Hardware Announcement
April 15, 1997

IBM RS/6000 Model J50 — the New Deskside Model with 604e PowerPC Processor

Overview

The RS/6000* Model J50 PowerPC® Server continues the evolution of the J30 and J40 deskside family of systems with improved performance and expandability. These mid-range deskside systems are very reliable, highly scalable, and readily expandable — qualities crucial for today's business and technical environments.

The Model J50 is a scalable symmetric multiprocessing (SMP) system offered in configurations starting with two processors and expandable up to an 8-way system. You can also add four 1GB memory cards to scale the J50's memory to 4GB. The J50 combines the performance of the 604e 200MHz PowerPC processor with 2MB L2 cache per processor, resulting in substantially higher performance compared to predecessor systems. The deskside packaging supports five hot-pluggable disk bays, three media bays, and six available Micro Channel® I/O slots.

Installed Model J30 or J40 systems can be upgraded to the Model J50 to obtain the superior processing power of the 200MHz 604e dual processors.

In addition to the SCSI interfaces, the Model J50 supports the Serial Storage Architecture (SSA) storage interfaces. SSA disks deliver outstanding performance for transaction-intensive applications and offer redundancy features to keep your data safe.

Intended Customers

The Model J50 provides for outstanding price/performance as a follow-on to the Model J40 SMP commercial server. The Model J50 also provides a migration path for customers who currently have a Model J30/J40 machine installed.

Key Prerequisites

AIX® Version 4.1.5 (5765-C34) or a later modification level of AIX Version 4.1 for Servers.

or

AIX Version 4.2.1 (5765-C34) or a later modification level of AIX Version 4.2. for Servers.

Price: $54,000 (7013-J50)

Planned Availability Dates

- April 30, 1997, for the Model J50
- June 27, 1997, for 10/100 Mbps Ethernet TP MCA Adapter feature (#2994)
- June 27, 1997, for feature MESs
- June 27, 1997, for model upgrades
- July 25, 1997, for ISDN feature (#2707) on the initial system order and MESs

At a Glance

- Up to 8-way 604e 200MHz system scalability
  - Packaged on four processor cards (two of the 604e processors per card)
  - Each processor card includes 2MB of L2 cache per processor (double the previous offerings)
- Support for up to 4GB of main memory (double the previous offerings)
- Investment protection
  - Upgrades offered from J30, J40, and most 500 series models
- Enhanced base system
  - 256MB base memory
  - AIX for Servers license included
- System compatibility: support for AIX Versions 4.1.5 and 4.2.1
- Supports SCSI and SSA interfaces
- 9.1GB hot-pluggable disk drive support

For ordering, contact:
Your IBM representative, an IBM Business Partner, or IBM North America Sales Call Center at

800-IBM-CALL Reference: RE010

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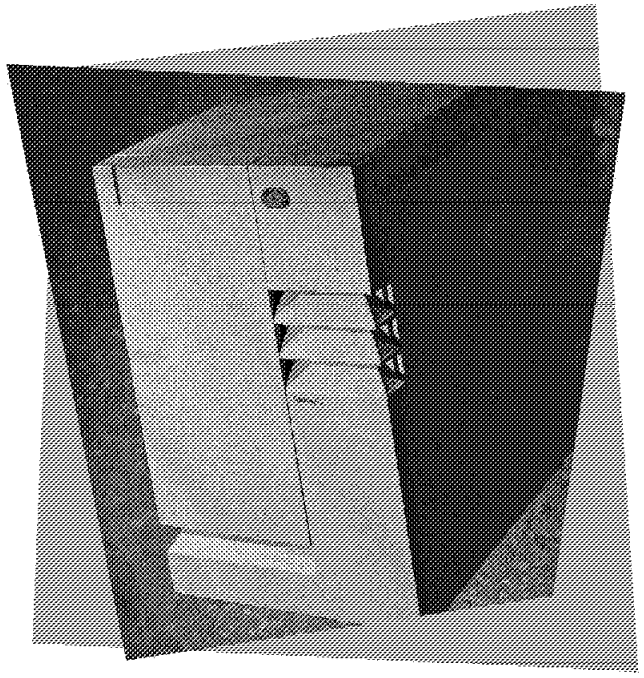
Description



RS/6000™ Model J50

The RS/6000 Model J50 PowerPC Server offers a powerful PowerPC Architecture™ in a deskside model with new price and price performance points.

Features include:

- PowerPC 604e processors running at 200MHz
- 32KB/data and 32KB/instruction of L1 cache, 2MB L2 cache per processor
- 256MB to 4GB main memory
- 4.5GB to 63GB internal disk capacity, up to 149GB (Hot Plug) with J01 Expansion Cabinet
- SCSI-2 Enhanced Fast/Wide Differential adapter
- Six Micro Channel expansion slots available
- One standard 3.5-inch, 1.44MB internal disk drive
- One standard CD-ROM
- Three serial ports
- One parallel port
- SystemGuard service processor that allows remote operation of the system
- Compatible with the RS/6000 family and the AIX/6000® for RS/6000 operating system

Note: MB is 1,048,576 bytes (two to the twentieth power) when referring to memory; in all other cases, it is 1,000,000 (ten to the sixth power). GB is 1,073,741,824 bytes (two to the thirtieth power) when referring to memory; in all other cases, it is 1,000,000,000 (ten to the ninth power).

SMP Technology

Design: The RS/6000′s SMP design incorporates multiple PowerPC processors sharing a single common memory and a single copy of the AIX Version 4.1.5 or 4.2.1 for Servers operating system. Jobs are scheduled across the processors, allowing separate processes to be run simultaneously. Data and instructions are accessed from the shared memory, through a high-speed cache to the processors. This design with a coherent cache allows programs to exploit the parallelism provided by the multiple processors.

Design Requirements: A multiprocessor system must satisfy several design requirements when compared to a uniprocessor system. They must:

- Provide for scheduling of separate jobs across the various processors
- Provide for synchronization of those separate jobs
- Provide efficient paths between each processor and the memory subsystem
- Manage the processor caches to maintain cache coherency (consistency)
- Provide an input/output interface to the memory subsystem

Several additional requirements are placed on the design by the unique characteristics of commercial applications. The key to delivering good commercial performance is not a factor solely of the processor, but rather of the memory hierarchy and the ability to do rapid cache-to-cache transfers. Typically, commercial applications exhibit data access patterns with a large footprint. This is very different from scientific or technical workloads. Commercial workloads are characterized by high L1/L2 cache miss rates, heavy memory traffic, and high cache migration rates. As data traffic increases due to the large footprint of commercial workloads, it is evident that the memory bus is potentially a bottleneck. It is, therefore, critical to performance that the SMP system be designed to handle these applications.

Design Fulfillment: The RS/6000 SMP models have the following major attributes:

- The operating system has the ability to schedule and synchronize work across the available processors.
- A high-bandwidth (800 MBps) bus is provided for access between cache and memory.
- Cache and memory are efficiently managed to maintain cache consistency.

The design of the IBM SMP Servers helps increase performance as follows:

- The program elements most recently used or projected to be used are kept in L1 cache (fastest access).
- Programs and control objects are kept in L2 cache (next fastest).
- Directories to databases are kept in memory (next fastest to L2 cache).
- Actual databases are stored on disk drives.

IBM′s new generation of servers provides efficient paths between processors and memory and efficiently manages the processor caches to maintain cache coherency. A distributed directory “snoop” mechanism is used to maintain cache coherency. The traditional memory bus is still present, but it only carries address tags. A non-blocking cross-bar switch is added to the design, which carries the data between cache and memory or cache and cache. A four-deep pipelined snoop procedure is used to help provide outstanding concurrency in memory and cache operations and operates with the data cross-bar. The design allows operations to take place in a single memory-read cycle, which in other SMP designs will take two or three such cycles.

Reliability, Availability, and Serviceability (RAS)

IBM continues to apply RAS experience to the RS/6000 Servers from many decades of building mission-critical mainframe computers. RAS characteristics such as error detection, fault tolerance, reliable hardware components, high availability, fault management, concurrent or online diagnostics, which were once available only on mainframe computers, are now implemented in SMP RS/6000 Servers.

RAS is an integral part of the SMP RS/6000 and AIX Version 4 design philosophy. But RAS doesn′t stop there, RAS affects the way that IBM can offer service on SMP RS/6000 products to keep systems operational. In IBM, RAS is integrated into all aspects of hardware design, programming support, manufacturing quality, application system design, service, and service support. Its purpose is to help assure that the IBM product is:

- Operational when you need it
- Reliably performing the job
- Handling the occasional failure in a nondisruptive fashion
- Repaired quickly and competently
- Allowed resumption of operations with a minimum of inconvenience

Reliability, Fault Tolerance, and Data Integrity

- Reliability and availability are key concerns for any commercial system. In a widely distributed environment, this becomes more critical. To address this, the IBM product design provides remote and local control. The IBM SMP Servers include features such as IBM SystemGuard, an imbedded service processor, which will enable remote operation of the system, remote power-on/power-off, running of diagnostics, and console support and processor reconfiguration in case of errors.

  The support processor is continuously powered, even when system power is off. The mirrored console support means that remote service actions are visible and controlled by the customer. This includes control over whether the system can be remotely rebooted. An additional feature is that the system can be set to dial a remote service or support point should the system fail, and a surveillance function allows the system to detect ″hang″ conditions in the system and, if necessary, invoke a rapid reboot.

  The AIX Version 4 for Servers operating system also contributes to reliability and serviceability. Features such as the Logical Volume Manager (LVM), Journaled File System (JFS), and dynamic kernel all contribute to a reliable and robust operating system implementation.

- The reliability of SMP RS/6000 systems starts with testing components, devices, and subsystems. During the design and development process, all subsystems go through a rigorous verification and integration testing process. During system manufacturing, all systems go through testing and a “system run-in” process to help ensure that any potential early-life hardware failures are detected and removed in the factory.
- In addition to the support processor, the error-checking and correction circuitry protecting memory is able to detect and correct most single-bit failures. Double-bit errors and package failures (such as could be caused by a chip failure) can also be detected and invoke auto reboot.
- Disk mirroring and disk controller duplexing capability are also provided by AIX.
- JFS maintains file system consistency and prevents data loss when the system is abnormally halted.

Availability and Fault Management

Fault Prevention

- Power-on test checks processors, memory, and associated hardware — required for proper booting of the operating system — every time the server is powered on.

Fault Monitoring

- IBM′s family of SMP RS/6000 system servers includes a service processor called SystemGuard, as a standard feature. SystemGuard continually monitors the hardware and the operating system. If, for instance, a CPU fails, the service processor is designed to detect this, reboot itself automatically, and run without the failed CPU. Likewise, if a memory error is found that can be corrected, the service processor is designed to detect this, reboot itself automatically, and run without the bad memory component.
- Temperature monitoring provides orderly system shutdown when operating temperature exceeds the critical level.
- Fan speed monitoring.
- DC voltage monitoring provides orderly system shutdown when DC voltages are out of operational specifications.
- AC power loss sensing provides orderly system shutdown.
- Disk fault tracking alerts the system administrator of an impending disk failure before it impacts customer operation.
- AIX log facility, where hardware and software failures are recorded and analyzed (by Error Log Analysis (ELA) routine), provides warnings to the system administrator on the causes of system problems. This also enables IBM service representatives to bring along needed replacement hardware components when a service call is placed, minimizing system repair time.

Availability Enhancement

- The J50 SMP allows hot-plugging of new disks or the removal of disks on the system. This means that the addition of new disks will not require power to be turned off, and the dynamic nature of the AIX Version 4.1.5 or 4.2.1 operating system for servers allows many new subsystems to be configured without a boot.
- Online (concurrent) Diagnostics with Error Log Analysis and Service Aids allow administrators or IBM service representatives to diagnose potential system malfunctions without interrupting end-user operation.
- Auto-restart option automatically reboots the system following an unrecoverable software error.
- Automatically reboots the system following a software hang, hardware failure, or environmental-induced (thermal or power) failure.

High Availability: HACMP configuration provides a high-availability solution that protects end users from most hardware and software system failures.

Serviceability

- The IBM SMP RS/6000 system servers have been built to be easily upgraded. The packaging is designed to permit convenient replacement or upgrading of processor, memory, or I/O adapters. For example, the processors are contained on dual-processor cards. To upgrade from a two-way to a four-way system is merely a matter of plugging in an additional dual-processor card.
- SystemGuard allows diagnostics and maintenance to be performed either locally or remotely. This is especially important to customers who may not have personnel with computer skills at the remote sites. The SystemGuard processor makes it possible for the system to be managed from a central location. The SMP RS/6000 servers can even be set up to automatically call an IBM Service Support Center if they fail to boot successfully.

  With SystemGuard, support personnel can remotely log-in to a system to review error logs, perform remote maintenance, and remotely reset, boot, and diagnose the system via a phone line.

  In addition, the SystemGuard processor operates on its own power boundary, making it possible to work on the system even if the system is powered off.

  SystemGuard′s main features are:

  - Initialization process flow management
  - Local and remote control of the system (power-on/off, diagnostics, reconfiguration, and maintenance)
  - Console mirroring to make remote actions visible and controllable by the customer
  - Dial-out to a customer′s central site or IBM support center in case of system boot failure
  - Run-Time Surveillance
- SystemGuard controls the power-on test and the loading of AIX and runs the programs used from the STANDBY and MAINTENANCE MENUs.
- Off-line test under the control of the MAINTENANCE MENU enables the servicer or the remote center to run the off-line test in a controlled and interactive mode.
- The diagnostics consist of stand-alone and online diagnostics.
  - Stand-alone diagnostics are resident on removable media. They must be booted or mounted before they can be run. If booted, they have no access to the AIX Error Log or the AIX Configuration Data. However, if mounted, they have 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 (referred to as service mode), run in maintenance mode (referred to as maintenance mode), or run concurrently (referred to as concurrent mode) with other applications. They have access to the AIX Error Log and the AIX Configuration Data.
    - Service mode allows checking of all the system devices and features.
    - Concurrent mode allows the normal system functions to continue while selected resources are being checked.
    - Maintenance mode allows checking of most system resources.

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IBM US Announcement Supplemental Information

April 15, 1997

World-Class Technical Service and Support

The SMP RS/6000™ system servers come with IBM world-class technical service and support.

Service Director® /6000: This program is provided at no additional charge for customers who are currently under warranty or have an IBM Maintenance Agreement.

Service Director/6000 can provide increased system availability through remote maintenance information reporting. System errors are dynamically monitored and analyzed. If the situation warrants it, the system may automatically place a service call to IBM without any customer intervention being required. Service Director/6000 is an account management application for use by the IBM service provider.

Service Director/6000 for RS/6000 is an IBM-exclusive software application that features:

- Automatic problem analysis
- Problem isolation information
- Structured view of hardware events logged
- Statistics of Service Director/6000 for RISC System identified problem
- Automatic initiation of service requests to IBM (with customer authorization)

Online Customer Support: Online Customer Support for hardware problem reporting can be performed via remote login by Remote Support Center (RSC) specialists using normal AIX® facilities, or by the Service Director/6000 for RS/6000 software.

AIX support offerings are available under the AIX SupportLine Family of Services and Service Director/6000 for RS/6000.

Scalability: Scalability is also a key design consideration. The J30 and J40 SMP Servers have been built to be easily upgraded.

For example, the processors are contained on dual-processor cards. To upgrade from a two-way to a four-way system is merely a matter of plugging in an additional dual-processor card.

Another aspect of scalability is the I/O subsystem. The J50 SMP allows hot-plugging of new disks onto the system. This means that the addition of new disks will not require the power to be turned off, and the dynamic nature of the AIX Version 4.1.5 or 4.2.1 for Servers operating system allows many new subsystems to be configured without a boot.

Technical Description

Model Description 7013-J50: The RS/6000 Model J50 PowerPC® Server has:

- PowerPC capabilities and upgradeability that offer new levels of performance, support for future implementations, and attractive prices
- System capacity that sets a standard in its price class for expandability
- System reliability that sets a standard in its price class, with a service processor that protects your business data
- Protection for your investment in hardware, software, applications, and training

Selected models of the RS/6000 500 Series can be upgraded to the J50. The upgraded system will have the same serial number as the predecessor system.

Standard Features

- One dual, 604e 200MHz PowerPC Processor card (two-way)
  - Three available processor slots for expansion
- 32KB/data and 32KB/instruction of L1 cache, 2MB L2 cache per processor
- 256MB memory card
  - 256MB DIMM Kits (optional)
  - Maximum memory 4GB
- 80 MBps 32-bit Micro Channel® Architecture
  - Seven Micro Channel bus expansion slots
  - Six slots available
- SCSI-2 Enhanced Fast/Wide Differential Adapter
  - Supports internal 8-bit and 16-bit SCSI devices
  - Occupies one Micro Channel slot
- Five hot-pluggable disk bays
  - One 4.5GB SCSI-2 internal disk
- Three media bays
  - CD-ROM tray loading (standard)
  - Two media bays or optional disk bays (conversion hardware required for use as a disk bay)
- Operator panel with 1.44MB, 3.5-inch diskette drive
- Three serial ports and one parallel port

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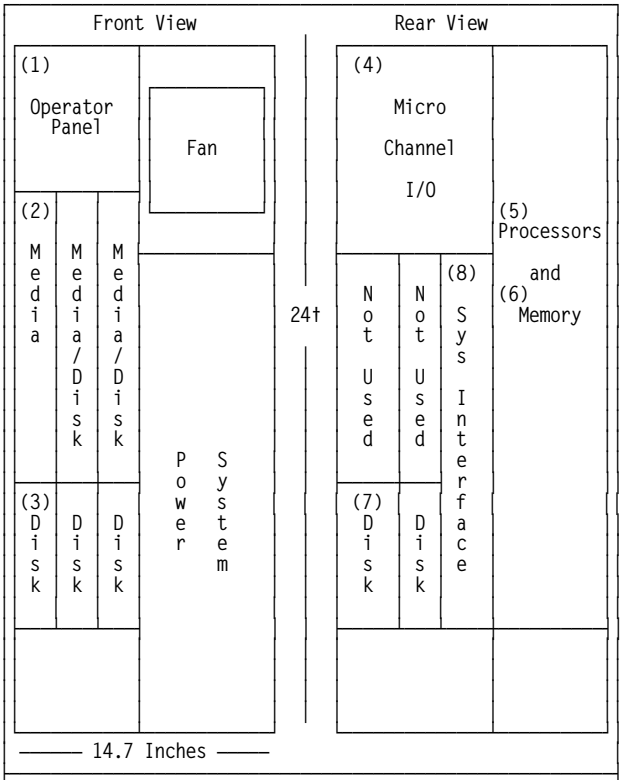
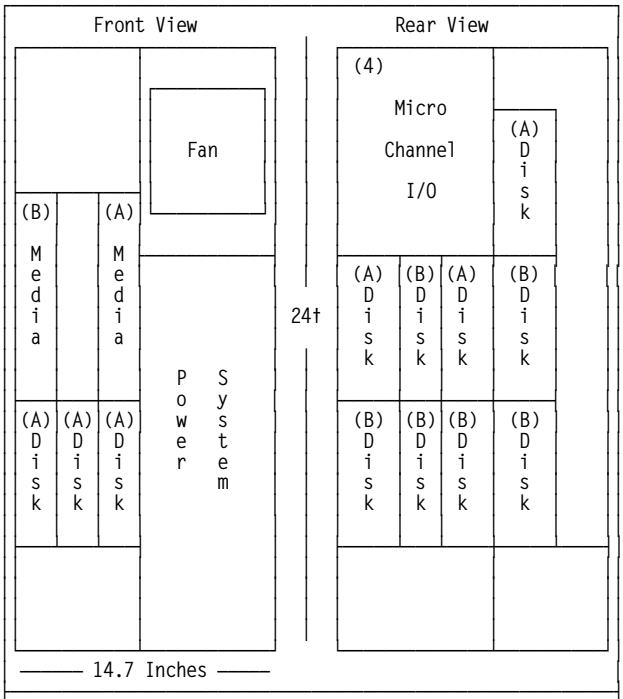
Configuration of J50



(1) Operator Panel
Feature number 9221 (1.44MB Diskette Drive)
no select options
(2) Media Devices (three maximum)
Feature number 9607 (CD–ROM 8X)
Optional media:
Feature number 2621 (CD–ROM 8X),
feature number 6138 (8–mm tape),
feature number 6139 (4–mm tape)
Optional disk (requires feature number 6511):
Feature number 3001 (4.5GB),
feature number 3011 (9.1GB)
(3) Disk Devices/front (five maximum — three minimum)
Feature number 9138 (4.5GB) or select to
Feature number 3012 (9.1GB)
Optional disk:
Feature number 3001 (4.5GB),
feature number 3011 (9.1GB)
(4) Micro Channel board (seven expansion slots,
six available)
Feature number 9212 (SCSI–2 F/W Differential) and
feature number 9441 (SCSI Cable to backplane)
Optional adapters: (refer to matrix)
(5) Processors
Feature number 9402 (2–Way 604e Processor Card)
Additional: Feature number 4324 (2–Way 604e
Processor Card)
(6) Memory
Feature number 9165 (256MB System Memory on 1GB Card)
or select to feature number 4162 (1GB)
Additional:
Feature number 4166 (256MB DIMM Kit),
feature number 4165 (256MB System Memory on 1GB
1GB Card),
feature number 4156 (128MB System Memory)
(7) Disk Devices/rear: Two maximum, requires feature
number 2416 (adapter) and feature number 2441
(cable)
Optional disk:
Feature number 3001 (4.5GB),
feature number 3011 (9.1GB), can only be
installed in the bottom two bays
(8) I/O Panel
Three serial ports, one parallel port,
two SCSI backplane input connectors

The RS/6000 J01 Expansion Cabinet allows additional expansion capability by providing eight Micro Channel Bus expansion slots and 12 hot-pluggable disk bays and two hot-pluggable media bays. The two media bays can be converted to hot-pluggable disk bays. One J01 can be attached per J50.

The J01 Expansion Cabinet attaches to the left side of the J50 processor. The power interface cable and Micro Channel expansion cable are provided with the Model J01.



(A) SCSI Devices/A Bus: Requires feature number 2416
(adapter) and feature number 2441 (cable)
Optional media (one maximum):
Feature number 2621 (CD–ROM),
feature number 6138 (8–mm tape),
feature number 6139 (4–mm tape)
(Order feature number 6511 to install disk in
media position.)
Optional disk:
Feature number 3054 (4.5GB),
feature number 3001 (9.1GB) (five maximum)
(B) SCSI Devices/B Bus: Same as A Bus
(C) Micro Channel board (eight expansion slots)
Optional adapters: (Refer to matrix)

Feature Matrix

The following feature availability for MT 7013 uses the letter “A” to indicate features that are available and orderable on the specified models. “S” indicates a feature that is supported on the new model during a model conversion; these features will work on the new model, but additional quantities of these features cannot be ordered on the new model; they can only be removed. “N” indicates that the feature is not supported on the new model and must be removed during the model conversion. As additional features are announced, supported, or withdrawn, this list will be updated. Check with your IBM representative for additional information.

Feature Number	J50	A = Available S = Supported N = Not supported, must be removed Description
0986	A	CCS Customer Service Specify (U.S.)
1000	S	Order Validation Specify Code
1101	N	Non-Locking Switch
1110	A	Keyboard — U.S. English Soft Touch (U.S./Canada Only)
1902	N	Optics Daughter Card, 1-Port, 1,063 Mbps, Short Wave
1904	N	Star Fiber Channel MCA Adapter, Mother Card
1906	N	Fiber Channel Adapter/266
2390	N	540MB SCSI-2 Disk Drive
2391	N	400MB to 540MB SCSI-2 Disk Drive Select
2400	N	M-Video Capture Adapter (NTSC)
2402	A	IBM Network Terminal Accelerator — 256 Session
2403	A	IBM Network Terminal Accelerator — 2,048 Session
2404	N	IBM Ultimedia (R) Video I/O Adapter
2405	N	IBM Ultimedia Video Compression/Decompression Card
2410	S	SCSI-2 High-Performance External I/O Controller
2412	A	Enhanced SCSI-2 Differential Fast/Wide Adapter/A
2413	S	IBM SCSI-2 Differential Fast/Wide Adapter/A Select
2414	S	IBM SCSI-2 Fast/Wide Adapter/A Select
2415	A	IBM SCSI-2 Fast/Wide Adapter/A
2416	A	IBM SCSI-2 Differential Fast/Wide Adapter/A
2417	S	IBM SCSI-2 Differential Fast/Wide Adapter/A Select
2418	S	Enhanced SCSI-2 Differential Fast/Wide Adapter/A Select
2419	S	Enhanced SCSI-2 Differential Fast/Wide Adapter/A Select
2420	S	SCSI-2 Differential High-Performance External I/O Controller
2422	A	SCSI-2 Differential Y-Cable
2423	A	SCSI-2 Differential System-to-System Cable
2424	A	0.6 m 16-bit SCSI-2 System-to-System Cable
2425	A	2.5 m 16-bit SCSI-2 System-to-System Cable
2426	A	16-bit Y-Cable for IBM SCSI-2 Differential Fast/Wide Adapter/A
2427	A	8-bit Y-Cable for IBM SCSI-2 Differential Fast/Wide Adapter/A
2428	N	8-bit Internal 6-Drop Cable for IBM SCSI-2 Fast/Wide Adapters Select
2429	N	16-bit Internal 6-Drop Cable for IBM SCSI-2 Fast/Wide Adapters Select
2430	N	8-bit Internal 6-Drop Cable for IBM SCSI-2 Fast/Wide Adapters
2431	N	16-bit Internal 6-Drop Cable for IBM SCSI-2 Fast/Wide Adapters
2433	N	16-bit Internal 6-Drop Cable for IBM SCSI-2 Fast/Wide Adapters Select
2435	A	16-bit IBM SCSI-2 Fast/Wide Adapter/A to Dual-Ported Device Cable
2436	A	16-bit IBM SCSI-2 Differential Fast/Wide Adapter/A to Dual-Ported Device Cable
2437	A	8-bit IBM SCSI-2 Fast/Wide Adapter/A to Dual-Ported Device Cable
2438	A	8-bit IBM SCSI-2 Differential Fast/Wide Adapter/A to Dual-Ported Device Cable
2439	A	8-bit IBM SCSI-2 Fast/Wide Adapter/A to Single-Ported Device Cable
2441	A	SCSI Cable to Internal Devices
2500	N	355MB SCSI Disk Drive
2510	N	670MB SCSI Disk Drive
2511	N	355MB to 670MB SCSI Disk Drive Select
2529	N	400MB to 857MB SCSI Disk Drive Select
2530	N	857MB SCSI Disk Drive
2531	N	355MB to 857MB SCSI Disk Drive Select
2532	N	640MB to 857MB SCSI Disk Drive Select
2534	N	800MB to 857MB SCSI Disk Drive Select
2542	N	640MB SCSI Disk Drive Pair
2543	N	355MB to 640MB SCSI Disk Drive Pair Select
2550	N	1GB SCSI Disk Drive
2551	N	400MB to 1GB SCSI Disk Drive Select
2552	N	800MB to 2GB SCSI Disk Drive Pair Select
2555	S	1GB SCSI-2 Disk Drive
2556	S	400MB to 1GB SCSI-2 Disk Drive Select
2557	S	800MB to 2GB SCSI-2 Disk Drive Pair Select
2560	N	400MB SCSI Disk Drive
2562	N	800MB SCSI Disk Drive Pair

Feature Number	J50	A = Available S = Supported N = Not supported, must be removed Description
2567	S	2GB to 2X1GB Disk Drive Select
2570	N	1.37GB SCSI Disk Drive
2572	N	400MB to 1.37GB SCSI Disk Drive Select
2574	N	800MB to 1.37GB SCSI Disk Drive Select
2580	S	2GB SCSI-2 Disk Drive
2583	S	1GB to 2GB SCSI-2 Disk Drive Select
2585	S	800MB to 2GB SCSI-2 Disk Drive Select
2586	S	2GB SCSI-2 Fast/Wide Disk Drive
2587	S	2GB to 2GB SCSI-2 Fast/Wide Disk Drive Select
2588	S	1GB to 2GB SCSI-2 Fast/Wide Disk Drive Select
2590	N	2.4GB SCSI-2 Disk Drive
2592	N	400MB to 2.4GB SCSI-2 Disk Drive Select
2593	N	670MB to 2.4GB SCSI-2 Disk Drive Select
2594	N	2.0GB to 2.4GB SCSI-2 Disk Drive Select
2598	N	2GB to 2.4GB SCSI-2 Disk Drive Select
2600	S	Internal CD-ROM
2602	S	Internal CD-ROM to CD-ROM-2 Select
2603	S	Internal CD-ROM-2
2604	S	600MB SCSI-2 Double-Speed Tray-Loading CD-ROM
2607	S	Internal Caddy-Loading CD-ROM Module Select
2608	S	Internal Caddy-Loading CD-ROM Module
2609	S	600MB SCSI-2 Double-Speed Tray-Loading CD-ROM
2613	S	600MB SCSI-2 Double-Speed Tray-Loading CD-ROM Select
2614	S	600MB SCSI-2 Double-Speed Tray-Loading CD-ROM Select
2615	N	External 5.25-Inch Diskette Drive Attachment Cable
2616	S	Quad-Speed Tray-Loading CD-ROM
2617	S	Tray-Loading CD-ROM Select
2618	S	8X Speed Tray-Loading CD-ROM
2621	A	Tray-Loading CD-ROM Module
2630	S	Internal 1.2GB 1/4-Inch Cartridge Tape Drive
2632	S	Internal 1.2GB 1/4-Inch Cartridge Tape Drive Module
2650	A	POWER GXT150M (TM) Graphics Adapter
2700	A	4-Port Multiprotocol Communications Controller
2702	A	Multiprotocol Attachment Cable — V.35
2704	A	Multiprotocol Attachment Cable — X.21
2705	A	4-Port Multiprotocol Interface Cable
2706	A	Multiprotocol Modem Attachment Cable — EIA-232/V.24
2707	A	ISDN, Basic Rate I/F, MCA
2711	N	POWER Gt4xi (TM) 8-bit Graphics Adapter
2712	N	POWER Gt4xi 24-bit Graphics Adapter
2713	N	POWER Gt4i (TM) 24-bit Graphics Adapter
2720	S	Fiber Distributed Data Interface Single-Ring Adapter
2722	S	Fiber Distributed Data Interface Dual-Ring Upgrade Kit
2723	A	FDDI-Fiber Dual-Ring Upgrade
2724	A	FDDI-Fiber Single-Ring Adapter
2725	A	FDDI-STP Single-Ring Adapter
2726	A	FDDI-STP Dual-Ring Upgrade
2734	A	Keyboard/Mouse Attachment Card
2735	N	High-Performance Parallel Interface Adapter
2754	A	S/390 (R) ESCON (R) Channel Emulator
2755	A	Block Multiplexer Channel Adapter
2756	A	ESCON Control Unit Adapter
2757	A	Block Multiplexer Channel Adapter Cable
2758	A	Block Multiplexer Channel Cable Assembly
2759	A	System/370 (TM) Channel Emulator/A
2760	N	Grayscale Graphics Display Adapter
2768	N	POWER Gt3i (TM>
2770	N	Color Graphics Display Adapter
2776	N	POWER Gt4e (TM)
2777	N	POWER Gt3 (TM)
2780	N	High-Performance 8-bit 3D Color Graphics Processor
2781	N	High-Performance 24-bit 3D Color Graphics Processor
2782	N	24-bit Z-Buffer Solid Rendering Option
2783	N	24-bit Color Graphics Frame Buffer Upgrade
2790	N	POWER Gt4x (TM) 8-bit Feature
2791	N	POWER Gt4x 24-bit Feature
2792	N	POWER Gt4 (TM) 8-bit to 24-bit Upgrade
2794	N	POWER Gt4 Performance Upgrade
2795	N	POWER Gt4 8-bit Feature
2796	N	POWER Gt4 24-bit Feature
2800	N	System/370 Host Interface Adapter
2801	N	5086 Attachment Adapter
2802	N	5085 Attachment Adapter

Feature Number	J50	A = Available S = Supported N = Not supported, must be removed Description
2810	N	Graphics Input Device Adapter
2811	N	Graphics Input Device Cable
2820	N	7250 Attachment Adapter
2829	N	External I/O Controller — Towers
2831	S	SCSI-2 High-Performance Internal I/O Controller
2832	A	SCSI Controller Cable
2833	N	Integrated SCSI Controller Cable
2835	A	SCSI High-Performance External I/O Controller
2836	A	SCSI-2 Controller Cable
2860	N	Serial Optical Channel Converter
2866	N	6 meter Serial Optical Channel Converter Cable
2867	N	10 meter Serial Optical Channel Converter Cable
2868	N	20 meter Serial Optical Channel Converter Cable
2869	N	60 meter Serial Optical Channel Converter Cable
2870	N	100 meter Serial Optical Channel Converter Cable
2914	S	SCSI-2 Passthrough Terminator Cable (50-Pin)
2915	S	SCSI Controller Passthrough Terminator Cable (60-Pin)
2921	S	ARTIC960 Coprocessor (1MB)
2922	N	Cable Option EIA-232
2923	A	Cable Option EIA-530 RS-422
2924	A	ARTIC960 Coprocessor (4MB)
2926	A	Cable Option ISO 4902 V.36
2927	A	Cable Option ISO 4903 X.21
2928	S	ARTIC960 Coprocessor (8MB)
2929	A	ARTIC960 Coprocessor, 8-Port EIA-232
2930	A	8-Port Asynchronous Adapter — EIA-232
2934	A	Asynchronous Terminal/Printer Cable EIA-232
2935	A	ARTIC960 Coprocessor, 6-Port V.36
2936	A	Asynchronous Cable EIA-232/V.24
2937	S	Printer/Terminal Interposer — EIA-232
2938	A	ARTIC960 Coprocessor, 8-Port X.21
2939	A	ARTIC960 8-Port EIA-232 Cable
2940	A	8-Port Asynchronous Adapter — EIA-422-A
2941	A	ARTIC960 6-Port V.36 Cable
2942	A	ARTIC960 6-Port X.21 Cable
2945	A	Asynchronous Terminal Cable — EIA-422-A
2950	S	8-Port Asynchronous Adapter — MIL-STD 188
2955	A	16-Port Asynchronous Adapter — EIA-232
2957	A	16-Port Asynchronous Adapter — EIA-422-A
2959	S	1-Port Multiprotocol Communications Adapter
2960	A	X.25 Interface Co-Processor/2 Adapter
2965	A	X.25 Attachment Cable X.21 — 3 meter (10 ft)
2966	A	X.25 Attachment Cable V.24 — 3 meter (10 ft)
2967	A	X.25 Attachment Cable V.35 — 3 meter (10 ft)
2970	S	Token-Ring High-Performance Network Adapter
2972	A	IBM Auto Token-Ring LANStreamer (R) 32 MC Adapter
2976	A	X.25 Attachment Cable X.21 — 6 meter (20 ft)
2977	A	X.25 Attachment Cable V.24 — 6 meter (20 ft)
2978	A	X.25 Attachment Cable V.35 — 6 meter (20 ft)
2980	S	Ethernet High-Performance LAN Adapter
2984	S	TURBOWAYS (TM) 100 ATM Adapter
2989	A	TURBOWAYS 155 ATM Adapter
2990	A	3270 Connection Adapter — U.S.
2992	A	Ethernet/FDX 10 Mbps TP/AUI MC Adapter
2993	A	Ethernet High Performance BNC MC Adapter
2994	A	IBM 10/100 Mbps Ethernet MC Adapter/SMP
2995	A	Multiport Interface Cable
2996	A	16-Port Interface Cable — EIA-232
2997	A	16-Port Interface Cable — EIA-422-A
3000	S	4.5GB SCSI-2 Fast/Wide 1-inch (25 mm) High Disk Drive
3001	A	4.5GB SCSI-2 Fast/Wide Disk Drive Module
3003	S	4.5GB SCSI-2 Fast/Wide 1-inch (25 mm) High Disk Drive Select
3010	S	9.1GB SCSI-2 Fast/Wide Disk Drive
3011	A	9.1GB SCSI-2 Fast/Wide Disk Drive Module
3012	A	9.1GB SCSI-2 Fast/Wide Disk Drive Module Select
3013	S	9.1GB SCSI-2 Fast/Wide Disk Drive Select
3015	S	9.1GB SCSI-2 Fast/Wide Disk Drive Select
3030	S	1.1GB SCSI-2 Disk Drive
3031	S	2.2GB SCSI-2 Disk Drive

Feature Number	J50	A = Available S = Supported N = Not supported, must be removed Description
3032	S	1.1GB SCSI-2 Fast/Wide Disk Drive
3033	S	2.2GB SCSI-2 Fast/Wide Disk Drive
3034	S	4.5GB SCSI-2 Fast/Wide Disk Drive
3040	S	1.1GB SCSI-2 Fast/Wide Disk Drive Select
3041	S	1.1GB SCSI-2 Fast/Wide Disk Drive Select (Must order quantity of two)
3042	S	1.1GB SCSI-2 Fast/Wide Disk Drive Select (Must order quantity of two)
3043	S	2.2GB SCSI-2 Fast/Wide Disk Drive Select
3044	S	2.2GB SCSI-2 Fast/Wide Disk Drive Select
3047	S	4.5GB SCSI-2 Fast/Wide Disk Drive Select
3048	S	4.5GB SCSI-2 Fast/Wide Disk Drive Select
3049	S	4.5GB SCSI-2 Fast/Wide Disk Drive Select
3050	S	1.1GB SCSI-2 Fast/Wide Disk Drive Module Select (Must order quantity of two)
3051	S	4.5GB SCSI-2 Disk Drive Module Select
3052	S	1.1GB SCSI-2 Fast/Wide Disk Drive Module
3053	S	2.2GB SCSI-2 Fast/Wide Disk Drive Module
3054	S	4.5GB SCSI-2 Disk Drive Module
3060	S	1GB SCSI-2 Initial Order (Must order quantity of two)
3061	S	1GB SCSI-2 Initial Order (Must order quantity of four)
3062	S	2GB SCSI-2 Initial Order (Must order quantity of two)
3063	S	2GB SCSI-2 Initial Order (Must order quantity of four)
3064	S	2GB SCSI-2 Fast/Wide Initial Order (Must order quantity of two)
3065	S	2GB SCSI-2 Fast/Wide Initial Order (Must order quantity of four)
3094	S	2.2GB Fast/Wide Differential Module, Select (#9134), Quantity two Required
3100	A	PC Parallel Printer Cable
3124	A	Serial to Serial Port Cable for Drawer/Drawer
3125	A	Serial to Serial Port Cable for Rack/Rack
3130	A	SCSI Device to Device Cable
3600	S	POWERdisplay 16
3601	S	POWERdisplay 19
3607	S	POWERdisplay 17
3608	S	POWERdisplay 20
3612	S	P50 Color Monitor
3613	A	P70 Color Monitor
3614	A	P200 Color Monitor
3615	A	P201 Color Monitor
4008	N	8MB SD1 Memory Card
4010	N	8MB to 16MB SD1 Memory Select Feature
4016	N	16MB SD1 Memory Card
4032	N	32MB HD1 Memory Card
4033	N	8MB to 32MB HD1 Memory Select
4035	N	64MB HD1 Memory Card
4036	N	8MB to 64MB HD1 Memory Select
4057	N	64MB S5 Memory Select
4058	N	128MB S5 Memory Select
4059	N	256MB S5 Memory Select
4061	S	Memory Conversion Kit to 256MB Memory
4062	S	Memory Conversion Kit to 512MB Memory
4063	N	8MB HD3 Memory Card
4065	N	32MB HD2 Memory Card
4066	N	16MB HD3 Memory Card
4067	N	32MB HD3 Memory Card
4068	N	16MB to 32MB HD3 Memory Select
4069	N	64MB HD3 Memory Card
4070	N	16MB to 64MB HD3 Memory Select
4071	N	32MB to 64MB HD3 Memory Select
4076	N	32MB S5 Memory
4077	N	64MB S5 Memory
4078	N	128MB S5 Memory
4079	N	256MB S5 Memory
4090	N	128MB Memory Card
4092	N	32MB to 128MB Memory Select
4095	N	256MB Memory Card
4096	N	32MB to 256MB Memory Select
4124	S	128 MB SMP Memory, Conversion from feature 9045 + 4155 via RPQ 8A0962
4125	S	256 MB SMP Memory, Conversion from feature 9045 + 4155 via RPQ 8A0963
4126	S	512 MB SMP Memory, Conversion from feature 9045 + (3 x 4155) via RPQ 8A0964
4127	S	256 MB SMP Memory, Conversion from feature 9045 + (3 x 4155) via RPQ 8A0965

Feature Number	J50	A = Available S = Supported N = Not supported, must be removed Description
4144	S	128MB Memory Select
4145	S	256MB Memory Select
4146	S	512MB Memory Select
4147	S	256MB Memory Select
4148	S	512MB Memory Select
4155	N	64MB Memory Card
4156	S	128MB Memory Card
4157	S	256MB Memory Card
4158	S	512MB Memory Card
4162	A	1GB SMP DIMMS on 1GB Card Select (#9165)
4165	A	256MB SMP DIMMS on 1GB Card
4166	A	256MB SMP DIMM Kit
4167	A	1GB SMP DIMMS on 1GB Card (Fact Only)
4185	A	256MB SMP DIMMS on 1GB Card, (Model Upgrade Only, RPQ Prerequisite)
4186	A	256MB SMP DIMM Kit, (Model Upgrade Only, RPQ Prerequisite)
4187	A	1GB SMP DIMMS on 1GB Card, (Model Upgrade Only, RPQ Prerequisite)
4213	A	13W3 to 15-Pin D-Shell Converter Cable
4214	A	13W3 to 60/77Hz Display Cable
4221	N	Ethernet AUI/Thin Riser
4222	N	Ethernet Twisted Pair Riser
4224	A	Ethernet 10BaseT Transceiver
4227	A	Sun Compatible Display Converter Cable
4229	A	13W3 to POWERdisplay 16S Display Cable
4234	A	13W3 to 13W3 Display Cable
4236	N	13W3 to 3W3 Display Cable
4301	N	PowerPC 604 (TM) Processor Card with 512KB L2 Cache
4302	N	Dual 601 Processor Card, 1MB L2 Cache
4304	N	Dual PowerPC 604 112MHz Processor Card Upgrade with 1MB L2 Cache
4324	A	604e SMP 2W, 200MHz, 2MB/Processor L2
4336	A	604e SMP 2W, 200MHz, 2MB/Processor L2, MES (604->604e)
4350	N	POWERgraphics GTO Accelerator Feature
5005	A	Software Preinstall
5032	N	32MB Memory SIMM Kit
5064	N	64MB Memory SIMM Kit
5065	N	64MB S5 Memory SIMM Upgrade
5128	N	128MB Memory SIMM Kit
6010	A	Keyboard — 101 Keys (U.S.)
6011	A	Keyboard — 102 Keys (Belgian-Dutch/French)
6012	A	Keyboard — 102 Keys (Canadian French)
6013	A	Keyboard — 102 Keys (Danish)
6014	A	Keyboard — 102 Keys (Finnish)
6015	A	Keyboard — 102 Keys (French)
6016	A	Keyboard — 102 Keys (German)
6017	A	Keyboard — 102 Keys (Italian)
6019	A	Keyboard — 102 Keys (Norwegian)
6020	A	Keyboard — 102 Keys (Portuguese)
6021	A	Keyboard — 102 Keys (Spanish)
6022	A	Keyboard — 102 Keys (Swiss)
6023	A	Keyboard — 102 Keys (United Kingdom — English)
6024	A	Keyboard — 102 Keys (Icelandic)
6025	A	Keyboard — 102 Keys (Turkish)
6026	A	Keyboard — 102 Keys (Greek)
6027	A	Keyboard — 102 Keys (Hebrew)
6028	A	Keyboard — 102 Keys (Arabic)
6030	A	Keyboard — 106 Keys (Japanese — Kanji)
6031	A	Keyboard — 106 Keys (Korean)
6033	A	Keyboard — 106 Keys (Chinese Traditional — Taiwan)
6034	A	Keyboard — Dutch #143 (Netherlands)
6035	A	Keyboard — Turkish #440
6041	A	Three-Button Mouse
6138	A	Internal 8 mm 5/10GB Tape Module
6139	A	Internal 4 mm 4/8GB Tape Module
6141	S	5GB 8 mm Tape Select
6142	S	4GB/8GB 4 mm Internal Tape Drive
6143	N	CD-ROM to 2.3GB 8 mm Internal Tape Drive Select
6144	S	CD-ROM to 5.0GB 8 mm Internal Tape Drive Select
6145	S	4GB 4 mm Tape Drive Select
6146	N	2.3GB 8 mm Internal Tape Drive
6147	S	5GB/10GB 8 mm Internal Tape Drive
6175	A	Cluster Power Controller
6176	A	Null Modem Cable: CPC to TTY
6177	A	Null Modem Cable: CPC to CPC
6178	A	Null Modem Cable: CPC to CPU

Feature Number	J50	A = Available S = Supported N = Not supported, must be removed Description
6210	S	High-Performance Disk Drive Subsystem Adapter (40 Mbps)
6211	S	High-Performance Disk Drive Subsystem Adapter (80 Mbps)
6212	A	High-Performance Subsystem Adapter (40/80 Mbps)
6214	S	High Performance 4-Port SSA Adapter
6216	A	Enhanced 4-Port, SSA, 8 Initial, MCA
6217	A	IBM SSA 4-port RAID Adapter
6300	S	Digital Trunk Adapter
6301	N	M-Audio Capture Playback Adapter
6302	A	IBM Ultimedia Audio Adapter
6305	A	Digital Trunk Dual Adapter
6306	N	IBM Speech Accelerator 1
6307	N	IBM Speech Accelerator 2
6400	N	64-Port Asynchronous Controller
6401	N	16-Port Asynchronous Concentrator
6402	N	RJ-45 to DB-25 Converter Cable
6501	N	3.5-Inch Disk Drive Mounting Hardware
6506	N	Incremental Cooling Fan
6511	A	Media to Disk Bay Conversion Hardware
6514	A	Hot Swap 8-bit Disk Enclosure
6515	A	Hot Swap Media Enclosure
6516	A	Hot Swap 16-bit Disk Enclosure
7002	S	IBM Realtime Interface Co-Processor: Multiport/2 Adapter (.5MB)
7004	S	IBM Realtime Interface Co-Processor: Multiport/2 Adapter (1MB)
7006	A	IBM Realtime Interface Co-Processor: Portmaster (R) Adapter/A (1MB)
7008	S	IBM Realtime Interface Co-Processor: Portmaster Adapter/A (2MB)
7022	S	IBM Realtime Interface Co-Processor: Multiport/2 4-Port RS-232 Interface Board
7024	S	IBM Realtime Interface Co-Processor: Multiport/2 6-Port RS-232-C Synchronous Interface Board
7026	S	IBM Realtime Interface Co-Processor: Multiport/2 8-Port RS-232 Interface Board
7028	S	IBM Realtime Interface Co-Processor: Multiport/2 8-Port RS-422-A Interface Board
7030	S	IBM Realtime Interface Co-Processor: Multiport/2 RS-232/RS-422 Interface Board
7042	A	IBM Realtime Interface Co-Processor: 8-Port RS-232 Interface Board/A
7044	A	IBM Realtime Interface Co-Processor: 8-Port RS-422 Interface Board/A
7046	A	IBM Realtime Interface Co-Processor: 6-Port V.35 Interface Board/A
7048	A	IBM Realtime Interface Co-Processor: 6-Port X.21 Interface Board/A
7102	S	IBM Realtime Interface Co-Processor: EIA RS-232-C Multiport Interface Cable
7104	S	IBM Realtime Interface Co-Processor: Synchronous Interface Cable
7106	A	IBM Realtime Interface Co-Processor: 6-Port V.35 Cable
7107	A	IBM Realtime Interface Co-Processor: V.35 Network Cable
7108	A	IBM Realtime Interface Co-Processor: 8-Port EIA-232/422 Cable
7110	A	IBM Realtime Interface Co-Processor: 6-Port X.21 Cable
7111	A	IBM Realtime Interface Co-Processor: X.21 Network Cable
8128	A	128-Port Asynchronous Controller
8130	A	Remote Asynchronous Node 16-Port EIA-232 (U.S.)
8131	A	128-Port Asynchronous Controller Cable, 4.5 meter
8132	A	128-Port Asynchronous Controller Cable, 23 cm (9-inch)
8133	A	RJ-45 to DB-25 Converter Cable
8135	A	64-Port to 128-Port Pin-Out Converter
8136	A	Rack Mountable Remote Asynchronous Node 16-Port EIA-232
8A0836	N	MG24 Graphics Adapter
8A0875	N	ICL Search Accelerator
9000	N	Ethernet AUI/Thin Riser Specify
9001	N	Ethernet Twisted Pair Riser Specify
9004	A	Southern Hemisphere Specify for Monitors
9042	N	1MB L2 Cache Specify
9045	N	64MB Base Memory

Feature Number	J50	A = Available S = Supported N = Not supported, must be removed Description
9046	S	128MB Memory Specify
9051	N	604 SMP 2W, Base, 112MHz, 1MB L2
9076	N	32MB S5 Memory Specify
9116	N	Transformer Specify, 115 to 127 V AC
9131	S	2.2GB SCSI-2 Fast/Wide Disk Drive Specify
9133	S	2.2GB Base SCSI-2 Fast/Wide Disk Drive Module
9134	S	Base 4.5GB Fast/Wide DASD Differential Module
9138	A	Base 4.5GB Fast/Wide DASD Differential Module
9150	N	Serial Optical Channel Converter Module Specify
9165	A	Base 256MB SMP DIMMS on 1GB Card
9212	A	Base Enhanced SCSI-2 Differential Fast/Wide Adapter/A
9216	S	IBM SCSI-2 Fast/Wide Adapter/A Specify
9217	S	IBM SCSI-2 Fast/Wide Differential Adapter/A Specify
9218	S	Internal CD-ROM-2 Specify
9219	S	SCSI-2 I/O Controller Specify
9220	N	SCSI I/O Controller Specify
9221	A	3.5-Inch 1.44MB Diskette Drive Specify
9223	S	Internal CD-ROM Specify
9231	N	8MB SD1 Memory Specify
9232	N	32MB HD2 Memory Specify
9234	N	16MB HD3 Memory Specify
9235	N	32MB HD3 Memory Specify
9236	N	16MB SD1 Memory Specify
9243	N	640MB SCSI Disk Drive Specify
9244	N	400MB SCSI Disk Drive Specify
9245	N	800MB SCSI Disk Drive Specify
9246	N	355MB SCSI Disk Drive Specify
9249	S	1GB SCSI-2 Disk Drive Specify
9263	S	2GB SCSI-2 Disk Drive Specify X2
9300	A	Language Group Specify — U.S. English
9302	N	Base Dual 601 Processor Card, 1MB L2 Cache
9402	A	604e SMP 2-Way, 200MHz, Base, 2MB/Processor L2
9430	N	SCSI-2 Fast/Wide Internal Cable Specify
9431	N	SCSI-2 16-bit Internal 6-Drop Cable Specify
9441	A	Base SCSI Cable to Internal Devices
9605	S	Base 600MB SCSI-2 Double-Speed Tray-Loading CD-ROM Module
9606	S	Base Quad-Speed Tray-Loading CD-ROM
9607	A	Base Quad-Speed Tray-Loading CD-ROM Module
9608	S	Base CD-ROM/8X/Tray-Loading, 1200 KBps
9712	A	Language Group Specify — Canadian French
9800	A	Power Cord Specify — United States/Canada
9986	A	Power Cord Specify — Chicago (125 V, 15 A) (1.8 m)(6 ft)
9997	N	(Product Scheduling Use Only, 6-Way) Indicator
9998	N	Product Scheduling Use Only Specify

Devices Supported

Machine Type-Model	J50	X = Supported Device Description
		Printers
2380-001	X	Personal Printer Series II
2380-002	X	Plus Printer
2381-001	X	Personal Printer Series II
2381-002	X	Plus Printer
2390-001	X	Personal Printer Series II
2390-002	X	Plus Printer
2391-001	X	Personal Printer Series II
2391-002	X	Plus Printer
3112-001	X	Page Printer
3116-001	X	Page Printer
3116-002	X	Page Printer
3116-003	X	Page Printer
3930-03D	X	Page Printer
3930-03S	X	Page Printer
4037-05E	X	Page Printer
4039-10D	X	LaserPrinter 10D
x		
x		
4039-10R	X	LaserPrinter 10R
4039-12L	X	LaserPrinter 12L Plus
4039-12R	X	LaserPrinter 12R Plus
4039-16L	X	LaserPrinter 16L Plus
4049-12L	X	Optra L LaserPrinter
4049-12R	X	Optra R LaserPrinter
4070-001	X	Ink-Jet Printer
4070-002	X	Ink-Jet Printer
4076-02C	X	ExecJet (R) IIc Printer
4079-001	X	Color Jetprinter PS
4230-4I3	X	Impact Matrix Printer
4230-4S3	X	Impact Matrix Printer
4230-5I3	X	Impact Matrix Printer
4230-5S3	X	Impact Matrix Printer
4232-302	X	Impact Dot Matrix Printer
6400-004	X	Line Matrix Printer
6400-008	X	Line Matrix Printer
6400-012	X	Line Matrix Printer
6408-A00	X	Line Matrix Printer
6408-CTA	X	Line Matrix Printer
6412-A00	X	Line Matrix Printer
6412-CTA	X	Line Matrix Printer
		Plotters
6180-001	X	Color Plotter
6182-001	X	Auto Feed Color Plotter
6184-001	X	Color Plotter
6185-001	X	Color Plotter
		Communications
7318-P10	X	Serial Communications Network Server
7318-S20	X	Serial Communications Network Server
7027-HSC	X	Disks High Capacity Storage Drawer
7027-HSD	X	High Capacity Storage Drawer
7131-105	X	Multi-Storage Tower
7131-405	X	SSA Multi-Storage Tower
7133-010	X	SSA Disk Subsystem (Rack-Mounted)
7133-020	X	SSA Disk Subsystem (Rack-Mounted)
7133-500	X	SSA Disk Subsystem
7133-600	X	SSA Disk Subsystem
7134-010	X	High Density SCSI Disk Subsystem
7135-010	X	RAIDiant Array
7135-110	X	RAIDiant Array
7135-210	X	RAIDiant Array
7137-412	X	Disk Array Subsystem
7137-413	X	Disk Array Subsystem
7137-414	X	Disk Array Subsystem
7137-415	X	Disk Array Subsystem
7137-512	X	Disk Array Subsystem (1.97 — 6.91 GB) (Rack Mounted)
7137-513	X	Disk Array Subsystem (3.94 — 13.77 GB) (Rack Mounted)
7137-514	X	Disk Array Subsystem (8.39 — 29.36 GB) (Rack Mounted)
7137-515	X	Disk Array Subsystem
7203-001	X	Portable Disk Drive (4.5GB Only)
7204-001	X	1GB Disk Drive
7204-010	X	1GB Disk Drive
7204-112	X	1.1GB Disk Drive
7204-113	X	2.2 GB Fast/Wide Disk Drive
7204-114	X	4.5 GB Fast/Wide Disk Drive
7204-139	X	9.1 GB Fast/Wide Disk Drive
7204-215	X	2GB Disk Drive
7204-315	X	2GB Fast/Wide Disk Drive
7204-317	X	2.2GB Differential Fast/Wide Disk Drive
7204-320	X	320MB Disk Drive
7204-325	X	4.5GB Differential Fast/Wide Disk Drive
7204-339	X	9GB — with Differential Bridge Box with 9.1GB Hard Disk Drive
7204-315	X	With Differential Bridge Box with 9.1GB Hard Disk Drive
9333-010	X	Serial Link Subsystem
9333-011	X	Serial Link Subsystem
9333-500	X	Serial Link Subsystem
9333-501	X	Serial link Subsystem
9334-010	X	Drawer Expansion Unit
9334-011	X	Drawer Expansion unit

Machine Type–Model	J50	X = Supported Device Description
		Displays
3151–310	X	ASCII Display Station (Green, ASCII)
3151–410	X	ASCII Display Station (Amber, ASCII)
3153–BA3	X	InfoWindow (R) II ASCII Display Station (Amber/RS–232)
3153–BG3	X	InfoWindow II ASCII Display Station (Green/RS–232)
3153–BW3	X	InfoWindow II ASCII Display Station (White/RS–232)
		SCSI Devices
3995–063	X	Optical Library Dataserver (2 Drives)
3995–163	X	Optical Library Dataserver (4 Drives)
3995–A63	X	Optical Library Dataserver (1 Drive)
3995–C60	X	Optical Library Dataserver (1 Drive)
3995–C62	X	Optical Library Dataserver
3995–C64	X	Optical Library Dataserver
3995–C66	X	Optical Library Dataserver
3995–C68	X	Optical Library Dataserver
7209–001	X	Optical Disk Drive
7209–002	X	Optical Disk Drive
7209–003	X	Optical Disk Drive
7210–001	X	CD–ROM Drive
7210–005	X	CD–ROM Drive
7210–010	X	CD–ROM Drive (Quad Speed)
7210–015	X	CD–ROM Drive (8x Speed)
		Tape Drives
3490–C11*	X	Magnetic Tape Subsystem
3490–C1A*	X	Magnetic Tape Subsystem
3490–C22*	X	Magnetic Tape Subsystem
3490–C2A*	X	Magnetic Tape Subsystem
3490–E11*	X	Magnetic Tape Subsystem
3490–F00*	X	With Differential Single Drive Unit in 3490 Tape Drive
3490–F01*	X	1/2–Inch, 18/36 Track, with Differential Floor Model with 3490 Tape Drive
3490–F11*	X	1/2–Inch, 18/36 Track, with Differential Rack Model with 3490 Tape Drive
3494–D10*	X	Tape Library Dataserver (Tape Drive Unit)
3494–D12*	X	Tape Library Dataserver (Tape Drive Unit)
3494–D14*	X	Tape Library Dataserver (Tape Drive Unit)
3494–L10*	X	Tape Library Dataserver
3494–L12*	X	Tape Library Dataserver
3494–L14*	X	Tape Library Dataserver
3494–S10*	X	Tape Library Dataserver (Storage Unit)
3570–B00*	X	Tape Subsystem
3570–B01*	X	Tape Subsystem
3570–B02*	X	Tape Subsystem (2 Drives)
3570–B11*	X	Tape Subsystem
3570–B12*	X	Tape Subsystem
3590–B11*	X	High–Performance Tape Subsystem
7206–001	X	2GB 4 mm Tape Drive
7206–005	X	4GB 4 mm Tape Drive
7207–001	X	150MB 1/4–inch Tape Drive
7207–011	X	525MB 1/4–inch Tape Drive
7207–012	X	1.2GB 1/4–inch Tape Drive
7207–315	X	13GB 1/4–inch Tape Drive
7208–001	X	2.3GB 8 mm Tape Drive
7208–011	X	5GB 8 mm Tape Drive
7208–341	X	20GB, 8 mm Tape Drive — with Differential Bridge Box with Internal 8 mm 20/40GB Tape Drive
7331–205	X	8 mm Tape Library
7331–305	X	20GB, 8 mm Tape Drive — with Differential Library with Internal 8 mm 20/40GB Tape Drive
7332–005	X	4 mm DDS–2 Tape Autoloader
7336–205	X	4 mm Tape Library
9348–012	X	1/2–inch 9–Track Magnetic Tape Unit
		Expansion Cabinets
7012–G02	X	Expansion Cabinet
7015–R00	X	R00 System Rack

* Planned Availability June 6, 1997, for supported attachment to the J50.

Publications

The following publications will be shipped with the RS/6000 Model J50. Additional copies are available.

Title	Order Number
7013 J Series Base Unit Setup Procedures	SA23-2723
7013 J Series Operator Guide	SA23-2724
7013 J Series Service Guide	SA23-2725
POWERstation™ and POWERserver® Common Diagnostics and Service Guide	SA23-2687
AIX and Related Products Documentation Overview	SC23-2456
RS/6000 System Unit Safety Information	SA23-2652

The following publications are available. To order, contact your IBM representative.

Title	Order Number
7013 J Series Base Unit Setup Procedure	SA23-2723
7013 J Series Operator Guide	SA23-2724
7013 J Series Service Guide	SA23-2725
POWERstation and POWERserver Common Diagnostics and Service Guide	SA23-2687
AIX and Related Products Documentation Overview	SC23-2456
IBM RS/6000 System Overview and Planning	GC23-2406

The System Library Subscription Service (SLSS) is available by product number and subject code. Customers currently subscribing to SLSS will receive publication updates automatically.

Specified Operating Environment

Physical Specifications

IBM RS/6000 Model J50

- Width: 360 mm (14.7 in)
- Depth: 750 mm (29.5 in)
- Height: 610 mm (24.0 in)
- Base weight: 43.5 kg (100 lb)
- Fully configured weight: 84 kg (184 lb)

Operating Environment

- Temperature: 16° to 32°C (60° to 90°F)
- Relative humidity: 8% to 80%
- Maximum wet bulb: 23°C (73°F) maximum
- Sound power:
  - 6.0 Bels Idle
  - 6.2 Bels Operating

Power Supply

- Voltage: 100 to 125 V, 200 to 240 V Nominal Same Auto Ranging; 50/60Hz
- Power supply: 780 watts output (maximum)
- Thermal output: 2765 Btu per hour
- Power source loading: 0.9 kVA

EMC Conformance Classification: This equipment is subject to FCC rules and shall comply with the appropriate FCC rules before final delivery to the buyer or centers of distribution.

- U.S.: FCC CFR47 Class A
- Germany: IOP
- Europe: CISPR 22 EN55022 Class A
- Japan: VCCI-1

Environmental Impact Assessment: Number 617P-3

The RS/6000 models were developed in compliance with IBM corporate policy letter number 139 (Environmental Affairs).

Product Safety/Country Testing/Certification

- U.S.: UL 1950
- Canada: CSA C22.2 950-M89
- Germany: EN60-950 (IEC950)

General Requirements: Compliance with IBM Corporate Bulletin C-B 0-2594-000 Statement of Conformity of IBM Product to External Standard (Suppliers Declaration) Telecom Environmental Testing (Safety and EMC).

RS/6000 models and applicable features meet the environmental testing requirements of the country TELECOM. The testing and approval process is ongoing.

	Environmental Test	
Country	**Safety**	**EMC**
Canada	CSA	
Chile	Telecom	
Denmark	DEMKO	
Finland	EIF	
France	LCIE	LCIE
Hong Kong	Telecom	
Ireland	Telecom	
Italy	Telecom	
Japan	Telecom	
Korea	Telecom	
Malaysia	SIRIM	
Mexico	Telecom	
Netherlands	Telecom	
New Zealand	Telecom	Telecom
Spain	Ministry of Industry	
Switzerland	SEV	
U.K.	BABT	

Hardware Requirements: IBM-supported ASCII terminal and cable.

Software Requirements: AIX Version 4.1.5 (5765-C34) or a later modification level of AIX Version 4.1 for Servers.

or

AIX Version 4.2.1 (5765-C34) or a later modification level of AIX Version 4.2. for Servers.

Compatibility: You can upgrade the following 500/JXX series server models to the Model J50 PowerPC Server:

Model	
From	**To**
520	J50
52H	J50
530	J50
53E	J50
53H	J50
540	J50
550	J50
55E	J50
55S	J50
560	J50
56F	J50
55L	J50
570	J50
57F	J50
580	J50
58F	J50
58H	J50
590	J50
59H	J50
J30	J50
J40	J50

The following Qs and As provide details on the contents of the J50 model conversion shipment group and the additional features you will need to order or have available before performing the upgrade. The Qs and As also discuss which existing features are supported and offer several options for using existing memory when upgrading to the J50.

What is contained in the 5XX uni-model conversion shipment group?: The upgrades to the Model J50 contain the following items:

- One dual PowerPC (two-way) 604e 200MHz processor card (#9402)
- J50 chassis with customer's existing serial number
- Installation instructions
- New diagnostics
- New publications

Your existing supported disk, media devices, and adapters can be transferred to the new Model J50 system. The replaced chassis and main circuit boards become the property of IBM and must be returned to IBM. Optional features of the replaced system will either be installed in the new system or returned to you.

What is contained in the J30/J40 SMP model conversion shipment group?: The upgrades to the Model J50 contain the following items:

- One dual PowerPC (two-way) 604e 200MHz processor card (#9402)
- Central Electronics Complex (CEC)
- Required prerequisite engineering changes (ECs)
- New Logo
- Installation instructions
- New diagnostics
- New publications

Your existing supported disk, media devices, and adapters can be transferred to the new Model J50 system. The replaced chassis and main circuit boards become the property of IBM and must be returned to IBM. Optional features of the replaced system will either be installed in the new system or returned to you.

What additional features will I need to order?: Upgraded machines must contain the same or equivalent base features as the Model J50 at the conclusion of the upgrade.

These items must be installed or available with the upgrade:

- SMP-compatible memory cards with a minimum of 256MB of memory
- SCSI-2 Fast/Wide Differential Adapter
- CD-ROM drive
- 4GB of 3.5-inch, 8-bit or 16-bit SCSI-2 disk drives with hot-pluggable disk enclosures

  Note: The Model J50 uses hot-pluggable disk bays in place of the disk bays used in the 500 series systems. For an additional charge, 8-bit and 16-bit hot-pluggable disk enclosures are available to convert your supported SCSI 3.5-inch disk drives into modular packages for installation into the Model J50. The Model J50 supports up to nine disk drives when upgrading from a 5XX or JXX system. (All rear disk bays may be populated with 4.5GB or less capacity drives.)

If additional hardware is required for the upgrade, it must be purchased with the upgrade or be available at the time of the upgrade. It will be necessary for an IBM representative to go on site to determine the specific RISC system configuration. This is necessary to ensure all of the required engineering prerequisites are sent in conjunction with the upgrade kit. The specifics regarding the prerequisite information required will be forwarded to the local IBM office upon receipt of a model J50 upgrade order.

Some features on the existing 500/JXX series models are not supported on the Model J50. Refer to the **Feature Matrix** for a listing of supported and non-supported features.

Before accepting your order, IBM will advise you of all features that will not be supported as a result of upgrading your machine. Non-supported features remain your property and are not returned to IBM.

Memory: IBM offers reduced-price memory for customers who are converting from an installed 5XX or SMP J30/J40 system to a J50. Customers may order via RPQ 8A1072 and one or more of the following feature numbers: 4185, 4186, or 4187 reduced-price memory for their J50. The previously installed memory will become the property of IBM upon completion of the upgrade.

Planning Information

Cable Orders: No cables required.

Accessories and/or Supplies: Supplies can be purchased from LEXMARK International Supplies Dealers.

Security, Auditability, and Control

Security and auditability features of the J50 systems include:

- Physical security that is provided by a key lock that helps prevent cover removal when locked.
- A three-position MODE switch that helps provide logic security for the system.

Otherwise, these products use the security and auditability features of the host hardware, software, and application software.

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

Terms and Conditions

This product is available for purchase under the terms of the IBM Customer Agreement (ICA).

IBM hardware products are manufactured from new parts, or new and used parts. In some cases, the hardware product may have been previously installed. Regardless, IBM′s warranty terms apply.

Volume orders: Contact your IBM representative.

IBM Credit Corporation Financing: Yes

Warranty Period: One year

Warranty Service: IBM On-Site Repair (IOR)

Maintenance Service: IOR

Usage Plan Machine: No

IBM Hourly Service Rate Classification: Two

Volume Maintenance Option: No

Mid-Range System Option: The announced product is an eligible machine for the Mid-Range System Option of the ICA.

Eligible Type	Discount Three-Year	Five-Year
7013	12%	17%

Corporate Service Option: The announced product is an eligible machine for the Corporate Service Option of the ICA.

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

Extended Maintenance Option: Yes

Central Facility Maintenance Service (CFMS) Option: No

When a type of service involves the exchange of a machine part, the replacement may not be new, but will be in good working order.

Rental Offering: No

Product Available: Yes

Field-Installable Features: Yes

Model Conversions: Yes

Customer Setup: No

Graduated Charges: Yes

Group number: F5

License Agreement for Machine Code: Yes

Educational Allowance: A reduced charge is available to qualified education customers. The educational allowance may not be added to any other discount or allowance.

Charges

Description	Feature Number	Purchase Price	MMC[1] Monthly	Initial/ MES/ Both
RS/6000 7013-J50				
RS/6000 Machine Type 7013-J50		$54,000	$490	
ISDN, Basic Rate I/F, MCA	2707	995		Both
10/100 Mbps Ethernet TP MCA Adapter	2994	795		Both
4.5GB SCSI-2 Fast/Wide Disk Drive Module	3001	2,700		Both
9.1GB SCSI-2 Fast/Wide Disk Drive Module	3011	5,100		Both
9.1GB SCSI-2 Fast/Wide Disk Drive Module Select	3012	1.350		Initial
1GB SMP DIMMS on 1GB Card Select (#9165)	4162	17,000		Initial
256MB SMP DIMMS on 1GB Card	4165	10,240		Both
256MB SMP DIMM Kit	4166	6,400		Both
1GB SMP DIMMS on 1GB Card (Factory Only)	4167	29,500		Initial
256MB SMP DIMMS on 1GB Card, (Model Upgrade Only, RPQ Prerequisite)	4185	7,175		MES
256MB SMP DIMM Kit, (Model Upgrade Only, RPQ Prerequisite)	4186	4,480		MES
1GB SMP DIMMS on 1GB Card, (Model Upgrade Only, RPQ Prerequisite)	4187	20,650		MES
604e SMP 2-Way, 200MHz, 2MB/Processor L2	4324	12,000	120	Both
604e SMP 2-Way, 200MHz, 2MB/Processor L2, MES (601/604->604e)	4336*	10,000	120	MES
Base 4.5GB Fast/Wide Disk Drive Module	9138	NC		Initial
Base 256MB SMP DIMMS on 1GB Card	9165	NC		Initial
604e SMP 2W, 200MHz, Base, 2MB/Processor L2	9402	NC		Initial

* If field installed on a purchased machine, parts removed or replaced become the property of IBM and must be returned.
[1] Minimum Monthly Maintenance Charge

The following previously announced features are available on the specified models.

Description	Feature Number	Purchase Price	Initial/ MES/ Both
CCS Customer Service Specify (U.S.)	0986	NC	Initial
Keyboard — U.S. English Soft Touch (U.S./Canada Only)	1110	$ 215	Both
Network Terminal Accelerator — 256 Session	2402	4,500	Both
Network Terminal Accelerator — 2,048 Session	2403	7,500	Both
Enhanced SCSI-2 Differential Fast/Wide Adapter/A	2412	1,370	Both
SCSI-2 Fast/Wide Adapter/A	2415	1,070	Both
SCSI-2 Differential Fast/Wide Adapter/A	2416	1,370	Both
SCSI-2 Differential Y-Cable	2422	224	Both
SCSI-2 Differential System-to-System Cable	2423	108	Both
0.6 m 16-bit SCSI-2 System-to-System Cable	2424	108	Both
2.5 m 16-bit SCSI-2 System-to-System Cable	2425	130	Both
16-bit Y-Cable for SCSI-2 Differential Fast/Wide Adapter/A	2426	445	Both
8-bit Y-Cable for SCSI-2 Differential Fast/Wide Adapter/A	2427	425	Both
16-bit IBM SCSI-2 Fast/Wide Adapter/A to Dual-Ported Device Cable	2435	150	Both
16-bit IBM SCSI-2 Differential Fast/Wide Adapter/A to Dual-Ported Device Cable	2436	150	Both
8-bit IBM SCSI-2 Fast/Wide Adapter/A to Dual-Ported Device Cable	2437	125	Both
8-bit IBM SCSI-2 Differential Fast/Wide Adapter/A to Dual-Ported Device Cable	2438	125	Both
8-bit IBM SCSI-2 Fast/Wide Adapter/A to Single-Ported Device Cable	2439	145	Both
SCSI Cable to Internal Devices	2441	75	Both
Tray-Loading CD-ROM Module	2621	850	Both
POWER GXT150M Graphics Adapter	2650	1,895	Both
4-Port Multiprotocol Communications Controller	2700	2,600	Both
Multiprotocol Attachment Cable — V.35	2702	117	Both
Multiprotocol Attachment Cable — X.21	2704	117	Both
4-Port Multiprotocol Interface Cable	2705	500	Both
Multiprotocol Modem Attachment Cable — EIA-232/V.24	2706	93	Both
FDDI-Fiber Dual-Ring Upgrade	2723	1,995	Both
FDDI-Fiber Single-Ring Adapter	2724	3,995	Both
FDDI-STP Single-Ring Adapter	2725	3,495	Both
FDDI-STP Dual-Ring Upgrade	2726	1,495	Both
Keyboard/Mouse Attach Card	2734	300	Both
S/390 ESCON Channel Emulator	2754	10,000	Both
Block Multiplexer Channel Adapter	2755	4,400	Both
ESCON Control Unit Adapter	2756	10,000	Both

Description	Feature Number	Purchase Price	Initial/ MES/ Both
Block Multiplexer Channel Adapter Cable	2757	$ 700	Both
Block Multiplexer Channel Cable Assembly	2758	900	Both
System/370 Channel Emulator/A	2759	3,500	Both
SCSI Controller Cable	2832	315	Both
SCSI High-Performance External I/O Controller	2835	1,245	Both
SCSI-2 Controller Cable	2836	195	Both
Cable Option EIA-530 RS-422	2923	575	Both
ARTIC960 Coprocessor (4MB)	2924	3,495	Both
Cable Option ISO 4902 V.36	2926	575	Both
Cable Option ISO 4903 X.21	2927	575	Both
ARTIC960 Coprocessor, 8-Port — EIA-232	2929	3,495	Both
8-Port Asynchronous Adapter — EIA-232	2930	832	Both
Asynchronous Terminal/Printer Cable — EIA-232	2934	45	Both
ARTIC960 Coprocessor, 6-Port V.36	2935	3,495	Both
Asynchronous Cable EIA-232/V.24	2936	73	Both
ARTIC960 Coprocessor, 8-Port X.21	2938	3,495	Both
ARTIC960 8-Port EIA-232 Cable	2939	365	Both
8-Port Asynchronous Adapter — EIA-422-A	2940	936	Both
ARTIC960 6-Port V.36 Cable	2941	510	Both
ARTIC960 6-Port X.21 Cable	2942	325	Both
Asynchronous Terminal Cable — EIA-422-A	2945	130	Both
16-Port Asynchronous Adapter — EIA-232	2955	1,125	Both
16-Port Asynchronous Adapter — EIA-422-A	2957	1,550	Both
X.25 Interface Co-Processor/2 Adapter	2960	1,570	Both
X.25 Attachment Cable X.21 — 3 meter (10 ft)	2965	104	Both
X.25 Attachment Cable V.24 — 3 meter (10 ft)	2966	104	Both
X.25 Attachment Cable V.35 — 3 meter (10 ft)	2967	192	Both
Auto Token-Ring LANStreamer 32 MC Adapter	2972	850	Both
X.25 Attachment Cable X.21 — 6 meter (20 ft)	2976	150	Both
X.25 Attachment Cable V.24 — 6 meter (20 ft)	2977	150	Both
X.25 Attachment Cable V.35 — 6 meter (20 ft)	2978	239	Both
TURBOWAYS 155 ATM Adapter	2989	2,695	Both
3270 Connection Adapter — U.S.	2990	618	Both
Ethernet/FDX 10 Mbps TP/AUI MC Adapter	2992	595	Both
Ethernet High-Performance BNC MC Adapter	2993	595	Both
Multiport Interface Cable	2995	384	Both
16-Port Interface Cable — EIA-232	2996	295	Both
16-Port Interface Cable — EIA-422-A	2997	639	Both
PC Parallel Printer Cable	3100	48	Both
Serial to Serial Port Cable for Drawer/Drawer	3124	80	Both

Description	Feature Number	Purchase Price	Initial/ MES/ Both
Serial to Serial Port Cable for Rack/Rack	3125	$ 80	Both
SCSI Device to Device Cable	3130	78	Both
P70 Color Monitor	3613	1,485	Both
P200 Color Monitor	3614	2,660	Both
P201 Color Monitor	3615	3,660	Both
13W3 to 15-Pin D-Shell Converter Cable	4213	100	Both
13W3 to 60/77Hz Display Cable	4214	105	Both
Ethernet 10BaseT Transceiver	4224	195	Both
Sun Compatible Display Converter Cable	4227	100	Both
13W3 to POWERdisplay 16S Display Cable	4229	165	Both
13W3 to 13W3 Display Cable	4234	100	Both
Software Preinstall	5005	NC	Initial
Keyboard — 101 Keys (U.S.)	6010	195	Both
Keyboard — 102 Keys			
Canadian French	6012	280	Both
French	6015	360	Both
German	6016	360	Both
Italian	6017	360	Both
Spanish	6021	360	Both
Keyboard — 106 Keys Japanese — Kanji	6030	325	Both
Three-Button Mouse	6041	75	Both
Internal 8 mm 5/10GB Tape Module	6138	5,695	Both
Internal 4 mm 4/8GB Tape Module	6139	2,995	Both
Cluster Power Controller	6175	3,100	Both
Null Modem Cable: CPC to TTY	6176	70	Both
Null Modem Cable: CPC to CPC	6177	75	Both
Null Modem Cable: CPC to CPU	6178	45	Both
High-Performance Subsystem Adapter (40/80 MBps)	6212	4,000	Both
Enhanced 4-Port, SSA, 8 Initial, MCA	6216	2,000	Both
SSA 4-port RAID Adapter	6217	3,250	Both
Ultimedia Audio Adapter	6302	295	Both
Digital Trunk Dual Adapter	6305	2,400	Both
Media to Disk Bay Conversion Hardware	6511	20	Both
Hot-Swap 8-bit Disk Enclosure	6514	500	Both
Hot-Swap Media Enclosure	6515	500	Both
Hot-Swap 16-bit Disk Enclosure	6516	500	Both
Realtime Interface Co-Processor:			
Portmaster Adapter/A (1MB)	7006	1,595	Both
8-Port RS-232 Interface Board/A	7042	627	Both
8-Port RS-422 Interface Board/A	7044	673	Both
6-Port V.35 Interface Board/A	7046	1,227	Both
6-Port X.21 Interface Board/A	7048	1,000	Both
6-Port V.35 Cable	7106	848	Both
V.35 Network Cable	7107	150	Both
8-Port EIA-232/422 Cable	7108	375	Both
6-Port X.21 Cable	7110	700	Both
X.21 Network Cable	7111	125	Both
128-Port Asynchronous Controller	8128	1,295	Both
Remote Asynchronous Node 16-Port EIA-232 (U.S.)	8130	1,495	Both

Description	Feature Number	Purchase Price	Initial/ MES/ Both
128-Port Asynchronous Controller Cable,			
4.5 meter	8131	$ 60	Both
23 cm (9-inch)	8132	40	Both
RJ-45 to DB-25 Converter Cable	8133	120	Both
64-Port to 128-Port Pin-Out Converter	8135	45	Both
Rack Mountable Remote Asynchronous Node 16-Port EIA-232	8136	1,995	Both
Southern Hemisphere Specify for Monitors	9004	NC	Initial
Base Enhanced SCSI-2 Differential Fast/Wide Adapter/A	9212	NC	Initial
3.5-Inch 1.44MB Diskette Drive Specify	9221	NC	Initial
Language Group Specify — U.S. English	9300	NC	Initial
Base SCSI Cable to Internal Devices	9441	NC	Initial
Base Quad-Speed Tray-Loading CD-ROM Module	9607	NC	Initial
Language Group Specify — Canadian French	9712	NC	Initial
Power Cord Specify —			
United States/Canada	9800	NC	Initial
Chicago (125 V, 15 A) (1.8 m)(6 ft)	9986	NC	Initial

Model Conversion Purchase Prices

Model From	Model To	Model Conversion Purchase Price*
520	J50	$34,900
52H	J50	34,900
530	J50	34,900
53E	J50	34,900
53H	J50	34,900
540	J50	34,900
550	J50	34,900
55E	J50	34,900
55S	J50	34,900
560	J50	34,900
56F	J50	34,900
55L	J50	34,900
570	J50	24,900
57F	J50	24,900
580	J50	24,900
58F	J50	24,900
58H	J50	24,900
590	J50	24,900
59H	J50	24,900
J30	J50	18,000
J40	J50	18,000

* Parts removed or replaced become the property of IBM and must be returned.

Call Now to Order

To order, contact IBM North America Sales Call Center, your local IBM representative, or your IBM Business Partner™.

IBM North America Sales Call Center, our national direct marketing organization, can also arrange to put your name on the mailing list for catalogs of IBM products.

Phone: 800-IBM-CALL
Fax: 800-2IBM-FAX
Internet: ibm__direct@vnet.ibm.com
Mail: IBM North America Call Sales Center
Dept. RE010
P.O. Box 16848
Atlanta, GA 30321-0848
Reference: RE010

To identify your local IBM Business Partner or IBM representative, call 800-IBM-4YOU.

Note: Shipments will begin after the planned availability date.

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