary fixes (PTF). These PTFs are included on all 3.2.5 orders shipped after June 3, 1994, (labeled AIX 3.2.5 (3250-01-04)). Refer to the Memo to Users for details on installing these PTFs referenced in APAR number IX42627.

AIX/6000 applications written for POWER-based RISC System/6000s will run on the new RISC System/6000 Model C10 Compact Server without recompilation. (The only exception to this would be applications written using kernel extensions that use certain privileged Assembler

instructions. IBM is not aware of any applications using these instructions.) Additional performance can be achieved by recompiling with the latest versions of the IBM XL compilers to further exploit the PowerPC technology.

Applications compiled using a compiler option to exploit the PowerPC technology may not function properly on systems that do not employ that technology. Customers with any combination of POWER-, POWER2- and PowerPC 601-based systems may continue to run their applications unmodified. New applications and recompilation of existing applications for use in a mixed processor environment should be compiled using the POWER or common mode options available in the new XL compilers or any other compilers that support those options.

Software Requirements of the POWER GXT150M™, POWER GXT1000™, POWER Gt4e™, POWER Gt4xi and POWER Gt4i: AIXwindows Environment/6000 Version 1.2.5 (support for X11R5), or later, is required for installation of these graphics adapters. For customers requiring 3D capability on a 2D graphics adapter, the AIXwindows/3D feature is required. Refer to Hardware Announcement 293-489, dated September 21, 1993, for specific programming requirements.

Storage Limits: Storage configurations can be maximized for various combinations of storage adapters and subsystems (for example, all SCSI, all serial-link, SCSI and serial-link in combination). The following chart shows the maximum disk capacity, for example, configurations. The **Assumptions** section defines each controller/subsystem combination. The **Limit Values** section shows the individual maximum number of each controller or subsystem supported.

Assumptions:

1. SCSI-2 SE or SCSI-2 Fast/Wide SE Controller: ONE/9334-SE

   - 1x2GB + 3x2.41GB = 9.23GB

2. SCSI-2 Differential or SCSI-2 Fast/Wide Differential Controller: Up to two 9334-DIF

   - 9334-Differential(1st): 4x2GB = 8GB

   - 9334-Differential(2nd): 3x2GB = 6GB

   - (Calculate as 7.0GB/9334)

3. SCSI-2 Differential Controller: Up to two 7135

   - RAID7135: 30x2GB > 48GB (Assume protected mode)

4. Serial Controller: Up to four 9333

   - Each 9333: 4x2GB = 8GB

Description	Limit Values
INTEG SCSI-INT MEDIA	3 — SCSI-2 Fast/Wide Differential Controllers
And Disk Drives	3 — SCSI-2 Fast/Wide SE Controllers
Four I/O Slots	3 — SCSI-2 Differential Controllers
One Slot for LAN/WAN/COMM	3 — SCSI-2 SE Controllers
	3 — SCSI-2 SE + SCSI-2 Differential+ SCSI-2 F/W SE + SCSI-2 F/W Differential
	2 — Serial Controllers
	6 — RAID7135 Subsystems

Calculated Storage Limits:

Internal SCSI	External SCSI-SE (9334-SE)	External SCSI-DE (9334-Dif)	Serial (9333)	RAID Array (7135)	Total Disk Storage
4GB	—	—	—	—	4GB
4GB	27.7GB	—	—	—	31.7GB
4GB	—	42GB	—	—	46GB
4GB	—	—	64GB	—	68GB
4GB	—	—	—	288GB	292GB

Planning Information

Cable Orders: No additional cables are required with the base machine. Up to two external SCSI or SCSI-2 devices can be attached to the integrated SCSI-2 controller, with a maximum total external cable length of 2.5 meters.

Memory Configurations: The RISC System/6000 Model C10 Compact Server achieves exceptional performance using memory SIMM devices. This exceptional performance is accomplished by interleaving memory access across two banks of double-word wide memory. This means that memory is addressed in groups of four SIMM devices. Because of this, the RISC System/6000 Model C10 Compact Server requires that memory SIMMs be installed in groups of four. All SIMMs in a group must be the same size.

Supported Devices

Graphics Subsystems

- 7250 POWER GXT1000 Model 001
- 7250 POWER GXT1000 Model 002

External Storage:

- IBM 3490 Model E01 Tape Subsystem
- IBM 3490 Model E11 Tape Subsystem
- IBM 3490 Model C11 Tape Subsystem
- IBM 3490 Model C22 Tape Subsystem
- IBM 3514 Model 212 High Availability External Disk Array[1]
- IBM 3514 Model 213 High Availability External Disk Array[1]
- IBM 7135 Model 010 RAIDiant Disk Array[1]
- IBM 7135 Model 110 RAIDiant Disk Array[1]
- IBM 7202 Model 900 Expansion Rack
- IBM 7203 Model 001 Portable Disk Unit
- IBM 7204 Model 320 320MB External Disk Drive
- IBM 7204 Model 001 1.0GB External Disk Drive
- IBM 7204 Model 215 2.0GB External Disk Drive
- IBM 7204 Model 010 1.0GB External Disk Drive
- IBM 7204 Model 315 2.0GB External Disk Drive
- IBM 7206 Model 001 2.0GB External 4 mm Tape Drive
- IBM 7206 Model 005 4.0GB External 4 mm Tape Drive
- IBM 7207 Model 001 150MB ¼-Inch Tape Drive
- IBM 7207 Model 011 525MB External ¼-Inch Cartridge Tape Drive
- IBM 7207 Model 012 1.2GB External ¼-Inch Cartridge Tape Drive
- IBM 7208 Model 001 2.3GB 8 mm Tape Drive
- IBM 7208 Model 011 5.0GB 8 mm Tape Drive
- IBM 7209 Model 001 650MB R/W Optical Disk Drive
- IBM 7209 Model 002 1.19GB R/W Optical Disk Drive
- IBM 7210 Model 001 External CD-ROM Drive[2]
- IBM 7210 Model 005 External CD-ROM Drive
- IBM 9333 Model 500 High Performance Disk Drive Subsystem[3]
- IBM 9333 Model 501 High Performance Disk Drive Subsystem[3]

- IBM 9333 Model 010 High Performance Disk Drive Subsystem[3]
- IBM 9333 Model 011 High Performance Disk Drive Subsystem[3]
- IBM 9334 Model 500 Deskside Expansion Unit[4]
- IBM 9334 Model 501 Deskside Expansion Unit[4]
- IBM 9334 Model 010 Drawer Expansion Unit[4]
- IBM 9334 Model 011 Drawer Expansion Unit[4]
- IBM 9348 Model 012 Magnetic Tape Unit (½-inch 9 Track Tape Drive)

[1] Disk Arrays are attached using the SCSI-2 Differential High-Performance External I/O Controller (#2420).
[2] New installations should choose the IBM 7210 Model 005 External CD-ROM Drive. For existing installations, only later units of the IBM 7210 Model 001 External CD-ROM Drive can be attached using the integrated SCSI-2 port. Earlier units of the IBM 7210 Model 001 External CD-ROM Drive should be attached using an optional SCSI-2 High-Performance External I/O Controller (#2410). These early units may be identified as having a "Type A" front bezel (as described in the 7210 External CD-ROM Drive Operator Guide) with the Eject button in the upper right corner. The later units ("Type B" front bezel) have the Eject button in the lower right corner.
[3] Requires Feature #6212.
[4] Requires dedicated SCSI I/O Controller.

XStations:

- IBM 7010 Model 120
- IBM 7010 Model 130
- IBM 7010 Model 140
- IBM 7010 Model 150

Communications Servers:

- IBM 7318 Model P10 Serial Communications Network Server
- IBM 7318 Model S20 Serial Communications Network Server

ASCII Terminals: The IBM 3151, 3161, 3162, 3163, and 3164 are supported in 3161 mode. Support for the IBM 3164 includes color attributes.

- IBM 3151 Model 310/410[5]
- IBM 3161[5]
- IBM 3162[5]
- IBM 3163[5]
- IBM 3164[5]
- DEC VT100**
- DEC VT220
- DEC VT320
- DEC VT330
- WYSE 30**
- WYSE 50
- WYSE 60
- WYSE 350

[5] National language support is provided through the use of Cartridge 8859/1.2 inserted in the terminal.

IBM Displays:

- POWERdisplay 16S (#3603)

  The POWERdisplay 16S, featuring a Trinitron CRT, has a fixed image size of 14.8 inches (375 mm) measured diagonally.

- POWERdisplay 16 (#3600)

  The POWERdisplay 16, featuring a Trinitron CRT, has a fixed image size of 14.8 inches (375 mm) measured diagonally.

- POWERdisplay 17 (#3607)

  The POWERdisplay 17, featuring a Trinitron CRT, has a maximum viewable image size of 16.1 inches (409 mm) measured diagonally.

- POWERdisplay 19 (#3606)

  The POWERdisplay 19, featuring a Trinitron CRT, has a maximum viewable image size of 17.3 inches (439 mm) measured diagonally.

- POWERdisplay 20 (#3608)

  The POWERdisplay 20, featuring a Trinitron CRT, has a maximum viewable image size of 19.1 inches (486 mm) measured diagonally.

- IBM 1091-051 Color Display (1,024 x 1,280 72Hz non-interlaced)

  The 1091-051 display, featuring a Trinitron CRT, has a fixed image size of 14.8 inches (375 mm) measured diagonally.

- IBM 5081-016 Color Display (1,024 x 1,280 60Hz only)[6]

  The 5081-016 display, featuring a Trinitron CRT, has a fixed image size of 14.9 inches (377 mm) measured diagonally.

  – Feature #1280 required

- IBM 6091-016 Color Monitor (1,280 x 1,024 77Hz)

  The 6091-016 display, featuring a Trinitron CRT, has a fixed image size of 14.8 inches (375 mm) measured diagonally.

- IBM 6091-019 Color Display (1,280 x 1,024 60Hz non-interlaced and 1,280 x 102,467 Hz non-interlaced)

  The 6091-019 display, featuring a Trinitron CRT, has a fixed image size of 17.3 inches (439 mm) measured diagonally.

- IBM 6091-19i Color Display (1,280 x 1,024 60Hz, 77Hz)

  The 6091-019i display, featuring a Trinitron CRT, has a fixed image size of 17.3 inches (439 mm) measured diagonally.

- IBM 6091-023 Color Display (1,280 x 1,024 60Hz NI only)[6]

  The 6091-023 display, featuring a Trinitron CRT, has a fixed image size of 21.4 inches (544 mm) measured diagonally.

- IBM 6314 Color Display (1,024 x 768 70Hz only)
- IBM 6319 Color Display (1,024 x 768 70Hz only)
- IBM 6317 Color Display (1,280 x 1,024 60Hz and 1,024 x 768 75Hz)
- IBM 6324 Color Display (1,024 x 768 75Hz and 1,280 x 1,024 60Hz)
- IBM 6325 Color Display (1,024 x 768 75Hz and 1,280 x 1,024 60Hz)
- IBM 6327 Color Display (1,024 x 768 75Hz and 1,280 x 1,024 60Hz)
- IBM 9524 Color Display (1,024 x 768 75Hz and 1,280 x 1,024 60Hz)

  The 9524 display features a CRT with a maximum viewable image size of 13.03 inches (331 mm) measured diagonally.

- IBM 9525 Color Display (1,024 x 768 75Hz and 1,280 x 1,024 60Hz)

  The 9525 display, featuring a Flatter Squarer Tube (FST) CRT, has a maximum viewable image size of 13.7 inches (348 mm) measured diagonally.

- IBM 9521 Color Display (1024 x 768 75Hz and 1,280 x 1,024 60Hz)

  The 9521 display, featuring a Diamondtron CRT, has a maximum viewable image size of 13.7 inches (348 mm) measured diagonally.

- IBM 9527 Color Display (1,024 x 768 75Hz and 1,280 x 1,024 60Hz)

  The 9527 display, featuring a Trinitron CRT, has a maximum viewable image size of 19.1 inches (391 mm) measured diagonally.

- IBM Monochrome Display 8508 (1,280 x 1,024 67Hz only)
- IBM Personal System/2® 8517 Color Display (1,024 x 768)

[6] RPQs for separate sync: RPQ 8K1700 for 5081-16 and RPQ 8K1744 for 6091-23.

Dials:

- IBM 6094-010

  – IBM 6094-010 requires 6094 feature number 4060 for attachment to a standard serial port. The 6094 feature number 4061 may also be required.

Lighted Programmable Function Keyboard:

- IBM 6094-020

  – IBM 6094-020 requires 6094 feature number 4060 for attachment to a standard Serial Port. The 6094 feature number 4061 may also be required.

Tablets:

- IBM 6093 Tablet Model 011 (requires 6093 cable feature number 4015)
- IBM 6093 Tablet Model 012 (requires 6093 cable feature number 4015)

Plotters:

- IBM 6180 M1 Color
- IBM 6182 Color
- IBM 6185 Model 1 Color
- IBM 6185 Model 2 Color

Printers:

- IBM 2380-001 Personal Printer II
- IBM 2381-001 Personal Printer II
- IBM 2390-001 Personal Printer II
- IBM 2391-001 Personal Printer II
- IBM 2380 Plus Printer, emulating the 2380 Personal Printer for PPDS (IBM ASCII)[7]
- IBM 2381 Plus Printer, emulating the 2381 Personal Printer for PPDS[7]
- IBM 2390 Plus Printer, emulating the 2390 Personal Printer for PPDS[7]
- IBM 2391 Plus Printer, emulating the 2391 Personal Printer for PPDS[7]
- IBM 3812-002 Page Printer[8]
- IBM 3816-01D and 01S Page Printer[9]
- IBM 3930-03D and 03S Page Printer, emulating the HP LaserJet III Si
- IBM 4019-001 LaserPrinter[10]

- IBM 4019-E01 LaserPrinter E[10]
- IBM 4029-010 LaserPrinter 5E
- IBM 4029-020 LaserPrinter 6
- IBM 4029-022 LaserPrinter[7]
- IBM 4029-030 LaserPrinter 10
- IBM 4029-042 LaserPrinter
- IBM 4029-040 LaserPrinter 10L
- IBM 4037 5E Page Printer, emulating the 4029 LaserPrinter for PCL emulation and for PPDS (IBM ASCII)[7]
- IBM 4039-10R LaserPrinter 10R[11]
- IBM 4039-10D LaserPrinter 10D[11]
- IBM 4039-12L LaserPrinter 12[11]
- IBM 4039-12R LaserPrinter 12R[11]
- IBM 4039-16L LaserPrinter 16L[11]
- IBM 4070 IJ Printer Model 1
- IBM 4072-001 ExecJet® Printer
- IBM 4076 ExecJet II Printer[7,12]
- IBM 4079-001 Color JetPrinter
- IBM 4201-002 Proprinter® II
- IBM 4201-003 Proprinter III
- IBM 4202-002 Proprinter II XL
- IBM 4202-003 Proprinter III XL
- IBM 4207-002 Proprinter X24E
- IBM 4208-002 Proprinter XL24E
- IBM 4212-001 Proprinter 24P
- IBM 4216-031 Personal Page Printer II
- IBM 4224-301, 302, 3C2, and 3E3 Serial Printer
- IBM 4226-302 Printer
- IBM 4232-302 Dot Matrix Printer emulating the IBM 4202
- IBM 4234-009 Line Dot Matrix Printer
- IBM 4234-13 Line Dot Matrix Printer
- IBM 5202-001 Quietwriter® III[13]
- IBM 5204-001 Quickwriter[13]
- IBM 6252 Impactwriter® AP2 (7012: #2936, #2937, or #3100 required)
- IBM 6252 AS2 (7012: #2936, #2937, or #3100 required)
- IBM 6252 AP8 Impactwriter[14]
- IBM 6252 AS8 Impactwriter[14]
- IBM 6262 A12, A14, A22
- IBM 6408 Line Matrix Printer, emulating the IBM 4234

The following non-IBM printers are also supported:

- Hewlett-Packard LaserJet Series II**[15]
- Hewlett-Packard LaserJet Series III**[15]
- Hewlett-Packard LaserJet Series III Si**[15]
- Hewlett-Packard LaserJet 4[15]
- TI Omnilaser 2115**
- DATAPRODUCTS LZR 2665**
- PRINTRONIX P9012**
- DATAPRODUCTS BP 2000**
- QMS** Colorscript 100 Model 20

[7] For assistance with these printers and for the latest AIX virtual printer files (colon files), call Lexmark Customer Support. Virtual printer files (colon files) for the 4037 and 4076 printers are available from Lexmark. Colon files for these printers are distributed via: Lexmark Customer support line: 606-232-3000; Dial-in BBS: 606-232-5238; VM request machine DRIVERS at LEXCJN1 (for IBM customers, IBM representatives, and specialists); Lexmark Internet file server: ftp.lexmark.com; Reader response card for the 4037 and 4076.

[8] Feature number 3155 for the IBM 3812 printer is required for attachment to the RISC System/6000 system.

[9] Feature number 7652 for the IBM 3816 printer is required for attachment to the RISC System/6000 system.

[10] When using the serial ports, the IBM 4019 requires feature number 9143 (System serial interface adapter) for attachment to the RISC System/6000 system.

[11] AIX support software for the LaserPrinter Integrated Network Option is provided with the Network Option cards (#5495, #5496, and #5497 on the IBM 4039 LaserPrinter).

12 Use the virtual printer files available from Lexmark for the PCL emulation mode of the 4076 printer. For PPDS (IBM ASCII), select emulation of the 2390 Personal Printer.

13 The IBM RISC System/6000 system supports Code Page 850. The Code Page 850 cartridge must be installed on the IBM 5202 printer to fully utilize the full characters sets of the system. For details on available cartridges, refer to the IBM 5202 Sales Manual. Other IBM printers have Code Page 850 resident.

14 Impactwriter A models emulate the IBM 4202-3 printer for traditional line printing of simple text and numbers. Graphics, all points addressable, and large characters cannot be printed.

15 AIX support software for the HP JetDirect Ethernet Card.

Printer Peripherals:

- 4033-001 IBM LAN Connection for Printers and Plotters (Token-Ring)
- 4033-002 IBM LAN Connection for Printers and Plotters (Ethernet, Twisted Pair)
- 4033-003 IBM LAN Connection for Printers and Plotters (Ethernet, Thick and Thin)

Modems: Modem support is provided to allow communication through common carrier telephone networks using dial-up or leased lines with asynchronous protocols or the synchronous half-duplexed SDLC protocols. Not all features supported by the listed modems are supported by the AIX Version 3 for RISC System/6000 software.

Modems	Protocols	Standards
IBM 5865 9600bps	SYNC	EIA-232D, CCITT V.24
IBM 7861 up to		
19.2Kbps	ASYNC	
	SYNC	EIA-232D, CCITT V.24

Security, Auditability, and Control

Security and auditability features of the RISC System/6000 Model C10 Compact Server series include:

- Physical security provided by a key lock that helps prevent both cover removal and unauthorized IPL of the operating system when locked
- Security cable accessory
- Internal SCSI jumpers to enable/disable external SCSI connector

This product also uses the security and auditability features of host hardware, software, and application software.

User management is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

Terms and Conditions

Volume Discount: Volume purchasing is available under the Volume Discounts section of the IBM Customer Agreement.

Volume Orders: For information regarding volume orders, contact your IBM representative.

IBM Credit Corporation Financing: Term leases and installment payment plans are available for commercial and state and local government customers.

Customer Fulfillment Option Applies: Yes

Warranty Period: One year

Warranty Service: IBM On-Site Repair (IOR)

Maintenance Service: IOR

IBM Hourly Service Rate Classification: The IBM Hourly Service Rate Classification is two.

IBM Warranty Service, Maintenance Service, or IBM Hourly Service can be obtained by calling 800-IBM-SERV (426-7378). IBM Hourly Service is available at the applicable rate and terms, including element exchange price, if applicable.

Mid-Range System Option: The announced product is an eligible machine for the Mid-Range System Option of the IBM Customer Agreement. A revised exhibit will be available at a later date.

Eligible Type	Discount	
	Three-Year	Five-Year
7009 Model C10	12%	17%

Corporate Service Option: The announced product is an eligible machine for the Corporate Service Option of the IBM Customer Agreement. A revised exhibit will be available at a later date.

	Discount	
Option	Three-Year	Five-Year
Network	15%	20%
System	12%	17%

Extended Maintenance Option: The announced product is an eligible machine under the Extended Maintenance Option of the IBM Customer Agreement.

IBM Software Support Services: The IBM AIX/6000 Support Family offers a number of technical support services designed to meet the varying system support requirements of our AIX/6000 and RISC System/6000 customers. These services provide timely, knowledgeable assistance and information from IBM specialists and experts. The various options of the services provide flexibility in defining the scope of services received from IBM.

The AIX/6000 Support family includes:

- AIX/6000 SupportLine — provides you with telephone access to a team of IBM specialists.
- AIX/6000 Associate — an analyst is assigned to work remotely with you and becomes familiar with your specific systems and requirements.
- AIX/6000 ConsultLine — allows you to schedule time with the experts to address highly technical topics such as system design, performance evaluation, and in-depth communications.
- AIX/6000 Performance Management — provides automated performance data collection software that continually monitors your system and transmits results back to the performance experts for evaluation.
- AIX Technical Library/6000 — provides you with a library of service and support information on a CD-ROM that is updated and distributed quarterly.
- AIX/6000 House Call — provides you with on-site assistance with such tasks as installation, problem assistance, software maintenance, and updates.

The AIX/6000 Support family also includes packages of services designed to meet the needs of specific customer types:

- AIX/6000 New Customer Support Package
- AIX/6000 Growing Customer Support Package
- AIX/6000 Established Customer Support Package

For complete details on the AIX/6000 Support Family, refer to Services Announcement 693-004, dated March 16, 1993.

Product Availability Status: New product available

Field-Installable Features: Yes

Model Conversions: No

Customer Setup: Yes

Graduated Charges: The announced product is in Processor Group E5 for software with graduated charges.

Licensed Internal Code: Yes

Educational Allowance: A 20% education allowance is available to qualifying institutions in accordance with the Attachment for Educational Allowance. The educational allowance may not be added to any other discount or allowance.

Charges

Description	Machine Type/ Model	Purchase Price	Monthly MMC[16]
IBM RISC System/6000 Model C10	7009/C10	$11,500	$115

[16] Minimum maintenance charge

The following specify and select features can only be ordered with the initial plant order.

Description	Feature Number	Purchase Price	Monthly MMC
4MB SIMM Memory (Specify)	9230	$ 0	$0
8MB SIMM Memory (Select) (4MB to 8MB)	4024	400	0
16MB SIMM Memory (Select) (4MB to 16MB)	4025	1,145	0
32MB SIMM Memory (Select) (4MB to 32MB)	4026	2,605	0

Note: Memory SIMMS must be ordered and installed in groups of four identical SIMM Memory Cards (four feature numbers).

Description	Feature Number	Purchase Price	Monthly MMC
1GB SCSI-2 Disk Drive (Specify)	9249	$ 0	$0
2GB SCSI-2 Disk Drive (Select)	2583	1,700	0
2GB SCSI-2 Fast/Wide Disk Drive (Select)	2588	1,700	0

Description	Feature Number	Purchase Price	Monthly MMC
3.5-Inch 2.88MB Diskette Drive (Specify)	9282	$ 0	$ 0
Base CD-ROM-2 (Specify)	9218	0	0
4GB Internal 4 mm Tape Drive (Select) (from CD-ROM-2)	6145	2,000	20
1.2GB Internal ¼-Inch Tape Drive (Select) (from CD-ROM-2)	2631	1,300	0
5GB Internal 8mm Tape Drive(Select) (from CD-ROM-2)	6141	4,700	35
Token-Ring High-Performance Network Adapter and Cable (Specify)	9970	0	0
Ethernet (802.3) LAN Adapter (Specify)	9980	0	0
8-Port Async Adapter —EIA-232and Cable (Specify)	9281	0	0
16-Port Async Adapter —EIA-232 and Cable (Select)	2956	910	0
128-Port Async Controller —Remote Node and Cable (Select)	8126	1,634	0
Network Terminal Accelerator — 256 (Select)	2406	3,284	21
Network Terminal Accelerator — 2048 (Select)	2407	6,284	23
Software Preload	5005	0	0

The following language groups are available on Machine Type 7009 Model C10 Compact Server and can only be ordered with the initial plant order.

Description	Feature Number	Purchase Price	Monthly MMC
Language Group —U.S. English	9300	$0	$0
Language Group —Dutch	9700	0	0
Language Group —French	9703	0	0
Language Group —German	9704	0	0
Language Group —Norwegian	9706	0	0
Language Group —Portuguese	9707	0	0
Language Group —Spanish	9708	0	0
Language Group —Swedish	9709	0	0
Language Group —Italian	9711	0	0
Language Group —Canadian French	9712	0	0
Language Group —French/Belgian	9713	0	0
Language Group —Japanese	9714	0	0
Language Group —Taiwanese	9715	0	0
Language Group —Korean	9716	0	0

The following power cords are available on Machine Type 7009 Model C10 Compact Server and can only be ordered with the initial plant order.

Description	Feature Number	Purchase Price	Monthly MMC
Power Cord —U.S./Canada	9800	$0	$0
Power Cord —Belgium, Finland, France	9820	0	0
Power Cord —Denmark	9821	0	0
Power Cord —United Kingdom	9825	0	0
Power Cord —Israel	9827	0	0
Power Cord —Switzerland	9828	0	0
Power Cord —South Africa, Pakistan	9829	0	0
Power Cord —Italy	9830	0	0
Power Cord —Argentina	9831	0	0
Power Cord —Thailand	9833	0	0
Power Cord —Uruguay	9834	0	0
Power Cord —Chicago	9986	0	0

The following features can be ordered for plant or field installation.

Description	Feature Number	Purchase Price	Monthly MMC
2MB SIMM Memory	4001	$ 150	$ 0
4MB SIMM Memory	4002	295	0
8MB SIMM Memory	4003	695	0
16MB SIMM Memory	4011	1,440	0
32MB SIMM Memory	4012	2,900	0
1MB L2 Cache	4044	3,000	0
SCSI-2 Differential High-Performance External I/O Adapter	2420	1,495	0
SCSI-2 Differential Y-Cable	2422	244	0
SCSI-2 Differential System-to-System Cable	2423	108	0
Integrated SCSI Controller Cable	2833	195	0
SCSI Single-End Controller Cable	2834	250	0
SCSI-2 Controller Cable	2836	195	0
SCSI-2 High-Performance I/O Adapter	2410	1,195	0
1GB SCSI-2 Disk Drive	2555	1,800	35
2GB SCSI-2 Disk Drive	2580	3,500	25
Multiprotocol Attachment Cable —V.35	2702	117	0
Multiprotocol Attachment Cable —X.21	2704	117	0
4-Port Multiprotocol Interface Cable	2705	500	0
Multiprotocol Attachment Cable —EIA-232/V.24	2706	93	0
FDDI —Fiber Dual-Ring Upgrade	2723	1,995	0
FDDI —Fiber Single-Ring Adapter	2724	3,995	34
FDDI —STP Single-Ring Adapter	2725	3,495	30
FDDI —STP Dual-Ring Upgrade	2726	1,495	0
POWER Gt3i™	2768	1,895	19
POWER Gt4e	2776	2,895	29
POWER Gt4xi (8-bit)	2711	5,995	90
POWER Gt4xi (24-bit)	2712	8,995	130

Description	Feature Number	Purchase Price	Monthly MMC
POWER Gt4i (24-bit)	2713	$6,995	$110
Sun** Compatible Display Converter Cable	4227	100	0
13W3 Connector to 15-pin D-shell Converter Cable	4213	100	0
13W3 Connector to 6091 Display Cable	4214	105	0
13W3 Connector to 1091 5-BNC Cable	4229	165	0
8-Port Async Adapter —EIA-232	2930	832	0
Async Cable EIA-232/ V.24	2936	73	0
Printer/Terminal Interposer EIA-232	2937	29	0
Multiport Interface Cable	2995	384	0
16-Port Async Adapter —EIA-232	2955	1,450	0
1-Port Multiprotocol Communications Adapter	2959	450	0
4-Port Multiprotocol Communications Adapter	2700	2,600	29
High-Performance Subsystem Adapter (40/80MB/sec)	6212	4,000	0
Digital Trunk Adapter	6300	1,200	10
Digital Trunk Dual Adapter	6305	2,400	10
X.25 Interface Co-Processor/2	2960	1,570	0
X.25 Attachment Cable —X.21 —3-meter	2965	104	0
X.25 Attachment Cable —V.24 —3-meter	2966	104	0
X.25 Attachment Cable —V.35 —3-meter	2967	192	0
Token-Ring High-Performance Network Adapter	2970	1,030	0
3270 Connection Adapter	2990	618	0
16-Port Interface Cable —EIA-232	2996	676	0
Ethernet High Performance LAN Adapter	2980	722	0
PC Parallel Printer Cable	3100	48	0
SCSI Device-to-Device Cable	3130	78	0
POWERdisplay 17	3607	1,795	16
POWERdisplay 20	3608	2,995	25
Service Publications and Wrap Plugs	3750	57	0
Diagnostic Media	3751	57	0
Token-Ring Cable (Same as cable included with feature #2970)	4218	36	0
Ethernet 10Base2 Transceiver	4223	195	0
Ethernet 10BaseT Transceiver	4224	195	0
Serial Port Converter Cable	3107	50	0
Software Preload (U.S., AP, EMEA)	5005	0	0
3-Button Mouse	6041	135	0
Internal CD-ROM-2	2603	695	15
1.2GB Internal ¼-Inch Cartridge Tape Drive	2630	1,995	16

Description	Feature Number	Purchase Price	Monthly MMC
4GB 4 mm Internal Tape Drive	6142	$2,695	$ 35
5GB 8 mm Internal Tape Drive	6147	5,395	50
16-Bit IBM SCSI-2 Fast/Wide Adapter/A to Internal Devices Cable	2434	350	0
Realtime Interface Co-Processor Multiport/2 Adapter (0.5MB)	7002	1,055	0
Realtime Interface Co-Processor Multiport/2 Adapter (1MB)	7004	1,435	0
Realtime Interface Co-Processor Portmaster® Adapter/A (1MB)	7006	1,750	0
Realtime Interface Co-Processor Portmaster Adapter/A (2MB)	7008	2,265	0
Realtime Interface Co-Processor Multiport/2 Four-Port RS-232 Interface Board	7022	362	0
Realtime Interface Co-Processor Multiport/2 Six-Port RS-232-C Synchronous Interface Board	7024	438	0
Realtime Interface Co-Processor Multiport/2 Eight-Port RS-232 Interface Board	7026	442	0
Realtime Interface Co-Processor Multiport/2 Eight-Port RS-422 A Interface Board	7028	541	0
Realtime Interface Co-Processor Multiport/2 RS-232/RS-422 Interface Board	7030	470	0
Realtime Interface Co-Processor Eight-Port RS-232 Interface Board/A	7042	627	0
Realtime Interface Co-Processor Eight-Port RS-422 Interface Board/A	7044	673	0
Realtime Interface Co-Processor Six-Port V.35 Interface Board/A	7046	1,227	0
Realtime Interface Co-Processor Six-Port X.21 Interface Board/A	7048	1,000	0
Realtime Interface Co-Processor Multiport Interface Cable	7102	226	0

Description	Feature Number	Purchase Price	Monthly MMC
Realtime Interface Co-Processor Synch Interface Cable	7104	$ 257	$ 0
Realtime Interface Co-Processor Six-Port V.35 Cable	7106	848	0
Realtime Interface Co-Processor Eight-Port Cable	7108	375	0
Realtime Interface Co-Processor Six-Port X.21 Cable	7110	700	0
Terminal Cable —EIA-422A	2945	130	0
RISC System/6000 128-Port Async Controller	8128	1,295	0
RISC System/6000 Remote Async Node 16-Port EIA-232	8130	1,495	0
RISC System/6000 128-Port Async Controller Cable, 4.5-meter (15 feet)	8131	60	0
RISC System/6000 128-Port Async Controller Cable, 23-cm. (9 inches)	8132	40	0
RISC System/6000 RJ-45 to DB-25 Converter Cable	8133	120	0

Description	Feature Number	Purchase Price	Monthly MMC
101-Keyboard US English	6010	$265	$0
102-Keyboard Belgian-Dutch/French	6011	360	0
102-Keyboard Canadian French	6012	280	0
102-Keyboard Danish	6013	360	0
102-Keyboard Finnish	6014	360	0
102-Keyboard French	6015	360	0
102-Keyboard German	6016	360	0
102-Keyboard Italian	6017	360	0
102-Keyboard Norwegian	6019	360	0
102-Keyboard Portuguese	6020	360	0
102-Keyboard Spanish	6021	360	0
102-Keyboard Swiss	6022	360	0
102-Keyboard United Kingdom-English	6023	360	0
102-Keyboard Icelandic	6024	360	0
102-Keyboard Turkish	6025	360	0
102-Keyboard Greek	6026	360	0
102-Keyboard Hebrew	6027	360	0
102-Keyboard Arabic	6028	360	0
102-Keyboard Japanese-KANJI	6030	325	0
102-Keyboard Korean	6031	325	0
102-Keyboard Chinese Traditional-Taiwanese	6033	325	0
102-Keyboard Dutch	6034	360	0
102-Keyboard Turkish	6035	360	0

The following features have been previously announced on Machine Type 7009 Model C10 Compact Server:

Description	Feature Number
IBM SCSI-2 Fast/Wide Adapter/A	2415
IBM SCSI-2 Differential Fast/Wide Adapter/A	2416
0.6m 16-bit SCSI-2 Differential System-to-System Cable	2424
2.5m 16-bit SCSI-2 Differential System-to-System Cable	2425
16-bit Y-Cable for IBM SCSI-2 Differential Fast/Wide Adapter/A	2426
8-bit Y-Cable for IBM SCSI-2 Differential Fast/Wide Adapter/A	2427
16-Bit IBM SCSI-2 Fast/Wide Adapter/A to Dual-Ported Device Cable	2435

16-Bit IBM SCSI-2 Differential
  Fast/Wide Adapter/A to
  Dual-Ported Device Cable
	2436

8-Bit IBM SCSI-2 Fast/Wide Adapter/A to Dual-Ported Device Cable	2437
8-Bit IBM SCSI-2 Differential Fast/Wide Adapter/A to Dual-Ported Device Cable	2438
8-Bit IBM SCSI-2 Fast/Wide Adapter/A to Single-Ported Device Cable	2439
64 Port to 128 Port Pin-out Converter	8135
7250 Attachment Adapter	2820
2GB SCSI-2 Fast/Wide Disk Drive	2586
Network Terminal Accelerator-256	2402
Network Terminal Accelerator-2048	2403
Keyboard U.S. English ─ Soft Touch	1110
POWER GXT150M (for Micro Channel Bus)	2650