



IBM IntelliStation POWER 185 offers PowerPC technology in a UNIX workstation

Overview

The IntelliStation® POWER™ 185 workstation (7047-185) is designed for CATIA V4 and V5 customers who have outgrown their current workstation. The POWER 185 is a UNIX® workstation that can help improve design engineer productivity at an affordable price. It is also an excellent choice for software development or support environments and can be used with other MCAD and CAE applications that require advanced 3D graphics.

The POWER 185 workstation comes in a deskside package and is available with either a one-way or two-way 2.5 GHz PowerPC® 970 processor with 1 MB of L2 cache per processor.

The POWER 185 workstation has a base memory of 512 MB, expandable to 8 GB. The system contains three internal 3.5-inch disk drive bays and two 5.25-inch media bays. The media bays can contain a DVD-ROM, DVD-RAM, or tape drive.

Other integrated features include:

- Two PCI-X, 64-bit, 133 MHz slots
- Two PCI-X, 64-bit, 100 MHz slots
- One PCI, 32-bit, 33 MHz slot
- Integrated controllers and ports
 - Dual 10/100/1000 Ethernet (one controller with two ports)
 - Ultra320 SCSI controller (internal and external ports)
 - Four USB ports (two front/two rear)
 - Two serial ports

The POWER 185 workstation is backed by a one-year warranty.

Key prerequisites

If installing AIX® on the system, select one of the following:

- AIX 5L™ for POWER V5.2 with the 5200-08 Technology Level (APAR IY77270), or later
- AIX 5L for POWER V5.3 with the 5300-04 Technology Level (APAR IY77273), or later

If installing Linux™ on the system, select one of the following:

- SUSE Linux Enterprise Server 9 SP3 for POWER, or later
- Red Hat Enterprise Linux AS 4 U3 for POWER, or later

Planned availability date

February 24, 2006

At a glance

The IntelliStation POWER 185 workstation offers:

- Outstanding value for entry UNIX or Linux workstations
- Low price for CATIA V4 and CATIA V5 customers
- One-way or two-way 2.5 GHz PowerPC 970 processors
- A quiet deskside form factor
- An excellent option for price sensitive customers
- IBM Director (included with the system)
- Three DASD bays for 3.5-inch disk drives accommodating 900 GB of internal disk storage
- Two media bays for DVD-ROM, DVD-RAM, or tape

For ordering, contact:

Your IBM representative, an IBM Business Partner, or the Americas Call Centers at

800-IBM-CALL

Reference: YE001

This announcement is provided for your information only. For additional information, contact your IBM representative, call 800-IBM-4YOU, or visit the IBM home page at: <http://www.ibm.com>.

Description

IntelliStation POWER 185 Workstation

Summary of standard features

- Deskside configuration
- One- and two-way 2.5 GHz PowerPC 970 SMP design (one processor card)
- 512 MB of DDR-1 333 MHz ECC memory, expandable to 8 GB
- Three DASD bays for 3.5-inch disk drives
- Two media bays
 - Bay 1: One DVD-ROM (default option, which can be deselected) or one DVD-RAM (optional)
 - Bay 2: One tape drive
- Five slots (long)
 - Two PCI-X, 64-bit, 133 MHz
 - Two PCI-X, 64-bit, 100 MHz
 - One PCI-X, 32-bit, 33 MHz
- Integrated controllers and ports
 - Dual 10/100/1000 Ethernet (one controller with two ports)
 - Ultra320 SCSI controller (internal and external ports)
 - Four USB ports (two front/two rear)
 - Two serial ports
- 530-watt ac power supply

IntelliStation POWER 185 workstation express product offerings

Express product offerings are available only as initial order.

If you order a POWER 185 workstation with the one-way (#5328) or two-way (#5325) 2.5 GHz PowerPC processor with 1 MB of L2 cache per processor with a minimum configuration, you qualify for an Express product offering. You receive a processor entitlement at no extra charge. The number of processors, total memory, and quantity/size of disk are the only features that determine if you qualify for a processor entitlement at no additional charge.

When you purchase an Express product offering, you are entitled to a lower priced AIX 5L operating system license, or you may choose to purchase the system with no operating system. The lower priced AIX 5L operating system is processed via a feature number on AIX 5L.

You can make changes to the standard features as needed and still qualify for processor entitlements at no additional charge and a lower priced AIX 5L operating system license. However, selection of total memory or DASD smaller than the total defined as the minimums disqualifies the order as an Express product offering.

Express product offering for one-way processor

- One 1-way, 2.5 GHz processor card (#5328)
- One 2048 MB (2 x 1024 MB) DIMMs (#4461)
- One 73.4 GB 10,000 rpm disk drive (#3579)
- One DVD-ROM (#5764)

- One IDE cable (#4252)
- One GXT4500P graphics accelerator (#2842)
- One T119 Flat Panel Monitor (#3644)
- One Quiet Touch Keyboard —USB (#88xx)
- One 3-button Optical Mouse —USB (#8841)
- One IBM acoustic deskside cover set (#7168)
- One power supply, 530 watt (#5171)
- One cable, 4-drop controller to DASD (#4277)
- One language group specify (#9300 or 97xx)
- One power cord (#6470), default

Receive one processor entitlement (#8429) at no additional charge. One processor is entitled.

Express product offering for 2-way processor

- One 2-way, 2.5 GHz processor card (#5325)
- Two 2048 MB (2 x 1024 MB) DIMMs (#4461)
- Two 73.4 GB 10,000 rpm disk drive (#3579)
- One DVD-ROM (#5764)
- One IDE cable (#4252)
- One GXT4500P graphics accelerator (#2842)
- One T119 Flat Panel Monitor (#3644)
- One Quiet Touch Keyboard —USB (#88xx)
- One 3-button Optical Mouse —USB (#8841)
- One IBM acoustic deskside cover set (#7168)
- One power supply, 530 watt (#5171)
- One cable, 4-drop controller to DASD (#4277)
- One language group specify (#9300 or 97xx)
- One power cord (#6470), default
- One processor entitlement (#7302)

Receive one processor entitlement (#8417) at no additional charge. One processor is entitled.

Reliability, availability, and serviceability (RAS)

Reliability, fault tolerance, and data integrity: The reliability of the IntelliStation POWER 185 workstation starts with components, devices, and subsystems that are designed to be fault-tolerant. During the design and development process, subsystems go through rigorous verification and integration testing processes. During system manufacturing, systems go through a thorough testing process designed to help ensure the highest level of product quality.

The IntelliStation POWER 185 workstation L2 cache and system memory include error checking and correcting (ECC) fault-tolerant features. ECC can correct environmentally induced, single-bit, intermittent memory failures and single-bit hard failures. With ECC, the likelihood of memory failures is substantially reduced. ECC also provides double-bit memory error detection that helps protect data integrity in the event of a double-bit memory failure. The PCI buses are designed with parity error detection.

Disk mirroring and disk controller duplexing are also included with the AIX operating system. Linux supports DASD mirroring (RAID-1) in software using the md driver. Some of the hardware RAID adapters that run on Linux also support mirroring.

The Journaled File System maintains file system consistency and reduces the likelihood of data loss when the system is abnormally halted due to a power failure.

Memory error correction extensions: The standard memory has single-error-correct and double-error-detect ECC circuitry to correct single-bit memory failures. Double-bit detection can help maintain data integrity by detecting and reporting multiple errors beyond what the ECC circuitry can correct.

The memory is tested using hardware assists (“scrubbing”) in the memory controller to run cell tests on each bank of memory to help prevent multiple bit errors.

Service processor: The service processor standard on the POWER 185 workstation diagnoses, checks the status of, and senses the operational conditions of the system.

The service processor runs on its own power boundary and does not require a system processor to be operational to perform its tasks.

The service processor offers:

- Environmental sensing and control — Monitors, alerts, and adjusts the environmental characteristics of the system fans, temperature, voltage, power supply, VRMs, PFAs
- Support for LED diagnostics (faults)
- Checkstop monitoring
- Alternate bootblock recovery (ABR) (Temp/Perm side)
- Operating system (Firmware) Watchdog timer — Ability to determine if operating system has hung and restart the firmware
- BMC handshake with firmware — Guaranty of exchange of errors (to operating system)

Fault-monitoring functions

- BIST and POST check the processor, memory, and associated hardware required for proper booting of the operating system every time the system is powered on. If a noncritical error is detected, or if the errors occur in the resources that can be removed from the system configuration, the booting process is designed to proceed to completion. The errors are logged in the system nonvolatile RAM (NVRAM).
- Disk drive fault tracking can alert the system administrator of an impending disk failure before it affects customer operation.
- The AIX or Linux log (where hardware and software failures are recorded and analyzed by the Error Log Analysis (ELA) routine) warns the system administrator about the causes of system problems.

Mutual surveillance: The service processor monitors the operation of the firmware during the boot process, and also monitors the Hypervisor for termination. The Hypervisor monitors the service processor and performs a reset/reload if it detects the loss of the service processor. If the reset/reload does not correct the problem with the service processor, the Hypervisor notifies the operating system.

Environmental monitoring functions

- Temperature monitoring increases the fan speed rotation when ambient temperature is above the normal operating range.
- Temperature monitoring warns the system administrator of potential environmental related-problems (for example, air conditioning and air circulation around the system) so that appropriate corrective actions can be taken before a critical failure threshold is reached. It also performs an orderly system shutdown when the operating temperature exceeds the critical level.

- Fan speed monitoring provides a warning and an orderly system shutdown when the speed is out of the operational specification.
- Voltage monitoring provides a warning and an orderly system shutdown when the voltages are out of the operational specification.

Error handling and reporting: In the unlikely event of system hardware or environmentally induced failure, run-time error capture analyzes the hardware error signature to determine the cause of failure. The analysis is stored in the system NVRAM. When the system can be successfully rebooted either manually or automatically, the error is reported to the AIX or Linux operating system. Error Log Analysis (ELA) can be used to display the failure cause and the physical location of failing hardware.

A hardware fault turns on the “System Fault” LED indicating the presence of an error condition on the system. Every FRU/CRU will also have a LED (fault mode (solid on) or identify mode (blinking)). On detection of an error requiring component replacement, the detecting entity will turn on the associated FRU/CRU fault LED next to the failing FRU/CRU which makes the replacement of a component easy.

The system fault LED can be put into “remind mode” indicating that a system fault exists and the system administrator has chosen a defer repair on the system. If any other serviceable event occurs on the system, the remind mode is changed back to system fault mode (solid on) indicating another error has occurred.

Availability enhancement functions: The auto-restart (reboot) option, when enabled, can reboot the system automatically following an unrecoverable software error, software hang, hardware failure, or environmentally induced (ac power) failure.

Serviceability: The IntelliStation POWER 185 workstation is designed for customer setup of the machine and for subsequent addition of most features (adapters/devices)¹.

¹ This RAS function is not supported under Linux. For a fee, IBM service can perform the installation.

- You can replace service parts. LEDs indicate the parts that need to be replaced.
- The diagnostics consist of stand-alone diagnostics, loaded from the DVD-ROM drive, and online diagnostics.
- Online Diagnostics¹, when installed, are resident with the AIX operating system on the disk or system. They can be booted in single-user mode (service mode), run in maintenance mode, or run concurrently (concurrent mode) with other applications. They have access to the AIX error log and the AIX configuration data.
 - Service mode allows checking of system devices and features.
 - Concurrent mode allows the normal system functions to continue while selected resources are being checked.
 - Maintenance mode allows checking of system I/O resources.
- The System Management Services (SMS) error log is accessible from the SMS menu for tests performed through SMS programs.

Service Agent: The Service Agent is available at no additional charge. When installed on an IntelliStation

POWER 185 workstation, the Service Agent can improve the level of maintenance service from IBM.

The Service Agent

- Monitors and analyzes system errors, and if needed, can automatically place a service call to IBM without customer intervention
- Can help reduce the effect of business disruptions due to unplanned system outages and failures
- Performs problem analysis on a subset of hardware-related problems and, with customer authorization, can report automatically the results to IBM service

Online customer support (OCS): System specialists can provide OCS for hardware problem reporting via remote login. The Electronic Service Agent™ software can also be used.

AIX Support offerings will be under AIXSERV and Electronic Service Agent.

Business Partner information

If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to Business Partner information for this announcement. A PartnerWorld ID and password are required (use IBM ID).

BP Attachment for Announcement Letter 106-157

<https://www.ibm.com/partnerworld/mem/sla.jsp?num=106-157>

Trademarks

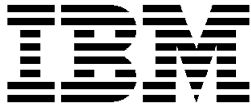
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IBM United States Announcement Supplemental Information

February 14, 2006

Discretionary information

Linux™ support

For information on features and external devices supported by Linux on the POWER™ 185 workstation, visit

<http://www.ibm.com/servers/eserver/openpower/>

<http://www.ibm.com/servers/eserver/pseries/linux>

Certain machine types that are supported on the POWER 185 workstation require installation of specific I/O adapters. If those I/O adapters are not supported by SUSE Linux Enterprise Server 9 SP3 for POWER, or later, or Red Hat Enterprise Linux AS 4 U3 for POWER, the external machine types cannot be ordered on the system. The configurator generates a validation error and you must remove the external machine type from the initial order.

Some functions are not available when you run Linux on the POWER 185 workstation. Graphics adapter capability and support are limited.

Publications

The following information is shipped with the POWER 185 workstation. Additional copies are available. To order, contact your IBM representative.

| Title | Order number |
|---|--------------|
| IBM System Hardware Information Center CD-ROM | SK3T-8159 |
| IBM eServer Safety Information | G229-9054 |
| Setup Instructions | SA41-5156 |
| IBM Statement of Limited Warranty | Z125-4753 |
| IBM License Agreement for Machine Code | Z125-5468 |

Hardware documentation such as installation instructions, user's information, and service information is available to download or view

<http://publib.boulder.ibm.com/server/>

Services

Integrated Technology Services

IBM services include business consulting, outsourcing, hosting services, applications, and other technology management.

These services help you learn about, plan, install, manage, or optimize your IT infrastructure to be an On Demand Business. They can help you integrate your high-speed networks, storage systems, application servers, wireless protocols, and an array of platforms, middleware, and communications software for IBM and

many non-IBM offerings. IBM is your one-stop shop for IT support needs.

For details on available services, contact your IBM representative or visit

<http://www.ibm.com/services/>

For details on available IBM Business Continuity and Recovery Services, contact your IBM representative or visit

<http://www.ibm.com/services/continuity>

For details on education offerings related to specific products, visit

<http://www.ibm.com/services/learning/index.html>

Select your country, and then select the product as the category.

Technical information

Specified operating environment

Physical specifications

- Width: 216 mm (8.5 in); 257 mm (10.1 in) with tip stability feet
- Depth: 640 mm (25.2 in)
- Height: 469 mm (18.5 in)
- Weight: 25 kg (55 lb) (maximum configuration)

To facilitate installability and serviceability in non-IBM industry standard racks, review the installation planning information for any product specific installation requirements.

Operating environment

- Temperature: (nonoperating) 5° to 45°C (41° to 113°F); recommended temperature (operating) 5° to 35°C (41° to 95°F)
- Relative humidity: 8% to 80%
- Maximum dew point: (power off) 29 degrees C (84.2 F)
- Operating voltage: 100 to 127 V ac or 200 to 240 V ac (auto-ranging)
- Operating frequency: 50/60 Hz
- Power consumption: 450 watts (maximum configuration)
- Power factor: 0.95
- Power-source loading: 0.474 kVA (maximum configuration)
- Thermal output: 1,536 Btu/hour (maximum configuration)
- Maximum altitude: 3,048 m (10,000 ft)

This announcement is provided for your information only. For additional information, contact your IBM representative, call 800-IBM-4YOU, or visit the IBM home page at: <http://www.ibm.com>.

- Sound power:
 - One-way processor, 4.7 bels idle/5.0 bels operating
 - Two-way processor, 4.9 bels idle/5.1 bels operating

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.A.: FCC Class B
- Europe: CISPR 22 Class B
- Japan: VCC-B
- Korea: Korean Requirement Class B
- China: People's Republic of China commodity inspection law

Note: Installing a disk drive in an externally attached device (supported device) will keep the system from meeting Class B certification.

Homologation — Telecom Environmental Testing (Safety and EMC): Homologation approval for specific countries has been initiated with the IBM Homologation and Type Approval (HT&A) organization in LaGaude. This POWER 185 model and applicable features meet the environmental testing requirements of the country TELECOM and have been designed and tested in compliance with the Full Quality Assurance Approval (FQAA) process as delivered by the British Approval Board for Telecom (BABT), the U.K. Telecom regulatory authority.

Product safety/Country testing/Certification

- UL 1950 Underwriters Laboratory, Safety Information
- CSA C22.2 No. 950-M86
- EN60950 European Norm
- IEC 950, Edition 1, International Electrotechnical Commission, Safety Information
- Nordic deviations to IEC-950 1st Edition, as outlined in document EMO-TSE (05-SEC) 200/93

General requirements: The product is in compliance with IBM Corporate Bulletin C-B 0-2594-000 Statement of Conformity of IBM Product to External Standard (Suppliers Declaration).

Hardware requirements

POWER 185 system configuration

The minimum POWER 185 workstation configuration must include a processor, a processor entitlement, memory, power supply, HAD, controller-to-DASD cable, graphics accelerator, cover indicator, power cord, and a language group specify. The defaults, if no choice is made, are:

- One-way, 2.5 GHz processor (#5328)
- One processor entitlement (#7329)
- 512 MB memory DIMMs (#4462)
- Power supply, 530-watt base (#5171)
- 73.4 GB HAD (#3579)
- GXT135P Graphics accelerator (#1980)
- Cable, controller to 4x bolt-in DASD (#4277)
- IBM acoustic covers (#7168)
- Language group specify (#9300 or 97xx)
- Power cord (#6470-#6478, #6487, #6488, #6493-#6496, #6651, #6659, #6670, #6680, or #6687); Default: #6470

A keyboard, mouse, and monitor are available as options.

The POWER 185 workstation can be configured to incorporate two processors, 8 GB of system memory, five PCI adapters, and a media device. This flexibility is made

available through the many optional features for the POWER 185 workstation.

Each POWER 185 workstation **must include a minimum of** the following items:

- One system central electronics complex (SEC) enclosure with the following items:
 - One power cord (#6470-#6478, #6487, #6488, #6493-#6496, #6651, #6659, #6670, #6680, or #6687); Default: #6470
 - One language group, specify (#9300 or #97xx)
- Choice of one processor card from:
 - PowerPC® processor — one-way 2.5 GHz (#5328)
 - PowerPC processor — two-way 2.5 GHz (#5325)
- One or two processor entitlements:
 - For processor card (#5328), use one #7329 or #8429
 - For processor card #5325, use 2 x #7302, or 1 x #7302 and 1 x #8417
- 512 MB minimum memory from
 - 512 MB DDR-1 Memory (2 x 256 MB DIMMs) (#4462)
 - 1024 MB DDR-1 Memory (2 x 512 MB DIMMs) (#4460)
 - 2048 MB DDR-1 Memory (2 x 1024 MB DIMMs) (#4461)
 - 4096 MB DDR-1 Memory (2 x 2048 MB DIMMs) (#4463)
- Disk drive from
 - 73.4 GB Ultra320 10,000 rpm (#3579)
 - 146.8 GB Ultra320 10,000 rpm (#3580)
 - 300 GB Ultra320 10,000 rpm (#3581)
- Graphics adapter from
 - GXT135P (#1980)
 - GXT4500P (#2842)
 - GXT6500P (#2843)
- One 530-watt ac power supply (#5171)
- Deskside acoustic covers (#7168)

RAID: Internal RAID is not available on the POWER 185 workstation.

Software requirements: If installing AIX® on the system, select one of the following:

- AIX 5L™ for POWER V5.2 with the 5200-08 Technology Level (APAR IY77270), plus mandatory APAR IY80900, or later
- AIX 5L for POWER V5.3 with the 5300-04 Technology Level (APAR IY77273), plus mandatory APAR IY80899 planned to be available March 1, 2006, or later

APARs can be downloaded from:

<http://www.ibm.com/servers/eserver/support/unixservers/aixfixes.html>

If installing Linux on the system, select one of the following:

- SUSE Linux Enterprise Server 9 SP3 for POWER, or later
- Red Hat Enterprise Linux AS 4 U3 for POWER, or later

Note: The GXT4500P (#2842) and GXT6500P (#2843) graphics accelerators are not supported by Linux.

Note: Not all POWER 185 system features available on the AIX operating system are available on the Linux operating system.

For information on the POWER 185, visit

<http://www.ibm.com/servers/eserver/pseries/linux>

Limitations

Processor cards

- Only one processor card can be installed in the system.
- Processor cards are soldered to the planar.
- All processors installed in the system must be entitled:
 - Feature #5328 requires 1 x #7329 or 1 x #8429.
 - Feature #5325 requires 2 x #7302 or 1 x #7302 and 1 x #8417.

Power supply: The base machine contains one 530-watt ac power supply (#5171) and no redundant power.

System memory

- Maximum 8 GB of system memory
- Minimum 512 MB of system memory
- Memory DIMMs are installed in pairs
- Memory feature numbers can be mixed within a system

Memory features

| Feature | Feature number | Minimum quantity | Maximum quantity |
|--------------------------------|----------------|------------------|------------------|
| 512 MB (2 x 256 MB DIMMs) | 4462 | 0 | 2 |
| 1024 MB (2 x 512 MB DIMMs) | 4460 | 0 | 2 |
| 2048 MB (2 x 1024 MB DIMMs) | 4461 | 0 | 2 |
| 4096 MB (2 x 2048 MB DIMMs) | 4463 | 0 | 2 |

PCI card slots: The POWER 185 has two 133 MHz, 64-bit PCI-X slots, two 100 MHz, 64-bit PCI-X slots, and one 33 MHz, 32-bit PCI slot.

Graphics adapters

- Keyboard and mouse are not required in the minimum configuration.
- The maximum number of graphics adapters supported is four.
- The GXT4500P (#2842) and GXT6500P (#2843) are not supported by SUSE Linux Enterprise Server 9 SP3 for POWER, or later, or Red Hat Enterprise Linux AS 4 U3 for POWER, or later

I/O adapter features

| I/O Adapter | Orderable Feature number | Supported Feature Number | Max qty | Size |
|------------------------------|--------------------------|--------------------------|---------|-------|
| PCI-X Ultra320 SCSI DDR | 1912 | 5736 | 4 | Short |
| PCI-X Ultra320 SCSI RAID DDR | 1913 | 5737 | 4 | Long |

| | | | | |
|---|------|------|---|-------|
| 4-Port 10/100/100 Ethernet | 1954 | 5740 | 2 | Short |
| 2 Gb Fibre Channel PCI-X Gigabit Ethernet | 1977 | 5716 | 1 | Short |
| 10/100/1000 Ethernet | 1978 | 5700 | 4 | Short |
| GXT135P Graphics Accelerator | 1979 | 5701 | 4 | Short |
| GXT4500P Graphics Accelerator | 1980 | 2849 | 4 | Short |
| GXT6500P Graphics Accelerator | 2842 | | 2 | Long |
| 2-Port 10/100/1000 Ether. | 2843 | | 1 | Long |
| 2-Port Gigabit Ethernet-SX | 1983 | 5706 | 3 | Short |
| TOE Gigabit Ethernet (Copper) | 1984 | 5707 | 3 | Short |
| TOE Gigabit Ethernet (Fiber) | 1986 | 5713 | 3 | Short |
| 8-Port Asynchronous EIA(TM)-232 | 1987 | 5714 | 3 | Short |
| Artic960 Hx 4-Ports | 2943 | | 2 | Short |
| 2-Port Asynchronous IEA-232 | 2947 | | 3 | Long |
| Audio PCI Adapter | 5723 | | 2 | Short |
| | | 8244 | 1 | Short |

Storage devices and bays: Three DASD bays can accommodate three 3.5-inch disk drives with a capacity of 900 GB of disk storage. A maximum of three total of feature numbers 1991, 1992, 1997, 1892, 3579, 3580, and 3581 may be installed in the system. If feature number 1991, 1992, 1997, or 1892 is installed in the system, a maximum of two of feature numbers 3579, 3580, and 3581 is allowed.

Storage device features

| Device | Maximum quantity | Media bay | Orderable feature number | Supported feature number |
|--|------------------|-----------|--------------------------|--------------------------|
| DVD-ROM (IDE) | 1 | Media 1 | 5764 | |
| DVD-RAM (IDE) | 1 | Media 1 | 5763 | |
| 4-mm 36/72 GB Tape (LVD) | 1 | Media 2 | 1991 | 6258 |
| 8-mm 80/160 GB Tape (LVD) | 1 | Media 2 | 1992 | 6120 |
| 200/400 GB Tape (LTO2) | 1 | Media 2 | 1997 | 5755 |
| 160/320 GB Tape (LVD) | 1 | Media 2 | 1892 | 6279 |
| 73.4 GB 10,000 RPM Ultra320 SCSI Disk, Non hot-swap | 3 | DASD 1-3 | 3579 | |
| 146.8 GB 10,000 RPM Ultra320 SCSI Disk, Non hot-swap | 3 | DASD 1-3 | 3580 | |
| 300 GB 10,000 RPM Ultra320 SCSI Disk, Non hot-swap | 3 | DASD 1-3 | 3581 | |

Linux operating system: If you are installing SUSE Linux Enterprise Server 9 SP3 for POWER, or later, or Red Hat Enterprise Linux AS 4 U3 for POWER, or later, visit the following Web site for information on supported I/O adapters and storage devices

<http://www.ibm.com/servers/eserver/pseries/hardware/facts/features.html>

Planning information

Cable orders: No additional cables are required.

Security, auditability, and control

This product uses the security and auditability features of host 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.

IBM Electronic Services

IBM Global Services has transformed its delivery of hardware and software support services to put you on the road to higher systems availability. IBM Electronic Services is a Web-enabled solution that provides you with an exclusive, no-additional-charge enhancement to the service and support on the IBM eServer. You should benefit from greater system availability due to faster problem resolution and preemptive monitoring. IBM Electronic Services is comprised of two separate, but complementary, elements: IBM Electronic Services news page and IBM Electronic Service Agent™.

IBM Electronic Services news page provides you with a single Internet entry point that replaces the multiple entry points traditionally used by customers to access IBM Internet services and support. The news page enables you to gain easier access to IBM resources for assistance in resolving technical problems.

The IBM Electronic Service Agent is a no-additional-charge software that resides on your IBM eServer system. It is designed to proactively monitor events and transmit system inventory information to IBM on a periodic, customer-defined timetable. The IBM Electronic Service Agent tracks system inventory, hardware error logs, and performance information. If the server is under a current IBM maintenance service agreement or within the IBM warranty period, the Service Agent automatically reports hardware problems to IBM.

Early knowledge about potential problems enables IBM to provide proactive service that maintains higher system availability and performance. In addition, information collected through the Service Agent will be made available to IBM service support representatives when they are helping answer your questions or diagnosing problems.

To learn how IBM Electronic Services can work for you, visit

<http://www.ibm.com/support/electronic>

Terms and conditions

Volume orders: Contact your IBM representative.

IBM Global Financing: Yes

Warranty period: One year

Warranty service: If required, IBM provides repair or exchange service depending on the types of warranty service specified for the machine. IBM will attempt to resolve your problem over the telephone, or electronically via an IBM Web site. You must follow the problem determination and resolution procedures that IBM specifies. Scheduling of service will depend upon the time of your call and is subject to parts availability. If applicable to your product, parts considered customer replaceable units (CRUs) will be provided as part of the machine's standard warranty service.

Service levels are response time objectives and are not guaranteed. The specified level of warranty service may not be available in all worldwide locations. Additional charges may apply outside IBM's normal service area. Contact your local IBM representative or your reseller for country and location specific information. This product is covered by the following types of service.

CRU service and on-site for other selected parts

CRU service: IBM provides replacement CRUs to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM upon your request. CRUs are designated as being either a Tier 1 or a Tier 2 CRU.

- Tier 1 CRU

Installation of Tier 1 CRUs is your responsibility. If IBM installs a Tier 1 CRU at your request, you will be charged for the installation.

- Tier 2 CRU

You may install a Tier 2 CRU yourself or request IBM to install it, at no additional charge.

Based upon availability, CRUs will be shipped for next-business-day (NBD) delivery. IBM specifies, in the materials shipped with a replacement CRU, whether a defective CRU must be returned to IBM. When return is required, return instructions and a container is shipped with the replacement CRU and you may be charged for the replacement CRU if IBM does not receive the defective CRU within 30 days of your receipt of the replacement.

The following parts have been designated as Tier 1 CRU parts:

- PCI adapters
- AC power cord
- AC power supply
- Battery
- DASD
- DVD drive
- Fans
- Operator panel
- IDE and SCSI cables
- Light path cards
- Memory DIMMs
- Speaker
- Keyboard
- Mouse and SpaceBall
- Display and display stands
- External cables
- Mounting hardware
- Diagnostics and testing accessories
- Blank fillers
- Remote Asynchronous Node

On-site service: IBM will repair the failing machine at your location and verify its operation. You must provide suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well-lit, and suitable for the purpose.

Nine hours per day, Monday through Friday, excluding holidays, NBD response

Non-IBM parts support

IBM is now shipping machines with selected non-IBM parts that contain an IBM field replaceable unit (FRU) part number label. These parts are to be serviced during the IBM machine warranty period. IBM is covering the service on these selected non-IBM parts as an accommodation to their customers, and normal warranty service procedures for the IBM machine apply.

Warranty service upgrades and maintenance service options

Warranty service upgrades

During the warranty period, warranty service upgrades provide an enhanced level of on-site service for an additional charge. A warranty service upgrade must be purchased during the warranty period and is for a fixed term (duration). It is not refundable or transferable and may not be prorated. If required, IBM will provide the warranty service upgrade enhanced level of on-site service acquired by the customer. Service levels are response time objectives and are not guaranteed.

IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM Web site. You must follow the problem determination and resolution procedures that IBM specifies. Scheduling of service will depend upon the time of your call and is subject to parts availability.

On-site service: IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well-lit, and suitable for the purpose. The following service selections are available as warranty upgrades for your machine type.

- 9 hours per day, Monday through Friday, excluding holidays, 4-hour average, same-business-day response
- 24 hours per day, 7 days a week, 4-hour average response
- 24 hours per day, 7 days a week, 2-hour average response

CRUs may be provided as part of the machine's standard warranty CRU Service except that you may install a CRU yourself or request IBM installation, at no additional charge, under one of the On-site Service levels specified above. For additional information on the CRU service, see warranty information.

Maintenance services: If required, IBM provides repair or exchange service depending on the types of maintenance service specified for the machine. IBM will attempt to resolve your problem over the telephone or electronically, via an IBM Web site. You must follow the problem determination and resolution procedures that IBM specifies. Scheduling of service will depend upon the time of your call and is subject to parts availability.

Service levels are response time objectives and are not guaranteed. The specified level of maintenance service may not be available in all worldwide locations. Additional charges may apply outside IBM's normal service area. Contact your local IBM representative or your reseller for country and location specific information. The following service selections are available as maintenance options for your machine type.

On-site service: IBM will repair the failing machine at your location and verify its operation. You must provide suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well-lit, and suitable for the purpose.

- 9 hours per day, Monday through Friday, excluding holidays, NBD response
- 9 hours per day, Monday through Friday, excluding holidays, 4 hour average response

- 24 hours per day, 7 days a week, 4-hour average response
- 24 hours per day, 7 days a week, 2-hour average response

CRUs If your problem can be resolved with a CRU (keyboard, mouse, speaker, memory, or HDD), and depending upon the maintenance service offerings in your geography, IBM will ship the CRU to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM upon your request.

Based upon availability, CRUs will be shipped for next business day delivery. IBM specifies, in the materials shipped with a replacement CRU, whether a defective CRU must be returned to IBM. When return is required, return instructions and a container is shipped with the replacement CRU and you may be charged for the replacement CRU if IBM does not receive the defective CRU within 30 days of your receipt of the replacement.

CRUs may be provided as part of the machine's standard maintenance service except that you may install a CRU yourself or request IBM installation, at no additional charge, under any of the on-site service levels specified above.

Non-IBM parts support

Under certain conditions, IBM Integrated Technology Services repairs selected non-IBM parts at no additional charge for machines that are covered under warranty service upgrades or maintenance services.

IBM Service provides hardware problem determination on non-IBM parts (adapter cards, PCMCIA cards, disk drives, memory, and so forth) installed within IBM systems covered under warranty service upgrades or maintenance services and provides the labor to replace the failing parts at no additional charge.

If IBM has a Technical Service Agreement with the manufacturer of the failing part, or if the failing part is an accommodations part (a part with an IBM FRU label), IBM may also source and replace the failing part at no additional charge. For all other non-IBM parts, customers are responsible for sourcing the parts. Installation labor is provided at no additional charge, if the machine is covered under a warranty service upgrade or a maintenance service.

Usage plan machine: No

IBM hourly service rate classification: Two

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.

Field-installable features: Yes

Model conversions: No

Machine installation: Customer setup; customers are responsible for installation according to the instructions IBM provides with the machine.

Graduated program license charges apply: Yes

The applicable processor group is D5.

Licensed machine code:

IBM Machine Code is licensed for use by a customer on

the IBM machine for which it was provided by IBM under the terms and conditions of the IBM License Agreement for Machine Code, to enable the machine to function in accordance with its specifications, and only for the capacity authorized by IBM and for which the customer has acquired. You can obtain the agreement by contacting your IBM representative or at

http://www.ibm.com/servers/support/machine_warranties/machine_code.html

IBM may release changes to the machine code. IBM plans to make the machine code changes available for download from the pSeries technical support Web site:

<http://techsupport.services.ibm.com/server/mdownload>

If the machine does not function as warranted and your problem can be resolved through your application of downloadable machine code, you are responsible for downloading and installing these designated machine code changes as IBM specifies. If you would prefer, you may request IBM to install downloadable machine code changes; however, you may be charged for that service.

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

Prices

The following are newly announced features on the specified models of the IntelliStation® POWER 7047 machine type:

| Description | Feature number | Purchase price | MMMC | Initial/MES/Both | RP CSU MES | | | | |
|---|----------------|----------------|-------|------------------|------------|--|--|--|--|
| Model 185 | | | | | | | | | |
| IntelliStation POWER MT 7047 | | \$ 200 | \$ 35 | | | | | | |
| SystemSeller(TM) Indicator | 0050 | 0 | | Both | Yes No | | | | |
| Made In America Indicator | 0983 | NC | | Initial | | | | | |
| CCS Customer Service Specify (U.S.) | 0986 | NC | | Initial | | | | | |
| VXA-320 160/320GB Internal Tape Drive | 1892 | 1,500 | 61 | Both | Yes No | | | | |
| PCI-X DDR Dual Channel Ultra320 SCSI Adapter | 1912 | 587 | | Both | Yes No | | | | |
| PCI-X DDR Dual Channel Ultra320 SCSI RAID Adapter | 1913 | 1,999 | | Both | Yes No | | | | |
| 4-Port 10/100/1000 Base-TX PCI-X Adapter | 1954 | 830 | | Both | Yes No | | | | |
| 2 Gigabit Fibre Channel PCI-X Adapter | 1977 | 1,399 | | Both | Yes No | | | | |
| IBM Gigabit Ethernet-SX PCI-X Adapter | 1978 | 863 | | Both | Yes No | | | | |
| IBM 10/100/1000 Base-TX Ethernet PCI-X Adapter | 1979 | 205 | | Both | Yes No | | | | |
| POWER GXT135P Graphics Accelerator with Digital Support | 1980 | 339 | | Both | Yes No | | | | |
| IBM 2-Port 10/100/1000 Base-TX Ethernet PCI-X Adapter | 1983 | 332 | | Both | Yes No | | | | |
| IBM 2-Port Gigabit Ethernet-SX PCI-X Adapter | 1984 | 1,322 | | Both | Yes No | | | | |
| 1 Gigabit iSCSI TOE PCI-X on Copper Media Adapter | 1986 | 725 | | Both | Yes No | | | | |
| 1 Gigabit iSCSI TOE PCI-X on Optical Media | 1987 | 1,100 | | Both | Yes No | | | | |
| Adapter 36/72GB 4mm Internal Tape Drive | 1991 | 948 | 61 | Both | Yes No | | | | |
| IBM 80/160 GB Internal Tape Drive with VXA Technology | 1992 | 999 | 61 | Both | Yes No | | | | |
| 200/400GB Half High Ultrium 2 Tape Drive Converter Cable, VHDCI to P, Mini-68 pin to 68 pin, 0.3M | 1997 | 5,200 | 61 | Both | Yes No | | | | |
| LC-SC 50 Micron Fiber Converter Cable | 2118 | 50 | | Both | Yes No | | | | |
| LC-SC 62.5 Micron Fiber Converter Cable | 2456 | 83 | | Both | Yes No | | | | |
| External USB 1.44 MB Diskette Drive | 2459 | 83 | | Both | Yes No | | | | |
| POWER GXT4500P Graphics Accelerator | 2591 | 83 | | Both | Yes No | | | | |
| POWER GXT6500P Graphics Accelerator | 2842 | 1,500 | | Both | Yes No | | | | |
| POWER GXT135P Graphics Accelerator with Digital Support | 2843 | 2,000 | | Both | Yes No | | | | |
| Asynchronous Terminal/Printer Cable EIA-232 | 2849 | 339 | | Support | Yes | | | | |
| Asynchronous Cable EIA-232/V.24 | 2934 | 37 | | Both | Yes No | | | | |
| 8-Port Asynchronous Adapter EIA-232/RS-422, PCI bus | 2936 | 61 | | Both | Yes No | | | | |
| IBM ARTIC960Hx 4-Port Multiprotocol PCI Adapter | 2943 | 1,162 | | Both | Yes No | | | | |
| 73.4 GB 10,000 rpm Ultra320 SCSI Disk Drive, Bolt-in | 2947 | 3,021 | | Both | Yes No | | | | |
| 146.8 GB 10,000 rpm Ultra320 SCSI Disk Drive, Bolt-in | 3579 | 339 | | Both | Yes No | | | | |
| 300 GB 10,000 rpm Ultra320 SCSI Disk Drive, Bolt-in | 3580 | 518 | | Both | Yes No | | | | |
| IBM P260/P275 Color Monitor, Business Black, and Cable | 3581 | 1,029 | | Both | Yes No | | | | |
| L200P Flat Panel Monitor | 3628 | 1,166 | | Support | Yes | | | | |
| IBM T541H /L150p 15-in TFT Color Monitor | 3636 | 1,645 | | Support | Yes | | | | |
| IBM C220p 21-inch Color Monitor, Business Black, and Cable | 3637 | 625 | | Support | Yes | | | | |
| ThinkVision(R) L170p Flat Panel Monitor | 3638 | 829 | | Support | Yes | | | | |
| ThinkVision L171p Flat Panel Monitor | 3639 | 829 | | Support | Yes | | | | |
| IBM T115 Flat Panel Monitor | 3640 | 829 | | Support | Yes | | | | |
| ThinkVision L191p Flat Panel Monitor | 3641 | 559 | | Both | Yes No | | | | |
| IBM T120 Flat Panel Monitor | 3642 | 1,200 | | Support | Yes | | | | |
| IBM T119 Flat Panel Monitor | 3643 | 1,325 | | Both | Yes No | | | | |
| Service Package | 3644 | 845 | | Both | Yes No | | | | |
| Serial Port Converter Cable, 9-Pin to 25-Pin | 3645 | 700 | | Both | Yes No | | | | |
| Asynch Printer/Terminal Cable, 9-pin to 25-pin, 4M | 3752 | 62 | | Both | Yes No | | | | |
| 6-Foot Extender Cable for Displays (15-pin D-shell to 15-pin D-shell) | 3925 | 21 | | Both | Yes No | | | | |
| IDE Cable, 2-drop, IDE Controller to Media Bays | 3926 | 76 | | Both | Yes No | | | | |
| Extender Cable - USB Keyboards, 2M | 4242 | 83 | | Both | Yes No | | | | |
| Connector Cable, 4-drop, Internal SCSI Controller to DASD Bays and Media Bay | 4252 | 14 | | Both | Yes No | | | | |
| 1024 MB (2 x 512 MB) DIMMs, PC2700, 333 MHz, DDR SDRAM | 4256 | 42 | | Both | Yes No | | | | |
| 2048 MB (2 x 1024 MB) DIMMs, PC2700, 333 MHz, | 4277 | 45 | | Initial | | | | | |

| | | | | | | | | | | |
|---|--------------|----------|--------------------|---------|---|---|-------|---------|--------|--------|
| DDR SDRAM 512MB (2 x 256 MB) DIMMs, PC2700, 333 MHz, | 4462 | 350 | Both | Yes No | Plug Type #25 Power Cord (6-foot), To Wall, (250V, 15A), United States, | 6487 | 14 | Both | Yes No | |
| DDR SDRAM 4096 MB (2 x 2048 MB) DIMMs, PC2700, 333 MHz, | 4463 | 3,150 | Both | Yes No | Plug Type #5 Power Cord (9-foot), To Wall/OEM PDU, | | | | | |
| Custom Service Specify Software Preinstall | 5001 5005 | NC NC | Initial Initial | | (125V, 15A or 250V, 10A), Plug Type #2 | 6488 | 40 | Both | Yes No | |
| Power Supply, 530 Watt AC | 5171 | 200 | Initial | | (250V, 10A), Plug Type #62 | 6493 | 14 | Both | Yes No | |
| 2-way 2.5 GHz PowerPC 970 Processor Card, no L3 Cache, 1 MB L2 Cache Per Processor | 5325 | 972 | 52 | Initial | (250V, 10A), Plug Type #69 | 6494 | 14 | Both | Yes No | |
| 1-way 2.5 GHz PowerPC 970 Processor Card, no L3 Cache, 1 MB L2 Cache | 5328 | 1,280 | 52 | Initial | (250V, 10A), Plug Type #73 | 6495 | 14 | Both | Yes No | |
| IBM Gigabit Ethernet-SX PCI-X Adapter | 5700 | 863 | Support | Yes | (250V, 10A), Plug Type #73 | 6496 | 14 | Both | Yes No | |
| IBM 10/100/1000 Base-TX Ethernet PCI-X Adapter | 5701 | 528 | Support | Yes | (125V, 15A), Plug Type #75 | 6651 | 14 | Both | Yes No | |
| IBM 2-Port 10/100/1000 Base-TX Ethernet PCI-X Adapter | 5706 | 755 | Support | Yes | (250V, 15A), Plug Type #76 | 6659 | 14 | Both | Yes No | |
| IBM 2-Port Gigabit Ethernet-SX PCI-X Adapter | 5707 | 1,322 | Support | Yes | Power Cord (14-foot), Drawer To OEM PDU | 6660 | 14 | Both | Yes No | |
| 1 Gigabit iSCSI TOE PCI-X on Copper Media Adapter | 5713 | 900 | Support | Yes | (125V, 15A), Plug Type #59 (Denan marking) | 6669 | 14 | Both | Yes No | |
| 1 Gigabit iSCSI TOE PCI-X on Optical Media Adapter | 5714 | 1,400 | Support | Yes | (250V, 15A), Plug Type #57 (Denan marking) | 6670 | 14 | Both | Yes No | |
| 2 Gigabit Fibre Channel PCI-X Adapter | 5716 | 1,510 | Support | Yes | Power Cord (6-foot) To Wall (125V, 15A), Plug Type #59 | 6671 | 14 | Both | Yes No | |
| 2-Port Asynchronous IEA-232 PCI Adapter | 5723 | 129 | Both | Yes No | Power Cord (9-foot), Drawer to IBM PDU, 250V/10A | 6672 | 14 | Both | Yes No | |
| PCI-X DDR Dual Channel Ultra320 SCSI Adapter | 5736 | 587 | Support | Yes | Power Cord (5-foot), Drawer to IBM PDU, 250V/10A | 6672 | 14 | Both | Yes No | |
| PCI-X DDR Dual Channel Ultra320 SCSI RAID Adapter | 5737 | 1,999 | Support | Yes | Power Cord (9-foot), To Wall/OEM PDU, (250V, 10A), Plug Type #6, Insulated | 6680 | 14 | Both | Yes No | |
| 4-Port 10/100/1000 Base-TX PCI-X Adapter | 5740 | 830 | Support | Yes | Power Cord (6-foot), To Wall, (250V, 15A), Plug Type #57 | 6687 | 14 | Both | Yes No | |
| 200/400GB Half High Ultrium 2 Tape Drive | 5755 | 5,200 | 61 | Support | Yes | (Denan marking) | | | | |
| IDE DVD-RAM Drive, Half-High | 5763 | 260 | Both | Yes No | IBM Acoustic Deskside Cover Set | 7168 | 150 | Both | Yes No | |
| IDE DVD-ROM Drive, Half-High | 5764 | 107 | Both | Yes No | OEM Acoustic Deskside Cover Set | 7170 | 150 | Both | Yes No | |
| IBM 80/160 GB Internal Tape Drive with VXA Technology | 6120 | 999 | 61 | Support | Yes | One Processor Entitlement for Processor | | | | |
| 36/72GB 4mm Internal Tape Drive | 6258 | 948 | 61 | Support | Yes | Feature #5325 | 7302 | 1,109 | Both | Yes No |
| VXA-320 160/320 GB Internal Tape Drive | 6279 | 1,500 | 61 | Support | Yes | Feature #5328 | 7329 | 545 | Both | Yes No |
| Power Cable - Drawer to IBM PDU, 14-foot, 250V/10A | 6458 | 14 | Both | Yes No | Rack Mountable Remote Asynchronous Node | 8136 | 2,083 | Support | Yes | |
| Power Cord (14-foot), Drawer To OEM PDU (125V, 15A), Plug Type #4 | 6460 | 14 | Both | Yes No | 16-Port EIA-232 Enhanced Remote Asynchronous Node | 8137 | 1,329 | Support | Yes | |
| (250V, 15A), United States, Plug Type #5 | 6469 | 14 | Both | Yes No | 16-Port EIA-232 Audio PCI Adapter for Workstations | 8244 | 29 | Support | Yes | |
| Power Cord (6-foot), To Wall (125V, 15A), Plug Type #4 | 6470 | 14 | Both | Yes No | Zero-priced Express Product Offering | 8417 | 0 | Both | Yes No | |
| Power Cord (9-foot), To Wall/OEM PDU, (125V, 15A), Plug Type #70 | 6471 | 14 | Both | Yes No | Processor Entitlement for #5325 | 8422 | 625 | Support | Yes | |
| (250V, 16A), Plug Type #18 | 6472 | 14 | Both | Yes No | SpaceBall 3D Input Device | 8423 | 625 | Support | Yes | |
| (250V, 10A), Plug Type 19 | 6473 | 14 | Both | Yes No | SpaceBall 3D Input Device (USB) | 8424 | 625 | Both | Yes No | |
| (250V, 13A), Plug Type #23 | 6474 | 14 | Both | Yes No | SpaceMouse Plus 3D Input Device (USB) | 8425 | 625 | Both | Yes No | |
| (250V, 16A), Plug Type #32 | 6475 | 14 | Both | Yes No | Zero-priced Express Product Offering | 8429 | 0 | Both | Yes No | |
| (250V, 10A), Plug Type #24 | 6476 | 14 | Both | Yes No | Processor Entitlement for #5328 | | | | | |
| (250V, 16A), Plug Type #22 | 6477 | 14 | Both | Yes No | Quiet Touch Keyboard | | | | | |
| (250V, 16A), | 6478 | 14 | Both | Yes No | USB, Business Black, U.S. English, #103P | 8800 | 83 | Both | Yes No | |
| | | | | | French, #189 | 8801 | 83 | Both | Yes No | |
| | | | | | Italian, #142 | 8802 | 83 | Both | Yes No | |
| | | | | | German/Austrian, #129 | 8803 | 83 | Both | Yes No | |
| | | | | | U.K. English, #166 | 8804 | 83 | Both | Yes No | |
| | | | | | Spanish, #172 | 8805 | 83 | Both | Yes No | |
| | | | | | Japanese, #194 | 8806 | 83 | Both | Yes No | |
| | | | | | Brazilian/Portuguese, | 8807 | 83 | Both | Yes No | |

| | | | | |
|--------------------------------------|------|----|---------|--------|
| #275 | | | | |
| Canadian French, #058 | 8808 | 83 | Both | Yes No |
| Belgian/Dutch, #120 | 8810 | 83 | Both | Yes No |
| Swedish/Finnish, #153 | 8811 | 83 | Both | Yes No |
| Danish, #159 | 8812 | 83 | Both | Yes No |
| Bulgarian, #442 | 8813 | 83 | Both | Yes No |
| Swiss/French/German, #150F/G | 8814 | 83 | Both | Yes No |
| Norwegian, #155 | 8816 | 83 | Both | Yes No |
| Portuguese, #163 | 8818 | 83 | Both | Yes No |
| Greek, #319 | 8819 | 83 | Both | Yes No |
| Hebrew #212 | 8820 | 83 | Both | Yes No |
| Hungarian, #208 | 8821 | 83 | Both | Yes No |
| Polish #214 | 8823 | 83 | Both | Yes No |
| Slovakian, #245 | 8825 | 83 | Both | Yes No |
| Czech, #243 | 8826 | 83 | Both | Yes No |
| Turkish, #179 | 8827 | 83 | Both | Yes No |
| LA Spanish, #171 | 8829 | 83 | Both | Yes No |
| Arabic, #238 | 8830 | 83 | Both | Yes No |
| Korean, #413 | 8833 | 83 | Both | Yes No |
| Chinese/U.S., #467 | 8834 | 83 | Both | Yes No |
| French Canadian, #445 | 8835 | 83 | Both | Yes No |
| Thai, #191 | 8836 | 83 | Both | Yes No |
| Russian, #443 | 8838 | 83 | Both | Yes No |
| Yugoslavian/Latin, #105 | 8839 | 83 | Both | Yes No |
| U.S. English (EMEA), #103P | 8840 | 83 | Both | Yes No |
| Mouse -- Business | 8841 | 62 | Both | Yes No |
| Black with Keyboard Attachment Cable | | | | |
| Language Group Specify | | | | |
| U.S. English | 9300 | NC | Initial | |
| Dutch | 9700 | NC | Initial | |
| French | 9703 | NC | Initial | |
| German | 9704 | NC | Initial | |
| Polish | 9705 | NC | Initial | |
| Portuguese | 9707 | NC | Initial | |
| Spanish | 9708 | NC | Initial | |
| Italian | 9711 | NC | Initial | |
| Canadian French | 9712 | NC | Initial | |
| Japanese | 9714 | NC | Initial | |
| Traditional Chinese | 9715 | NC | Initial | |
| Korean | 9716 | NC | Initial | |
| Turkish | 9718 | NC | Initial | |
| Hungarian | 9719 | NC | Initial | |
| Slovakian | 9720 | NC | Initial | |
| Russian | 9721 | NC | Initial | |
| Simplified Chinese (PRC) | 9722 | NC | Initial | |
| Czech | 9724 | NC | Initial | |
| Romanian | 9725 | NC | Initial | |
| Slovenian | 9727 | NC | Initial | |

MMMC = Minimum monthly maintenance charge

For ServiceElect (ESA) maintenance service charges, contact IBM Global Services at 888-IBM-4343 (426-4343).

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