

Family 9117+03 IBM Power 770 Server MMB

IBM United States Sales Manual
Revised: September 8, 2020

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Product life cycle dates

Type Model	Announced	Available	Marketing Withdrawn	Service Discontinued
9117-MMB	2009-02-09	2010-03-16	2012-08-31	2019-09-30

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Abstract

The IBM 9117 Power 770 server (9117-MMB) utilizes the latest POWER7 processor technology designed to deliver unprecedented performance, scalability, reliability, and manageability for demanding commercial workloads.

Model abstract 9117-MMB

The IBM 9117 Model MMB has up to 64 POWER7 cores with four processor cards per server.

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Highlights

The Power 770 enterprise server is designed to deliver outstanding price/performance, mainframe-inspired reliability and availability features, flexible capacity upgrades, and innovative virtualization feature. The Power 770 features:

- Up to 64 POWER7 cores with four processor cards per server.
- POWER7 processor card per CEC enclosure: 16-core at 3.1 GHz or 12-core at 3.5 GHz.
- Up to 2.0 TB of DDR3 memory with frequencies up to 1,066 MHz, optionally augmented with Active Memory Expansion.
- Up to six SAS Small Form Factor drives (disk or SSD) per CEC enclosure.
- Eight I/O expansion slots (6 PCIe and 2 GX++) per enclosure (up to 32 slots without using I/O drawers).
- Up to 184 PCIe slots or up to 192 PCI-X DDR per system using I/O drawers
- Logical partitions -- up to 160 per system (optional) increasing to 640 per system per the PowerVM SOD.

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Description

The innovative IBM Power 770 server with POWER7 processors is a symmetric multiprocessing (SMP), rack-mounted server. This modular-built system uses one to four enclosures; each enclosure is four EIA units tall and is housed in a 19-inch rack. Each of the four system enclosures contains one powerful POWER7 processor card feature, comprised of two single-chip module processors. Each of the POWER7 processors in this server has 64-bit architecture, includes up to eight cores on a single- chip module, and contains 2 MB of L2 cache (256 KB per core) and 32 MB of L3 cache (4 MB per core). Each POWER7 SCM processor is available at frequencies of 3.1 GHz with eight cores and 3.5 GHz with six cores. This new model server is available starting as low as four active cores and increases in increments of one core at a time through built in Capacity on Demand (CoD) functions.

The POWER7 DDR3 memory uses memory architecture to provide greater bandwidth and capacity. This enables operating at a higher data rate for large memory configurations. Each new POWER7 processor can support up to eight DDR3 DIMMs running at speeds up to 1,066 MHz. A full system can contain up to 2.0 TB of memory. Memory can be optionally augmented with Active Memory expansion.

Summary of features

The following features are available on the Power 770:

- 4U 19-inch rack-mount system enclosure
- One to four system enclosures: 16U maximum system size
- One processor card feature per enclosure (includes the voltage regulator):
 - 0/12 way, 3.5 GHz processor card (#4980)
 - 0/16 way, 3.1 GHz processor card (#4981)
- POWER7 DDR3 Memory DIMMs (16 DIMM slots per processor card):
 - 0/32 GB (4 X 8 GB), 1066 MHz (#5600)
 - 0/64 GB (4 X 16 GB), 1066 MHz (#5601)
 - 0/128 GB (4 X 32 GB), 1066 MHz (#5602)
- Six hot-swappable, 2.5 inch, small form factor, SAS disk or SSD bays per enclosure
- One hot-plug, slim-line, SATA media bay per enclosure (optional)
- Redundant hot-swap AC power supplies in each enclosure
- Choice of integrated (HEA) I/O options; one per enclosure
 - Quad 1 Gb Ethernet
 - Dual 10 Gb Optical + Dual 1 Gb Ethernet
 - Dual 10 Gb Copper + Dual 1 Gb Ethernet
- One serial port, three USB ports per enclosure (max nine per system)
- Two HMC ports per enclosure (4 max per system)
- Eight I/O expansion slots per enclosure (32 max per system)
 - Six PCIe 8x slots plus two GX++ slots per enclosure
- Dynamic LPAR support, Processor and Memory CUoD
- PowerVM (optional):
 - Micro-Partitioning
 - Virtual I/O Server (VIOS)
 - Automated CPU and memory reconfiguration Support for dedicated and shared processor logical partition (LPAR) groups
 - Support for manual provisioning of resources partition migration (PowerVM - Enterprise Edition)
- Optional PowerHA for AIX, IBM i and Linux
- 12X I/O drawer with PCI slots
 - Up to 16 PCIe I/O drawers (#5802 or #5877)
 - Up to 32 PCI-X DDR I/O drawers (7314-G30 or feature 5796)
- Disk-only I/O drawers
 - Up to 110 EXP12S SAS DASD/SSD I/O drawers on SAS PCI controllers (feature 5886)
 - Up to 60 EXP24 SCSI DASD Expansion drawers on SCSI PCI controllers (7031-D24 or feature 5786)
- IBM Systems Director Active Energy Manager, enables the POWER7 processor to operate at a variable frequency based on processor utilization. If utilization is low, processor frequency is reduced to save energy. In a heavily utilized system, it is possible that the system may run above the nominal frequency for increased performance. A 3.1 Ghz, eight core can increase to 3.416 GHz, and 3.5 GHz, six core can increase to 3.752 GHz.

Processors

- The following SMP and FSP cable features are required to connect the processors together when connecting two-, three-, and four-drawer CEC enclosures. When using Hot Node Add to add enclosures, the enclosures must be added serially (one to two, two to three, three to four). Please note that when moving from one to three or four enclosures, the SMP cable feature #3711 must be added then discarded.

	SMP Cables	FSP Cables
Two-drawer	3711, 3712	3671
Three-drawer	3712, 3713	3671, 3672
Four-drawer	3712, 3713, 3714	3671, 3672, 3673

- A system can have from one to four CEC enclosures, and each CEC enclosure requires one processor card. Each processor card has two SCM processors.
- The processor card feature must be populated with POWER7 DDR3 Memory DIMMs.
- All processor cards in the system must have the same feature number.
- Each system must have a minimum of four active processors.
- Processor Capacity on Demand activations will activate processor hardware only in the system serial number they are purchased for. If you move processor hardware to another system the processor may not be functional in that system until arrangements are made to move the processor activations or purchase additional processor activations. Contact your IBM Representative or IBM Business Partner for more information.

Memory

- Each processor card feature must have a minimum of one memory feature (one feature per processor card) installed. This includes inactive processor card features present in the system.
- Memory features include a total of four DIMMs. There is a required plug location for every memory feature attached to a processor.
- All POWER7 memory features must be purchased with sufficient permanent memory activation features so that the system memory is at least 50% active.
- Each system must contain a minimum of 16 GB of active system memory.
- Memory feature numbers 5600, 5601, and 5602 can be mixed on the same POWER7 processor module. Frequencies must be the same across the memory controller (4 dimm slots).
- All processor cards have 16 memory DIMM slots (eight per processor) and must be populated with POWER7 DDR3 Memory DIMMs.
- Memory Capacity on Demand activations will activate memory hardware only in the system serial number they are purchased for. If you move memory hardware to another system, the memory may not be functional in that system until arrangements are made to move the memory activations or purchase additional memory activations. Contact you IBM representative or IBM Business Partner for more information.
- It is recommended that memory be installed evenly across all processor cards in the system. Balancing memory across the installed processor cards allows memory access in a consistent manner and typically results in the best possible performance for your configuration.
- Plans for future memory upgrades should be taken into account when deciding which memory feature size to use at the time of initial system order.

I/O Drawers Availability

- To further reduce possible single points of failure, POWER7 implements enhanced disk storage configuration rules. IBM configuration tools and IBM technical support personnel do not support integrated cached disk controller configurations unless they have a protected write cache. Disk controllers with write cache must protect the cache by either pairing the disk controllers (write cache replication or IOA-level mirroring) or by using an auxiliary write cache IOA. This is true for all partitions in the Power 770 using any operating systems.
- It is recommended that any attached remote I/O drawers be located in the same rack as the Power 770 server for ease of service, but they can be installed in separate racks if the application or other rack content requires it.

- The following is a list of the I/O drawers that are supported or available on the model 770, with the correct interface to use for each of the drawers and the maximum number of attached I/O drawers:

Feature	Order Description	Status	Interface	Maximum Number
5786	EXP24 SCSI Disk Drawer	Supported	SCSI	60
5796	PCI-X DDR 12X I/O Drawer	Available	12X	32
5802	PCIe 12X I/O w/Disks Drawer (disk bays)	Available	12X	16
5877	PCIe 12X I/O No Disk Drawer (no disk bays)	Available	12X	16
5886	Exp 12S SAS Disk Drawer	Available	SAS	110
7031-D24/T24	EXP24 SCSI Disk Drawer/Tower	Supported	SCSI	60
7314-G30	PCI-X DDR 12X I/O Drawer	Supported	12X	32
7214-1U2	IBM System Tape & DVD Enclosure	Supported	SCSI(SAS)	16

The following feature-coded I/O Drawers are available for order on the Power 770:

PCI-X DDR 12X EXPANSION DRAWER (#5796)

The PCI-X DDR 12X Expansion Drawer (#5796) is a 4 EIA unit tall drawer and mounts in a 19-inch rack. Feature 5796 is 8.8 inches wide and takes up half the width of the 4 EIA rack space. Feature 5796 requires the use of a feature 7314 drawer mounting enclosure. The 4 EIA tall enclosure can hold up to two feature 5796 drawers mounted side by side in the enclosure. The drawer is 31.5 inches deep and can weigh up to 44 pounds. The PCI-X DDR 12X Expansion Drawer has six 64-bit, 3.3V, PCI-X DDR slots running at 266 MHz that use blind swap cassettes and support hot plugging of adapter cards. The drawer includes redundant hot-plug power and cooling. The Client must select one of the two available interface adapters for use in the feature 5796 drawer. The Dual-Port 12X Channel Attach Adapter Long Run (#6457) or the Dual-Port 12X Channel Attach Adapter Short Run (#6446). The adapter selection is based on how close the host system or the next I/O drawer in the loop is physically located. Feature 5796 attaches to a host system CEC enclosure with a 12X adapter in a GX++ slot via SDR and/or DDR cables. A maximum of four feature 5796 drawers can be placed on the same 12X loop. Mixing features 5802/5877 and 5796 on the same loop is not supported. Mixing #5796 and 7314-G30 on the same loop is supported with a maximum of four drawers total per loop. A minimum configuration of two 12X cables (either SDR or DDR), two AC power cables and two SPCN cables is required to ensure proper redundancy.

PCIe 12X I/O Drawer (#5802 & #5877)

The PCIe 12X I/O Drawer is a 19-inch I/O and storage drawer. It provides a 4 EIA unit tall drawer containing ten PCI-E based I/O adapter slots and eighteen SAS hot-swap Small Form Factor disk bays, which can be used for either disk drives or SSD, organized into two groups of nine. Each group of disk slots is controlled by one or two PCIe SAS storage adapters located in a PCIe slot in the same #5802 as the SAS drives. A maximum of two #5802 drawers can be placed on the same 12X loop. Mixing #5802 and #5796/7314-G30 on the same loop is not supported. Feature #5877 is the same as #5802 except it does not support any disk bays. #5877 and can be on the same loop as #5802. #5877 can not be upgraded to #5802.

The physical dimensions of the drawer measure 17.5 inches (444.5 mm) wide by 7.0 inches (177.8 mm) high by 28.0 inches (711.2 mm) deep for use in a 19-inch rack. The adapter slots use blind swap cassettes and support hot plugging of adapter cards. A minimum configurations of two 12X DDR cables, two AC power cables, and two SPCN cables is required to ensure proper redundancy. The drawer attaches to the host CEC enclosure with a 12X adapter in a GX slot via 12X DDR cables available in different cable lengths: 0.6 (#1861), 1.5 (#1862), 3.0 (#1865), or 8 meters (#1864). The 12X SDR cables are not supported.

EXP 12S SAS Drawer (#5886)

The EXP 12S SAS Drawer (#5886) is a 2 EIA tall drawer and mounts in a 19-inch rack. The drawer can hold either SAS disk drives or SSD. The drawer is 20.12 inches long and can weigh up to 40 pounds, without SAS disks. The EXP 12S SAS drawer has twelve 3.5-inch SAS bays with redundant data paths to each bay. The drawer supports redundant hot-plug power and cooling and redundant hot-swap SAS expanders (Enclosure Services Manager-ESM). Each ESM has an independent SCSI Enclosure Services (SES) diagnostic processor.

The SAS disk drives or SSD contained in the EXP12S are controlled by one or two PCIe SAS adapters connected to the EXP12S via SAS cables. The SAS cable will vary depending up the adapter being used, the operating system being used, and the protection desired.

- The large cache PCI-X #5908 uses a SAS Y cable when a single port is running the EXP12S. A SAS X cable is used when a pair of adapters are used for controller redundancy.
- The medium cache PCI-X #5902 and PCIe #5903 adapters are always paired and use a SAS X cable to attach the #5886 I/O drawer.
- The zero cache PCI-X #5912 and PCIe #5901 use a SAS Y cable when a single port is running the EXP12S. A SAS X cable is used for AIX/Linux environments when a pair of adapters are used for controller redundancy.

In all of the above configurations, all twelve SAS bays are controlled by a single controller or a single pair of controllers.

A second EXP12S drawer can be attached to another drawer using two SAS EE cables providing 24 SAS bays instead of 12 bays for the same SAS controller port. This is called "cascading". In this configuration all twenty four SAS bays are controlled by a single controller or a single pair of controllers.

The #5886 can also be directly attached to the SAS port on the rear of the Power 770 providing a very low cost disk storage solution. When used this way, the embedded SAS RAID controllers augmented by the 175MB Cache RAID - Dual IOA Enablement Card #5662 in the system unit control the disk drives in EXP12S. A second unit can not be cascaded to a #5886 attached in this way.

12X I/O Drawer Cables

- I/O Drawers are connected to the adapters in the CEC enclosure with the following cables: data transfer cables (12X DDR cables for the #5802 and #5877 I/O drawers and 12X SDR and/or DDR cables for the #5796 and 7314-G30 I/O drawers) and power control cables.
- The first 12X I/O Drawer attached in any I/O drawer loop requires two data transfer cables. Each additional drawer in the loop (up to the maximum allowed) requires one additional data transfer cable.
- The first 12X I/O Drawer attached to a system unit requires two power control Cables. Each additional I/O drawer added to a system requires one additional power control cable. Each system has one power control loop. All I/O drawers attached to a system are included in the same Power Control loop. Power Control Cable loops are different in this regard from data transfer cable loops.
- PCIe 12X Cable choices: the PCIe 12x drawer attaches to the host CEC enclosure with a 12x adapter in a GX++ slot via 12X DDR cables available in different cable lengths: 1.5 (#1862), 3.0 (#1865), or 8 meters (#1864).
- PCI-DDR 12X Cable choices: each feature 5796 drawer requires one Dual-Port PCI-DDR 12X Channel Adapter, either Short Run (#6446) or Long Run (#6457). The choice of adapters is dependent on the distance to the next 12X Channel connection in the loop, either to another I/O drawer or the system unit. The following table identifies the supported cable lengths for each 12X Channel adapter. I/O drawers containing the Short Range adapter can be mixed in a single loop with I/O drawers containing the Long Range adapter. In this table a "Yes" indicates that the 12X cable identified in that column can be used to connect the drawer configuration identified to the left. A "No" means it cannot be used.

PCI-DDR 12X Cable Options

	0.6 M (#1829) (1)	1.5 M (#1830)	3.0 M (#1840) (2)	8.0 M (#1834) (3)
12X SDR				
12X DDR	(#1861) (1)	(#1862) (1)	(#1865) (2)	(#1864) (3)

Short Run adapter (#6446) in both drawers	Yes	Yes	No	No
5796 w/ 12X Short Run adapter (#6446) to 5796 w/ 12X Long Run adapter (#6457)	Yes	Yes	Yes	No
5796 to 5796 w/12X Long Run adapter (#6457) in both drawers	Yes	Yes	Yes	Yes
5796 w/12X Short Run adapter (#6446) to system unit	No	Yes	Yes	No
5796 w/12X Long Run adapter (#6457) to system unit	No	Yes	Yes	Yes

Note: (1) The PCI-DDR 12X Cable (#1829 or #1861 or #1862) is limited to connecting CEC to drawer if in the same rack and within 20 EIA. It has very limited use due to its short length. It cannot be used to connect to a system drawer because of the short length. It is intended for use between two feature #5796 or G30 drawers mounted side by side in the same enclosure (#7314). It can also be used to connect between two modules located one beneath the other in a 19-inch rack.

Note: (2) The PCI-DDR 12X Cable (#1840 or #1865) is limited to connecting cec to drawer if in the same rack and further than 20 EIA. It is possible in some limited configurations to use the 3.0 M, 12X cable (#1840 or #1865) to locate 5796 modules in adjacent racks. The cable length requires careful management of the each drawer location within the rack. The best choice for connecting a feature #5796 or G30 I/O Drawer in an adjacent rack is the 8.0 M, 12X cable (#1834 or #1864).

Note: (3) The PCI-DDR 12X Cable (#1834 or #1864) is limited to connecting CEC to drawer if in different racks. It is intended for use when connecting between two modules that are located in adjacent racks. This cable may not be connected to the 12X Short Run adapter (#6446).

19-INCH RACKS

The 9117-MMB and its I/O Drawers are designed to mount in the 7014-T00, 7014-T42, 7014-B42, #0551, or #0553. These are built to the 19-inch EIA standard. When ordering a new 9117 system, the appropriate 7014 rack model can be ordered with the system hardware on the same initial order. IBM also makes the racks available as features of the 9117-MMB when you order additional I/O drawer hardware for an existing system (MES order). The rack feature code (#0551/0553) should be used if you want IBM to integrate the newly ordered I/O drawer in a 19-inch rack before shipping the MES order.

The 9117-MMB has the following rack requirements:

- The Power 770 may be ordered without a rack.
- The Power 770 consists of one to four CEC enclosures. Each enclosure occupies 4U of vertical rack space. The Power 770 can be installed in a 7014-T00, 7014-B42, 7014-S25, or 7014-T42 and shipped from IBM to the client rack. An existing 7014-T00, 7014-B42, 7014-S25, 7014-T42, #0551, #0553, or #0555 rack can be used for the Power 770 if sufficient space and power are available.
- The 7014-S25 and #0555 rack can only support one Power 770 CEC enclosure.
- For Power 770 configurations with two, three, or four drawers, all drawers must be installed together in the same rack, in a contiguous space of 8U, 12U, or 16U within the rack. The uppermost enclosure in the system is the base enclosure. This enclosure will contain the active Service Processor and the Operator Panel, if an Operator Panel is present in the system. If a second CEC enclosure is part of the system, the backup service processor is contained in the second CEC enclosure. The service processor is a component of the Service Interface Card in these enclosures.
- When a Power 770 system is installed in an 7014-T00, 7014-B42, or 7014-T42 rack or in a feature 0551 or 0553 rack that has no front door, a Thin Profile Front Trim Kit must be ordered for the rack. The required trim kit for the 7014-T00 rack or feature 0551 is feature number 6263. The required trim kit for the 7014-T42, -B42, or feature rack is feature number 6272. When upgrading from a 9117-MMA, trim kits features 6246 or 6247 may be used for one drawer enclosures only.
- The design of the Power 770 is optimized for use in a 7014-T00, -B42, -T42, #0551, or #0553 rack. Both the front cover and the processor flex cables occupy space on the front left and right side of an IBM 7014 or #055x rack that may not be available in typical non-IBM racks.
- Acoustic Door features are available with the 7014-T00, 7014-B42, 7014-T42, #0551 and #0553 racks to meet the lower acoustic levels identified in the specification section of this document. The Acoustic Door feature can be ordered on new T00, B42, T42, #0551 and #0553 racks or ordered for the T00, B42, T42, #0551 and #0553 racks that clients already own.
- The 36 EIA unit (1.8 meter) rack (#0551) and the 42 EIA unit (2.0 meter) rack (#0553) are available for order on MES upgrade orders only. For initial system orders, the racks should be ordered as machine type 7014, Models T00, B42, S25, or T42.

1.3 Meter Rack (#0555)

The 1.3 Meter Rack (#0555) is a 25 EIA unit rack. The rack that is delivered as feature 0555 is the same rack delivered when you order the 7014-S25 rack; the included features may be different. Feature #0555 is supported only. The 7014-S25 and #0555 rack only supports a single Power 770 CEC enclosure.

1.8 Meter Rack (#0551)

The 1.8 Meter Rack (#0551) is a 36 EIA unit rack. The rack that is delivered as feature 0551 is the same rack delivered when you order the 7014-T00 rack, the included features may be different. Some features that are delivered as part of the 7014-T00 must be ordered separately with the feature 0551. Order the feature 0551 only when required to support rack integration of MES orders prior to shipment from IBM Mfg.

2.0 Meter Rack (#0553)

The 2.0 Meter Rack (#0553) is a 42 EIA unit rack. The rack that is delivered as #0553 is the same rack delivered when you order the 7014-T42 or B42 rack, the included features may be different. Some features that are delivered as part of the 7014-T42 or B42 must be ordered separately with the #0553. Order the #0553 only when required to support rack integration of MES orders prior to shipment from IBM Mfg.

Integrated I/O

- Each CEC enclosure must contain one Virtual Ethernet (HEA) Integrated I/O port card (#1803, #1804, or #1813).
- Each system has two HMC ports on the Service Interface Card in each CEC enclosure (maximum four ports per system). If there are two CEC enclosures, the HMC must be connected to both service interface cards. There are no HMC ports in CEC enclosures three or four.

Disks, media, and boot devices

- A device capable of reading a DVD must be attached to the system and available to perform operating system installation, maintenance, problem determination and service actions such as maintaining system firmware and I/O microcode at their latest levels. Alternatively, the system must be attached to a network with an AIX NIM server configured to perform these functions.
- System boot is supported via DASD or SSD located in the CEC enclosure, located in a DASD drawer attached to a PCI adapter or located in an 12X I/O drawer attached to GX++ adapter, or from a network via LAN adapters.
- The minimum system configuration requires at least one SAS disk drive in the system for AIX/Linux and two for IBM i, or if using a Fibre Channel attached SAN (indicated by feature number 0837) a disk drive is not required. Attachment of the SAN using a Fibre Channel over Ethernet connection is also supported.

- Each CEC enclosure can support one media device when the Disk/Media Enclosure and Backplane feature (#5652) is ordered. Any supported DVD-RAM drive can be installed. Each system can support up to four media devices in the CEC enclosure - a maximum of one in each enclosure.
- The model MMB supports only the SAS SFF DASD hard disks internally. The 3.5" DASD hard files can be attached to the model MMB but must be located in a #5886 EXP12S I/O drawer.
- When ordering feature 1819, you must also order feature 5662. This applies to MES orders of feature 1819 unless feature 5662 is already present in the system. Feature 1815 and feature 5662 cannot be installed in the same drawer. Feature 1819 must not be installed in a drawer unless feature 5662 is also installed.

I/O slots and adapters

- Each Power 770 CEC enclosure has six, full length, 8X, PCIe slots and two, GX++ slots.
- Eight I/O expansion slots per enclosure (32 max per system).

Slot ID	Adapter	Type	Slot Size
P2-C1	PCIe	8X	Full length
P2-C2	PCIe	8X	Full length
P2-C3	PCIe	8X	Full length
P2-C4	PCIe	8X	Full length
P2-C5	PCIe	8X	Full length
P2-C6	PCIe	8X	Full length
P1-C2	GX++		
P1-C3	GX++		

- The Power 770 I/O slot population rules are complex. Extensive configuration rules and checking procedures are incorporated into the Marketing Configurator ECFGPWR to help ensure a valid system configuration. Configurations generated without using the ECFGPWR configurator may create orders that cannot be built, resulting in possible order rejection or delayed delivery.
- Feature maximum limits in the feature descriptions of this document for adapters and devices may not provide optimal system performance. These limits are given to assist with connectivity and functional assurance. The maximum values shown here apply to the features installed in the system CEC enclosures. Adding remote I/O drawers will increase these limits.

Power

- Each Power 770 system with two or more CEC enclosures must have one Power Control Cable (#6006 or similar) to connect the Service Interface Card in the first enclosure to the Service Interface Card in the second enclosure.
- Two AC power supplies are required for each CEC enclosure; the second power supply provides redundant power for enhanced system availability. A CEC enclosure will continue to function with one working power supply. A failed power supply can be hot swapped but must remain in the system until the replacement power supply is available for exchange.

Power Distribution Units

For systems installed in IBM 7014 or #055x racks, the following Power Distribution Unit (PDU) rules apply (not all PDUs are available in all models of the 7014 or #055x):

- For PDU features numbers 7188 and 7109 when using power cord feature numbers 6654, 6655, 6656, 6657, or 6658: each pair of PDUs can power up to three Power 770 CEC enclosures.
- For PDU features numbers 7188 and 7109 when using power cord feature numbers 6489, 6491, 6492, or 6653: each pair of PDUs can power up to six Power 770 CEC enclosures.

To provide full redundancy each server drawer has two power supplies, which must be connected to separate PDUs.

Hot-plug options

- The following options are Hot-Plug capable:
 - GX++ Adapters.
 - System AC power supplies: one functional power supply must remain installed at all times while the system is operating.
 - Disk drives.
 - Most PCIe adapters.
 - Media devices.
- Hot-Plug procedures are contained in the Customer Information Center on ibm.com.
- If the system boot device or system console is attached using an I/O adapter feature, that adapter may not be hot-plugged.

Logical partitioning

- Without PowerVM Dynamic LPAR allows one partition per processor.
- With PowerVM up to 10 partitions per processor (maximum 640 per server). Supported when PowerVM (#7942 or #7995) is ordered.
- For Linux partitions, a DVD-RAM and a Media Enclosure and Backplane (#5652) are required.

Available Backplane Configurations

The CEC drawer has an extremely flexible and powerful backplane for supporting disk or Solid State Drives. The six SFF bays can be configured in three different ways to match your business needs. There are two built-in SAS controllers which can be optionally augmented with a 175 MB Cache RAID - Dual IOA enablement Card (#5662). Two embedded SAS disk/SSD controllers are provided for redundancy or for additional flexibility. The optional 175MB Cache RAID - Dual IOA Enablement Card (#5662) enables dual 175MB write cache and provides dual batteries for protection of that write cache.

The Backplane can be configured as one set of six bays, two sets of three bays (3/3), or three sets of two bays (2/2/2). Configuration options will vary depending up the controller options and the operating system selected. The controllers for the six-bay or 3/3 configurations are always the two pair of embedded controllers. But if the 2/2/2 configuration is used, the two embedded controllers run the first two sets of bays (2/2) and a #5901 PCIe SAS adapter located in a PCIe slot in a CEC enclosure controls the third set (2). By having three controllers, you can have three boot drives supporting three partitions.

The following SSD/HDD configuration rules apply:

- You can mix SSD and HDD drives when configured as one set of six bays.
- If you want to have both SSD and HDD within a 3/3 split configuration you must use the same type of drive within each set of three. You can not mix SSD and HDD within a subset of three bays.
- If you want to have both SSD and HDD within a 2/2/2 split configuration you must use the same type of drive within each set of two. You can not mix SSD and HDD within a subset of two bays. The #5901 PCIe SAS adapter which controls the remaining two bays in a 2/2/2 configuration does not support SSD.

You can configure the two embedded controllers together as a pair for higher redundancy or you can configure them separately. If you configure them separately, they can be owned by different partitions or they could be treated independently within the same partition. If configured as a pair, they provide controller redundancy and can automatically switch over to the other controller should one have problems. Also, if configured as a pair, both can be active at the same time (active/active) assuming there are two or more arrays configured, providing additional performance capability as well as redundancy. If configured as a pair, the pair control all six SFF bays and both see all six drives. The 3/3 or 2/2/2 configurations are not used with the paired controllers. RAID 0 and RAID 10 are supported and you can also

Adding the optional 175MB Cache RAID - Dual IOA Enablement Card feature #5662 causes the pair of embedded controllers in that processor enclosure to be configured as dual controllers accessing all six SAS bays. Without the #5662, each of the two controllers can access only two or three SAS bays. With the 175MB Cache RAID - Dual IOA Enablement Card, you can get controller redundancy, additional RAID protection options, and additional I/O performance. RAID 5 (a minimum of three drives required) and RAID 6 (a minimum of four drives required) are available when configured as dual controllers with one set of six bays.

Another expansion option available using the paired embedded controller configuration with the 175MB Cache RAID - Dual IOA Enablement Card feature is a SAS expansion port. The SAS expansion port can add more SAS bays to the six bays in the system unit. A #5886 SAS disk drawer is attached using a SAS port on the rear of processor drawer and its twelve SAS bays are run by the pair of embedded controllers. The pair of embedded controllers are now running 18 SAS bays (six SFF bays in the system unit and twelve 3.5-inch bays in the drawer). The disk drawer is attached to the SAS port with a SAS YI cable and the embedded controllers connected to the port using a #1819 cable assembly. In this 18-bay configuration all drives must be HDD.

IBM i supports configurations using one set of six bays but does not support logically splitting the backplane into 3/3 or 2/2/2. Thus the #5662 175MB Cache RAID - Dual IOA Enablement Card is required if IBM i is to access any of the SAS bays in that processor enclosure. AIX and Linux support configurations using two sets of three bays (3/3), or three sets of two bays (2/2/2) without #5662 and supports dual controllers running one set of six bays with #5662.

The system backplane also includes a third embedded controller for running the DVD-RAM drive in the CEC drawer. Since the controller is independent from the two SAS disk/SSD controllers, it allows the DVD to be switched between multiple partitions without impacting the assignment of disk or SSD in the CEC drawer.

Capacity on Demand

Several types of Capacity on Demand (CoD) are optionally available on the Power 770 server to help meet changing resource requirements in an on demand environment by using resources installed on the system but not activated.

Capacity Upgrade On Demand

Capacity Upgrade on Demand (CUoD) allows you to purchase additional permanent processor or memory capacity and dynamically activate them when needed.

On/Off Capacity on Demand

On/Off CoD enables processors or memory to be temporarily activated in full-day increments as needed. Charges are based on usage reporting collected monthly. Processors and memory may be activated and turned off an unlimited number of times, whenever you want additional processing resources. This offering provides a system administrator an interface at the HMC to manage the activation and deactivation of resources. A monitor that resides on the server logs the usage activity. You must send this usage data to IBM monthly. A bill is then generated based on the total amount of processor and memory resources utilized, in increments of Processor and Memory (1 GB) Days. Before using temporary capacity on your server, you must enable your server. To do this, order an enablement feature (MES only) and sign the required contracts.

If a Power 770 server uses the IBM i operating system in addition to any other supported operating system on the same server, the Client must inform the sales team placing the billing feature order which operating system caused the temporary On/Off CoD processor use so that the correct feature can be used for billing.

The following features are used to order enablement codes and support billing charges on the Power 770:

Model	Processor Feature	On/Off CoD Processor Enablement Feature	On/Off CoD Processor Billing Feature	IBM i On/Off CoD Processor Billing Feature
MMB	4980	7951	7644	7645
MMB	4981	7951	7648	7649

Model	Memory Features	On/Off CoD Memory Enablement Feature	On/Off CoD Memory Billing Feature
MMB	5600	7954	7377
MMB	5601	7954	7377
MMB	5602	7954	7377

The On/Off CoD process consists of three steps: Enablement, Activation, and Billing.

On/Off CoD Enablement: Description

Before requesting temporary capacity on a server, you must "enable" it for On/Off CoD. To do this, order an enablement feature (MES only) and sign the required contracts. IBM will generate an enablement code, mail it to you, and post it on the Web for you to retrieve and enter on your server. A processor enablement code lets you request up to 360 processor days of temporary capacity. If you have reached the limit of 360 processor days, place an order for another processor enablement code to reset the number of days you can request to 360.

A memory enablement code lets you request up to 999 memory days of temporary capacity. If you have reached the limit of 999 memory days, place an order for another memory enablement code to reset the number of days you can request to 999.

On/Off CoD Enablement: Step-by-Step

Prerequisite 1: Sales channel (IBM Business Partner) must sign one of the following contracts, if applicable:

- IBM Business Partner Agreement, Distributor Attachment for On/Off Capacity On Demand
- IBM Business Partner Agreement for Solution Providers -- Attachment for On/Off Capacity On Demand
- IBM Business Partner Agreement -- Attachment for On/Off Capacity On Demand

Prerequisite 2: Sales channel (IBM Business Partner or IBM Direct) must register at the following Web site:

<http://www.ibm.com/servers/eserver/series/ondemand/cod>

- Step 1: Client initiates request for On/Off CoD use by requesting Sales channel to enable the machine for temporary capacity.
- Step 2: Client must complete and sign the following contracts. It is the Sales Channel's responsibility to return the signed contract to the responsible CSO organization and fax a copy to IBM at 507-253-4553 or email to tcod@us.ibm.com.
 - Required: IBM Customer Agreement, Attachment for On/Off Capacity On Demand; IBM Supplement for On/Off Capacity On Demand
 - Optional: IBM Addendum for On/Off Capacity On Demand Alternative Reporting
- Step 3: Sales channel places an order for processor or memory enablement features.
- Step 4: Sales channel updates the Web site registration data (see prerequisite 2 above) with information about the customer machine being enabled for temporary capacity.
Note: The order for an enablement feature will not be fulfilled until this step is completed.
- Step 5: IBM generates an enablement code and mails/posts it.
- Step 6: Customer retrieves the enablement code and applies it to the server.

On/Off Activation Requests: Description

When On/Off CoD temporary capacity is needed, simply use the HMC menu for On/Off CoD and specify how many of the inactive processors or GBs of memory you would like temporarily activated for some number of days.

You will be billed for the days requested, whether the capacity is assigned to partitions or left in the shared processor pool.

At the end of the temporary period (days you requested), you must ensure the temporarily activated capacity is available to be reclaimed by the server (not assigned to partitions), or you will be billed for any unreturned processor days (per the contract you signed).

On/Off CoD Activation Requests: Step-by-Step

When there is a need for temporary capacity, use the On/Off CoD temporary capacity HMC menu for the server and specify how many of the inactive processors or GBs of memory you would like temporarily activated for some number of days. The user must assign the temporary capacity to a partition (whether or not the machine is configured for LPAR) to begin using temporary capacity.

On/Off CoD Billing: Description

The contract, signed by the client before receiving the enablement code, requires On/Off CoD user to report billing data at least once a month (whether there is activity or not). This data is used to determine the proper amount to bill at the end of each billing period (calendar quarter). Failure to report billing data for use of temporary processor or memory capacity during a billing quarter will result in default billing equivalent to 90 processor days of temporary capacity. The Sales channel will be notified of customer requests for temporary capacity. As a result, the Sales channel must order a quantity of billing features (one feature for each billable processor and memory day reported).

On/Off CoD Billing: Step-by-step

The client must report billing data (requested and unreturned processor and memory days) at a minimum of once per month either electronically or via fax (stated requirement in the signed contract). At the end of each billing period (calendar quarter), IBM will process the accumulated data reported and notify the Sales channel for proper billing. The Sales channel places an order for the appropriate quantity of billing features (one processor billing feature ordered for each processor day used, or one memory day for each memory day utilized). IBM will ship a billing notice (notifies customer of billing actions) to the ship-to address on the order as part of the fulfillment process. Customer pays the Sales channel and the Sales channel pays IBM for the fulfillment of the billing features.

For more information regarding registration, enablement, and usage of On/Off CoD, visit:

<http://www.ibm.com/systems/power/hardware/cod>
Utility CoD

Utility CoD autonomically provides additional processor performance on a temporary basis within the shared processor pool. Utility CoD enables you to place a quantity of inactive processors into the server's Shared Processor Pool, which then becomes available to the pool's resource manager. When the server recognizes that the combined processor utilization within the shared pool exceeds 100% of the level of base (purchased/active) processors assigned across uncapped partitions, then a Utility CoD Processor Minute is charged and this level of performance is available for the next minute of use. If additional workload requires a higher level of performance, the system will automatically allow the additional Utility CoD processors to be used and the system automatically and continuously monitors and charges for the performance needed above the base (permanent) level. Registration and usage reporting for Utility CoD is made using a public Web site and payment is based on reported usage. Utility CoD requires PowerVM Standard Edition (#7942) or PowerVM Enterprise Edition (#7995) to be active on the 9117-MMB.

If a Power 770 server uses the IBM i operating system in addition to any other supported operating system on the same server, the client must inform the sales team placing the billing feature order which operating system caused the temporary Utility CoD processor use so that the correct feature can be used for billing.

Model	Utility Billing Processor Feature	Utility CoD Feature Description
MMB	7642	100 Processor minutes for #4980
MMB	7643	100 Processor minutes for #4980, IBM i
MMB	7646	100 Processor minutes for #4981
MMB	7647	100 Processor minutes for #4981, IBM i

For more information regarding registration, enablement, and use of Utility CoD, visit:

<http://www-947.ibm.com/systems/support/planning/capacity/index.html>
Trial Capacity on Demand (Trial CoD)

Clients can request either a Standard or an Exception Trial, visit:

https://www-912.ibm.com/tcod_reg.nsf/TrialCod?OpenForm
Software licensing

For software licensing considerations with the various CoD offerings, refer to the latest revision of the Capacity on Demand Planning Guide at:

<http://www.ibm.com/systems/power/hardware/cod>
Services

The IBM Server Product Services offers implementation and migration services to help you put your IBM Power System server quickly into your production environment in order to support your business applications. These services include in-depth planning sessions to help ensure the end result is in line with your requirements. A variety of product services are available to suit your needs. Our goal is to continually enhance these offers to provide you with a comprehensive selection of services. To see what IBM can do for you:

<http://www.ibm.com/services/servers>
IBM Power Systems Deployment Ready Services

IBM offers a portfolio of integration, configuration, and customization services for IBM Power Systems. These Deployment-Ready Services are designed to accelerate customer solution deployment and reduce related resources and cost. Offerings include:

- Integration
 - Component integration
 - Rack integration
 - Operating system preinstall
 - Unit personalization
 - 3rd party hardware/software install
 - Customer Specified Placement
- Asset tagging: Standard tagging Radio Frequency Item Device (RFID)
- Special packaging: Box consolidation

For more information on Deployment-Ready Services, refer to:

<http://www.ibm.com/power/deploymentreadyservices/>

Model upgrades

You can upgrade the 9117-MMA with IBM POWER6 or POWER6+ processors to the IBM Power 770 with POWER7 processors. For upgrades from POWER6 or POWER6+ processor-based systems, IBM will install new CEC enclosures to replace the enclosures the customer currently has. The customer's current CEC enclosures will be returned to IBM in exchange for the financial consideration identified under the applicable feature conversions for each upgrade.

Clients taking advantage of the model upgrade offer from a POWER6 or POWER6+ processor-based system are required to return all components of the serialized MT-model that were not ordered via feature codes. Any feature for which a feature conversion is used to obtain a new part must be returned to IBM also. Clients may keep and reuse any features from the CEC enclosures that were not involved in a feature conversion transaction.

Upgrade considerations

Feature conversions have been set up for the following:

- POWER6 and POWER6+ processors to POWER7 processors
- DDR2 memory DIMMS to DDR3 memory DIMMS
- Trim kits (a new trim kit is needed when upgrading to a two-, three- or four-drawer system)
- Enterprise enablement

The following features present on the current system can be moved to the new system:

- PCIe adapters with cables
- Line cords, keyboards, and displays
- PowerVM (#7942 and 7995)
- I/O drawers (#5786, 5796, 5802, 5877, and 5886)
- Racks (#0551, 0553, and 0555)
- Doors (#6068, 6069, 6248, 6249, 6858)
- Trim kits (#6246 and 6247) for one drawer configurations only or for racks holding only I/O and no 770 processor enclosures.
- SATA DVD-RAM (#5762)

The Power 770 can support the following 12X drawers and disk-only drawers:

- #5802 and #5877 PCIe 12X I/O drawers
- #5796 and 7413-G30 PCI-X (12X) I/O Drawer
- #5786 and 7031-D24 TotalStorage EXP24 SCSI Disk Drawer
- #5886 EXP12S SAS Disk Drawer

The model MMB supports only the SAS DASD SFF hard disks internally. The older 3.5" DASD hard disks can be attached to the Model MMB but must be located in a I/O drawer such as 5886.

For POWER6 or POWER6+ processor-based systems that have the On/Off CoD function enabled, you must reorder the On/Off enablement features (#7951 and 7954) when placing the upgrade MES order for the new Power 770 system to keep the On/Off CoD function active. The On/Off enablement features should be removed from the configuration file before the MES order is started to initiate the model upgrade. Any temporary use of processors or memory owed to IBM on the existing system must be paid before installing the new Power 770 model MMB.

Feature 8018 is available to support migration of the PowerVM feature 7942 during the initial order and build of the Upgrade MES MMB order. Customers may add feature 8018 to their upgrade orders in a quantity not to exceed the quantity of feature 7942 obtained for the system being upgraded. The feature 7942 feature code should be migrated to the new configuration report in a quantity that equals feature 8018. Additional 7942 features can be ordered during the upgrade.

IBM supports up to four concurrent migrations of dedicated memory partitions from the source system to the target system. In rare cases, a migration may have to be re-tried if the mobility operation times out. The small probability of a retry can be further reduced by migrating one dedicated memory partition at a time. Active Memory Sharing (AMS) partitions should always be migrated one at a time.

PowerVM

PowerVM is available on the 9117-MMB:

- PowerVM Editions are available as a hardware feature, (#7942 for Standard Edition, #7995 for Enterprise Edition). Clients select the feature that provides the level of virtualization appropriate for their workloads.
- Micro-partitioning allows a single processor core to be shared by up to 10 logical partitions (maximum 640 per server).
- Virtual I/O Server is a single-client appliance that resides in a IBM POWER5, POWER6, or POWER7 processor-based partition. It facilitates the sharing of physical I/O resources between client partitions (AIX 5.3, or later, IBM i 6.1 or Linux) within the server. VIOS provides virtual SCSI targets and shared Ethernet adapter (SEA) virtual I/O to client LPARs.
- Virtual SCSI (VSCSI) enables the sharing of physical storage adapters (SCSI and Fibre Channel) and storage devices (disk and optical) between logical partitions.
- Virtual networking: A shared Ethernet adapter enables connectivity between internal and external virtual LANs (VLANs); virtual Ethernet provides high-speed connections between partitions.
- PowerVM Lx86 supports running most x86 Linux applications within Linux partitions.
- Live Partition Mobility, available only with PowerVM-Enterprise Edition, will allow you to move a running AIX or Linux LPAR from one physical server to another with no downtime if both servers are using POWER6 or POWER7 processors. This capability can be used to evacuate workloads from a system before performing scheduled maintenance, moving workloads across a pool of different physical resources as business needs shift, and moving workloads away from under-utilized machines so that they can be powered off to save on energy and cooling costs.
- Active Memory Sharing allows memory to be dynamically moved between running partitions for optimal resource usage.

PowerVM Editions:

- PowerVM Standard Edition (#7942) supports up to 10 partitions per core (maximum 640 per server), VIOS, PowerVM Lx86 and multiple shared processor pools.
- PowerVM Enterprise Edition (#7995) adds support for Live Partition Mobility and Active Memory Sharing.

Other PowerVM technologies include:

- Workload Partitions (WPARs) provide isolated instances on top of a single AIX 6.1 image.
- Live Application Mobility (available with WPAR Manager) provides the movement of a running AIX application from one server to another.
- System Planning Tool simplifies the process of planning and deploying Power System LPARs and virtual I/O.

Capacity Backup Offering (applies to IBM i only)

The Power 770 systems' Capacity Backup (CBU) designation can help meet your requirements for a second system to use for backup, high availability, and disaster recovery. It enables you to temporarily transfer IBM i processor license entitlements and 5250 Enterprise Enablement entitlements purchased for a primary machine to a secondary CBU-designated system. Temporarily transferring these resources instead of purchasing them for your secondary system may result in significant savings. Processor activations cannot be transferred.

The CBU specify feature number 4891 is available only as part of a new server purchase or during an MES upgrade from an existing system to a 9117-MMB. Certain system prerequisites must be met and system registration and approval are required before the CBU specify feature can be applied on a new server.

Standard IBM i terms and conditions do not allow either IBM i processor license entitlements or 5250 OLTP (Enterprise Enablement) entitlements to be transferred permanently or temporarily. These entitlements remain with the machine they were ordered for. When you register the association between your primary and on-order CBU system, you must agree to certain terms and conditions regarding the temporary transfer.

After a CBU system designation is approved and the system is installed, you can temporarily move your optional IBM i processor license entitlement and 5250 Enterprise Enablement entitlements from the primary system to the CBU system when the primary system is down or while the primary system processors are inactive. The CBU system can then better support fail-over and role swapping for a full range of test, disaster recovery, and high availability scenarios. Temporary entitlement transfer means that the entitlement is a property transferred from the primary system to the CBU system and may remain in use on the CBU system as long as the registered primary and CBU system are in deployment for the high availability or disaster recovery operation.

The primary system for a Power 770 server can be:

- 9119-FHA
- 9406-595
- 9117-MMA
- 9406-MMA
- 9406-570
- 9117-MMB
- 9179-MHB
- 9119-FHB

These systems have IBM i software licenses with an IBM i P30 software tier or higher. The primary machine must be in the same enterprise as the CBU system.

Before you can temporarily transfer IBM i processor license entitlements from the registered primary system, you must have more than one IBM i processor license on the primary machine and at least one IBM i processor license on the CBU server. An activated processor must be available on the CBU server to use the transferred entitlement. You may then transfer any IBM i processor entitlements above the minimum one, assuming the total IBM i workload on the primary system does not require the IBM i entitlement you would like to transfer during the time of the transfer. During this temporary transfer, the CBU system's internal records of its total number of IBM i processor license entitlements are not updated, and you may see IBM i license noncompliance warning messages from the CBU system. Such messages that arise in this situation do not mean you are not in compliance.

Before you can temporarily transfer 5250 entitlements, you must have more than one 5250 Enterprise Enablement entitlement on the primary server and at least one 5250 Enterprise Enablement entitlement on the CBU system. You may then transfer the entitlements that are not required on the primary server during the time of transfer and that are above the minimum of one entitlement.

For example, if you have a eight-core Power 770 as your primary system with four IBM i processor license entitlements (three above the minimum) and two 5250 Enterprise Enablement entitlements (one above the minimum), you can temporarily transfer up to three IBM i entitlements and one 5250 Enterprise Enablement entitlement. During the temporary transfer, the CBU system's internal records of its total number of IBM i processor entitlements is not updated, and you may see IBM i license noncompliance warning messages from the CBU system.

If your primary or CBU machine is sold or discontinued from use, any temporary entitlement transfers must be returned to the machine on which they were originally acquired.

For CBU registration and further information, visit:

<http://www.ibm.com/systems/power/hardware/cbu>
Active Memory Expansion

Active Memory Expansion is an innovative POWER7 technology which allows the effective maximum memory capacity to be much larger than the true physical memory maximum. Sophisticated compression/decompression of memory content can allow memory expansion up to 100%. This can allow a partition to do significantly more work or support more users with the same physical amount of memory. Similarly it can allow a server to run more partitions and do more work for the same physical amount of memory.

Active Memory Expansion is available for partitions running AIX 6.1 or later. Technology Level 4 with SP2 is needed.

Active Memory Expansion uses CPU resource to compress/decompress the memory contents. The trade off of memory capacity for processor cycles can be an excellent choice, but the degree of expansion varies on how compressible the memory content is, and it also depends on having adequate spare CPU capacity available for this compression/decompression. Tests in IBM laboratories using sample workloads showed excellent results for many workloads in terms of memory expansion per additional CPU utilized. Other test workloads had more modest results.

Clients have a great deal of control over Active Memory Expansion usage. Each individual AIX partition can turn on or turn off Active Memory Expansion. Control parameters set the amount of expansion desired in each partition to help control the amount of CPU used by the Active Memory Expansion function. An IPL is required for the specific partition which is turning memory expansion on or off. Once turned on, there are monitoring capabilities in standard AIX performance tools such as lparstat, vmstat, topas, and svmon.

A planning tool is included with AIX 6.1 TL4 allowing you to sample actual workloads and estimate both how expandable the partition's memory is and how much CPU resource is needed. Any model Power System can run the planning tool. In addition a one-time, 60-day trial of Active Memory Expansion is available to provide more exact memory expansion and CPU measurements. The trial can be requested using the Capacity on Demand Web page, www.ibm.com/systems/power/hardware/cod/.

Active Memory Expansion is enabled by a chargeable hardware feature, #4791, which can be ordered with the initial order of the server or as an MES order. A software key is provided when the enablement feature is ordered which is applied to the server. An IPL is not required to enable the server. The key is specific to an individual server and is permanent. It can not be moved to a different server.

The additional CPU resource used to expand memory is part of the CPU resource assigned to the AIX partition running Active Memory Expansion. Normal licensing requirements apply.

IBM i Operating System

For customers loading the IBM i operating system, the four digit numeric QPRCFEAT value used on the 9117-MMB is the same as the four digit numeric feature code for the processors used in the System. For example, if the processor feature code in a system is 4980, the QPRCFEAT value for the system would be 4980.

- The QPRCFEAT value in a Power 770 server does not change with the addition of more processors or additional CEC enclosures.
- The QPRCFEAT value in a Power 770 server would change only if the feature code of the processors was changed due to a processor upgrade.

CEC HOT-NODE ADD AND HOT-NODE REPAIR MAINTENANCE

CEC hot-node add and hot-node repair maintenance is available on Power 770 and 780 systems, which enables repair and add of CEC components with minimal disruptions. Firmware AM720_084_064 is the minimum level recommended. Please see the following websites for additional information:

Planning Checklists and Guidelines:

http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/index.jsp?topic=/p7ed3_ared3kickoff.htm

Whitepaper:

http://www.ibm.com/common/ssi/cgi-bin/ssialias?infotype=SA&subtype=WH&appname=S_TGE_PO_PO_USEN&htmlfid=POW03058USEN&attachment=POW03058USEN.PDF

Accessibility by people with disabilities

A U.S. Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at:

http://www.ibm.com/able/product_accessibility/index.html

Section 508 of the US Rehabilitation Act

IBM Power 770 is capable as of March 16, 2010, when used in accordance with associated IBM documentation, of satisfying the applicable requirements of Section 508 of the Rehabilitation Act, provided that any assistive technology used with the product properly interoperates with it. A U.S. Section 508 Voluntary Product Accessibility Template (VPAT) can be requested via the IBM Web site:

http://www-03.ibm.com/able/product_accessibility/index.html

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Models

Model summary matrix

Model	Processor	Speed	Memory	Hard Drive	Slot Maximum	Optical Storage Device
MMB	12-, 16-, 24-, 32-, 36-, 48-, 64-way	3.1 GHz, 3.5 GHz	16 GB to 2.0 TB	73.4 GB to 72 TB	32 PCIe 8 GX++	DVD-RAM

Customer setup (CSU)

- Customer setup box: No
- Customer setup model conversion: No
- Customer setup MES: Mixed
- CSU features include:
 - PCIe Adapters
 - GX++ Adapters
 - PCI-X Adapters
 - GX Adapters
 - External Cables
 - Power Supplies
 - DASD Devices
 - Media Devices
 - Op Panel
 - Displays, Keyboards, Cables, etc.
- Non-CSU MES features include:
 - Processors
 - Memory
 - Service Processor Cards
 - CEC Enclosures
 - System Backplanes

Devices supported

The following external machine types are supported on the indicated models for MT 9117.

This list is not all inclusive. Many devices are supported through standard ports. Please refer to the sales manual of the external machine type and the list of supported devices in the appropriate section of the AIX sales manual for further attach support information.

MT-MOD	M	X = SUPPORTED DEVICE	
	M		
	B	DESCRIPTION	
		-----Communications-----	
7036-P16	X	IBM 7036-P16	
		-----Disk-----	
1710-10U	X	IBM System Storage EXP100 Expansion Unit	
1722-60U	X	IBM System Storage DS4300 Disk System	
1722-6LU	X	IBM System Storage DS4300 Disk System	
1724-100	X	IBM System Storage DS4100 Disk System	
1740-710	X	IBM System Storage EXP710 Expansion Unit	
1742-1RU	X	IBM 1742-1RU	
		-----Disk-----	
		IBM 34500 Disk System	

1750-511	X	IBM 1750-511
1750-522	X	IBM 1750-522
1750-EX1	X	IBM 1750-EX1
1812-81A	X	IBM System Storage DS4000 EXP810 Storage Expansion Unit Model 81
1812-81S	X	IBM System Storage DS4000 EXP810 Expansion Unit Model 81-DC
1812-8VA	X	IBM System Storage DS4000 EXP420 Storage Expansion Unit
1814-20A	X	IBM 1814 DS5020 Disk Controller Model 20A
1814-52A	X	IBM 1814 EXP520 Expansion Unit
1814-70A	X	IBM System Storage DS4700 Express Model 70
1814-70S	X	IBM System Storage DS4700 Express Model 70-DC
1814-72A	X	IBM System Storage DS4700 Express Model 72
1814-72S	X	IBM System Storage DS4700 Express Model 72-DC
1814-7VA	X	IBM System Storage DS4200 Express Model 7V
1814-7VH	X	DS4200 Express Model 7V
1814-92A	X	IBM System Storage (EXP395) Expansion Unit
1814-94A	X	IBM System Storage (DS3950) Model 94
1814-98A	X	IBM System Storage (DS3950) Model 98
1815-80A	X	IBM System Storage DS4800 Model 80A
1815-82A	X	IBM System Storage DS4800 Model 82A
1815-84A	X	IBM System Storage DS4800 Model 84A
1815-88A	X	IBM System Storage DS4800 Model 88A
1818-51A	X	IBM System Storage DS5100 Disk System
1818-53A	X	IBM System Storage DS5300 Disk System
1818-D1A	X	IBM System Storage EXP5000 Expansion Unit
2076-112	X	The IBM 2076 Storwize V7000 Control Enclosure 112
2076-124	X	The IBM 2076 Storwize V7000 Control Enclosure 124
2076-212	X	The IBM 2076 Storwize V7000 Control Enclosure 212
2076-224	X	The IBM 2076 Storwize V7000 Control Enclosure 224
2105-800	X	IBM 2105-800
2105-E20	X	IBM 2105-E20
2105-F10	X	IBM 2105-F10
2105-F20	X	IBM 2105-F20
2107-921	X	IBM 2107-921
2107-922	X	IBM 2107-922
2107-931	X	IBM 2107-931
2107-932	X	IBM 2107-932
2107-9A2	X	IBM 2107-9A2
2107-9AE	X	IBM 2107-9AE
2107-9B2	X	IBM 2107-9B2
7031-D24	X	IBM TotalStorage EXP24 7031-D24
7031-T24	X	IBM TotalStorage EXP24 7031-T24
7204-646	X	IBM 7204-646

-----Displays-----		
7042-C06	X	IBM 7042-C06
7042-C07	X	IBM 7042-C07
7042-CR4	X	IBM 7042-CR4
7042-CR5	X	IBM 7042-CR5
7042-CR6	X	IBM 7042-CR6
7310-C05	X	IBM 7310-C05
7310-C06	X	IBM 7310-C06
7310-CR3	X	IBM 7310-CR3
7310-CR4	X	IBM 7310-CR4
7316-TF1	X	IBM 7316-TF1
7316-TF3	X	IBM 7316-TF3
9419-HB7	X	IBM Thinkvision L19lp 19-inch LCD Flat-panel Monitor
9513-AW1	X	IBM T55A 15.0-inch Color TFT LCD Monitor
9516-B03	X	IBM MultiMode 16.1-inch TFT LCD Flat Panel Monitor Model B03
9516-B04	X	IBM MultiMode 16.1-inch TFT LCD Flat Panel Monitor Model B04

-----Expansion Cabinets-----		
7014-B42	X	IBM 7014-B42
7014-S25	X	IBM 7014-S25
7014-T00	X	IBM 7014-T00
7014-T42	X	IBM 7014-T42
7314-G30	X	IBM 7314-G30

-----Power-----		
9910-E35	X	9910-E35
9910-E36	X	9910-E36
9910-E66	X	9910-E66
9910-E67	X	9910-E67

-----SCSI Devices-----		
3996-032	X	
3996-080	X	
3996-174	X	
7210-020	X	IBM 7210-020
7210-025	X	IBM 7210-025
7210-030	X	IBM 7210-030

-----Storage Network Devices-----		
1750-EX2	X	IBM System Storage DS6000 Expansion Unit
1818-80C	X	1818-80C IBM System Storage DCS3700 Storage System
1818-80E	X	IBM System Storage DCS3700 Expansion Unit
2105-750	X	IBM 2105-750
2145-4P2	X	IBM 2145-4P2

2145-8F2	X	IBM 2145-8F2
2145-8F4	X	IBM 2145-8F4
2421-931	X	SYSTEM STORAGE DS8100
2421-932	X	SYSTEM STORAGE DS8300
2421-941	X	IBM System Storage DS8700 Disk System (M/T 2421)
2421-94E	X	IBM System Storage DS8700 Disk System (M/T 2421)
2421-9B2	X	SYSTEM STORAGE DS8300
2422-931	X	SYSTEM STORAGE DS8100
2422-932	X	SYSTEM STORAGE DS8300
2422-941	X	IBM System Storage DS8700 Disk System (M/T 2422)
2422-94E	X	IBM System Storage DS8700 Disk System (M/T 2422)
2422-9B2	X	SYSTEM STORAGE DS8300
2423-931	X	SYSTEM STORAGE DS8100
2423-932	X	SYSTEM STORAGE DS8300
2423-941	X	IBM System Storage DS8700 Disk System (M/T 2423)
2423-94E	X	IBM System Storage DS8700 Disk System (M/T 2423)
2423-9B2	X	SYSTEM STORAGE DS8300
2424-931	X	SYSTEM STORAGE DS8100
2424-932	X	SYSTEM STORAGE DS8300
2424-941	X	IBM System Storage DS8700 Disk System (M/T 2424)
2424-94E	X	IBM System Storage DS8700 Disk System (M/T 2424)
2424-9B2	X	SYSTEM STORAGE DS8300
2498-R06	X	2498-R06 IBM System Storage SAN06B-R
2858-A10	X	N6040 Model A10
2858-A11	X	N6070 Model A11
2858-A12	X	N6060 Model A12
2858-A20	X	N6040 Model A20
2858-A21	X	N6070 Model A21
2858-A22	X	N6060 Model A22
2859-A10	X	
2859-A20	X	
2861-001	X	IBM System Storage EXN1000 SATA expansion unit
2862-A10	X	
2862-A20	X	
2863-001	X	IBM System Storage EXN2000
2863-A10	X	IBM System Storage N3700 Model A10
2863-A20	X	IBM System Storage N3700 Model A20
2864-A10	X	IBM System Storage N5200 Model A10
2864-A20	X	IBM System Storage N5200 Model A20
2865-A10	X	IBM System Storage N5500 Model A10
2865-A20	X	IBM System Storage N5500 Model A20
2866-A10	X	
2866-A11	X	
2866-A20	X	IBM System Storage N7600 Model A20
2866-A21	X	IBM System Storage N7600 Model A20
2866-G11	X	
2866-G21	X	IBM System Storage N7600 Model G20
2867-A10	X	IBM System Storage N7800 Model A10
2867-A11	X	IBM System Storage N7800 Model A10
2867-A20	X	IBM System Storage N7800 Model A20
2867-A21	X	IBM System Storage N7800 Model A20
2867-G11	X	IBM System Storage N7800 Model G20
2867-G21	X	IBM System Storage N7800 Model G20
9830-AE1	X	FlashSystem 810 Model AE1
9830-AS1	X	FlashSystem 710 Model AS1

-----Switch-----		
1455-24E	X	IBM 1455-24E
1455-48E	X	IBM 1455-48E
1455-64C	X	IBM 1455-64C
1611-16E	X	IBM 1611-16E
2005-B16	X	IBM TotalStorage SAN16B-2
2005-B32	X	IBM TotalStorage SAN32B-2 Express Model
2005-B5K	X	IBM System Storage SAN32B-3
2005-B64	X	IBM System Storage SAN64B-2 Fabric Switch
2005-H08	X	IBM TotalStorage SAN Switch H16
2005-H16	X	IBM TotalStorage SAN Switch H16
2005-R18	X	IBM 2005 System Storage SAN18B-R Router
2026-224	X	IBM TotalStorage SAN24M-1
2026-416	X	IBM TotalStorage SAN16M-2
2026-432	X	IBM TotalStorage SAN32M-2
2026-E12	X	IBM TotalStorage SAN12M-1
2027-140	X	IBM TotalStorage SAN140M
2027-232	X	IBM TotalStorage SAN32M-1
2027-256	X	IBM TotalStorage SAN256M
2031-216	X	IBM 2031-216
2031-232	X	IBM 2031-232
2032-064	X	IBM 2032-064
2032-140	X	IBM 2032-140
2034-212	X	IBM 2034-212
2042-001	X	IBM 2042-001
2042-128	X	IBM 2042-128
2042-256	X	IBM 2042-256
2045-N16	X	IBM 2045-N16
2053-424	X	Cisco MDS 9124 for IBM System Storage switch
2053-434	X	Cisco MDS 9134 for IBM System Storage switch
2053-S34	X	Cisco MDS 9134 for IBM System Storage switch
2061-020	X	IBM 2061-020
2061-040	X	IBM 2061-040
2062-D01	X	IBM 2062-D01
2062-D04	X	Cisco MDS 9506 Multilayer Director
2062-D07	X	Cisco MDS 9509 Multilayer Director
2062-D1A	X	Cisco MDS 9216A Multilayer Fabric Switch
2062-D1H	X	Cisco MDS 9216i Multilayer Fabric Switch
2062-E12	X	Cisco MDS 9512 Multilayer Director

2062-T04	X	Cisco MDS 9506 Multilayer Director
2062-T07	X	Cisco MDS 9509 Multilayer Director
2109-A16	X	IBM TotalStorage SAN16B-R
2109-F16	X	IBM 2109-F16
2109-F32	X	IBM 2109-F32
2109-M12	X	IBM 2109-M12
2109-M14	X	IBM 2109-M14
2109-M48	X	IBM 2109 SAN256B Director Model M48
2498-B24	X	IBM System Storage SAN24B-4 Express
2498-B40	X	IBM System Storage SAN40B-4
2498-B80	X	IBM 2498 SAN80B-4 Model B80
2498-F48	X	IBM System Storage SAN48B
2499-416	X	IBM System Storage SAN384B
2499-816	X	IBM System Storage SAN768B
-----Tape-----		
3494-D22	X	IBM 3494-D22
3494-D24	X	IBM 3494-D24
3494-HA1	X	IBM 3494-HA1
3494-L22	X	IBM 3494-L22
3572-S3H	X	TS2900 Tape Autoloader w/LTO3 HH SAS drive
3572-S4H	X	TS2900 Tape Autoloader w/LTO4 HH SAS drive
3573-L2U	X	TS3100 Tape Library Model L2U
3573-L4U	X	TS3200 Tape Library Model L4U
3576-E9U	X	IBM System Storage TS3310 Tape Library Model E9U
3576-L5B	X	IBM System Storage TS3310 Tape Library Model L5B
3577-L5U	X	IBM 3577-L5U
3580-H23	X	IBM 3580-H23
3580-H3L	X	System Storage TS2230 Tape Drive Express Model H3L
3580-H3S	X	System Storage TS2230 Tape Drive Express Model H3S
3580-H4S	X	System Storage TS2240 Tape Drive Express Model H4S
3580-L23	X	IBM 3580-L23
3580-L33	X	TotalStorage 3580 Tape Drive Model L33
3580-L43	X	System Storage TS2340 Tape Drive Express Model L43
3580-S43	X	System Storage TS2340 Tape Drive Express Model S43
3581-F28	X	IBM 3581-F28
3581-F38	X	IBM 3581-F38
3581-H23	X	IBM 3581-H23
3581-L23	X	IBM 3581-L23
3581-L28	X	IBM 3581-L28
3581-L38	X	IBM 3581-L38
3582-L23	X	IBM 3582-L23
3583-L18	X	IBM 3583-L18
3583-L36	X	IBM 3583-L36
3583-L72	X	IBM 3583-L72
3584-D22	X	IBM 3584-D22
3584-D23	X	IBM 3584-D23
3584-D32	X	IBM 3584-D32
3584-D42	X	IBM 3584-D42
3584-D52	X	IBM 3584-D52
3584-D53	X	IBM 3584-D53
3584-HA1	X	IBM 3584-HA1
3584-L22	X	IBM 3584-L22
3584-L23	X	IBM 3584-L23
3584-L32	X	IBM 3584-L32
3584-L52	X	IBM 3584-L52
3584-L53	X	IBM 3584-L53
3584-S24	X	TS3500 HD Frames Enterpr Drive
3584-S54	X	TS3500 HD Frames LTO Drive
3588-F3A	X	IBM 3588-F3A
3588-F3B	X	IBM 3588-F3B
3588-F4A	X	IBM System Storage TS1040 Tape Drive Model F4A
3590-H11	X	IBM 3590-H11
3590-H1A	X	IBM 3590-H1A
3592-E05	X	IBM System Storage TS1120 Tape Drive
3592-E06	X	TS1130 Tape Drive
3592-EU6	X	TS1130 Tape Drive
3592-J1A	X	IBM TotalStorage Enterprise Tape Drive 3592
3952-F05	X	IBM System Storage 3952 Tape Frame
3954-CV5	X	IBM Virtualization Engine TS7510
3954-CV6	X	IBM Virtualization Server TS7520 Server
3954-CV7	X	IBM Virtualization Engine TS7530 Server
3955-SV5	X	IBM Virtualization Engine TS7510 Model SV5
3955-SV6	X	IBM Virtualization Engine TS7520 Cache Controller
3955-SX5	X	IBM Virtualization Engine TS7510 Model SX5
3955-SX6	X	IBM Virtualization Engine TS7520 Cache Drawer
3958-AP1	X	IBM System Storage TS7650 ProtecTIER De-duplication Appliance (3958-AP1)
3958-DD3	X	IBM System Storage TS7650G Gateway (3958-DD3)
7205-550	X	IBM 7205-550
7206-220	X	IBM 7206-220
7206-336	X	IBM 7206-336
7206-VX2	X	IBM 7206-VX2
7206-VX3	X	IBM 7206-VX3
7212-312	X	IBM 7212-312
7214-1U2	X	7214-1U2
7214-TT2	X	
7216-1U2	X	7216-1U2 Media Enclosure
7226-1U3	X	7226-1U3
7332-220	X	IBM 4MM DDS-4 Tape Cartridge Autoloader Model 220

Model conversions

Feature Conversions

The existing components being replaced during a model or feature conversion become the property of IBM and must be returned.

Feature conversions are always implemented on a "quantity of one for quantity of one" basis. Multiple existing features may not be converted to a single new feature. Single existing features may not be converted to multiple new features.

The following conversions are available to customers:

Feature conversions for 9117-MMA to 9117-MMB memory features

From FC:	To FC:	RETURN PARTS
4495 - 4/8GB (4X2GB) DIMMS, 276 PIN 533 MHZ, DDR2 SDRAM	5600 - 0/32GB DDR3 Memory (4X8GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
4496 - 8/16GB (4X4GB) DIMMS, 276 PIN, 533 MHZ DDR2 SDRAM	5600 - 0/32GB DDR3 Memory (4X8GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
4497 - 16GB (4X4GB) DIMMS, 276 PIN, 533 MHZ, DDR2 SDRAM	5600 - 0/32GB DDR3 Memory (4X8GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
4499 - 16GB (4X4GB) DIMMS, 276 pin, 400MHZ DDR2 SDRAM	5600 - 0/32GB DDR3 Memory (4X8GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
5693 - 0/4GB DDR2 Memory (4X1GB) DIMMS- 667 MHZ- POWER6 CoD Memory	5600 - 0/32GB DDR3 Memory (4X8GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
5694 - 0/8GB DDR2 Memory (4X2GB) DIMMS- 667 MHZ- POWER6 CoD Memory	5600 - 0/32GB DDR3 Memory (4X8GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
5695 - 0/16GB DDR2 Memory (4X4GB) DIMMS- 533 MHZ- POWER6 CoD Memory	5600 - 0/32GB DDR3 Memory (4X8GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
7892 - 2GB (4X512MB) DIMMS, 276-pin, 533MHZ DDR2 SDRAM	5600 - 0/32GB DDR3 Memory (4X8GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
7893 - 4GB (4X1GB) DIMMS, 276-pin, 533MHZ DDR2 SDRAM	5600 - 0/32GB DDR3 Memory (4X8GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
7894 - 8GB (4X2GB) DIMMS, 276-pin, 533 MHZ DDR2 SDRAM	5600 - 0/32GB DDR3 Memory (4X8GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
4495 - 4/8GB (4X2GB) DIMMS, 276 PIN 533 MHZ, DDR2 SDRAM	5601 - 0/64GB DDR3 Memory (4X16GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
4496 - 8/16GB (4X4GB) DIMMS, 276 PIN, 533 MHZ DDR2 SDRAM	5601 - 0/64GB DDR3 Memory (4X16GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
4497 - 16GB (4X4GB) DIMMS, 276 PIN, 533 MHZ, DDR2 SDRAM	5601 - 0/64GB DDR3 Memory (4X16GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
4498 - 32GB (4X8GB) DIMMS, 276 pin, 400MHZ DDR2 SDRAM	5601 - 0/64GB DDR3 Memory (4X16GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
4499 - 16GB (4X4GB) DIMMS, 276 pin, 400MHZ DDR2 SDRAM	5601 - 0/64GB DDR3 Memory (4X16GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
5690 - 0/32GB DDR2 Memory (4X8GB) DIMMS- 400 MHZ- POWER6 CoD Memory	5601 - 0/64GB DDR3 Memory (4X16GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
5693 - 0/4GB DDR2 Memory (4X1GB) DIMMS- 667 MHZ- POWER6 CoD Memory	5601 - 0/64GB DDR3 Memory (4X16GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
5694 - 0/8GB DDR2 Memory (4X2GB) DIMMS- 667 MHZ- POWER6 CoD Memory	5601 - 0/64GB DDR3 Memory (4X16GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
5695 - 0/16GB DDR2 Memory (4X4GB) DIMMS- 533 MHZ- POWER6 CoD Memory	5601 - 0/64GB DDR3 Memory (4X16GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
5696 - 0/32GB DDR2 Memory (4X8GB) DIMMS- 400 MHZ- POWER6 CoD Memory	5601 - 0/64GB DDR3 Memory (4X16GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
7892 - 2GB (4X512MB) DIMMS, 276-pin, 533MHZ DDR2 SDRAM	5601 - 0/64GB DDR3 Memory (4X16GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
7893 - 4GB (4X1GB) DIMMS, 276-pin, 533MHZ DDR2 SDRAM	5601 - 0/64GB DDR3 Memory (4X16GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
7894 - 8GB (4X2GB) DIMMS, 276-pin, 533 MHZ DDR2 SDRAM	5601 - 0/64GB DDR3 Memory (4X16GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
4496 - 8/16GB (4X4GB) DIMMS, 276 PIN, 533 MHZ DDR2 SDRAM	5602 - 0/128GB DDR3 Memory (4X32GB) DIMMS - 1066 Hz - POWER7 CoD Memory	Yes
4497 - 16GB (4X4GB) DIMMS, 276 PIN, 533 MHZ, DDR2 SDRAM	5602 - 0/128GB DDR3 Memory (4X32GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
4498 - 32GB (4X8GB) DIMMS, 276 pin, 400MHZ DDR2 SDRAM	5602 - 0/128GB DDR3 Memory (4X32GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes

4499 - 16GB (4X4GB) DIMMS, 276 pin, 400MHZ DDR2 SDRAM	5602 - 0/128GB DDR3 Memory (4X32GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
5690 - 0/32GB DDR2 Memory (4X8GB) DIMMS- 400 MHZ- POWER6 CoD Memory	5602 - 0/128GB DDR3 Memory (4X32GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
5695 - 0/16GB DDR2 Memory (4X4GB) DIMMS- 533 MHZ- POWER6 CoD Memory	5602 - 0/128GB DDR3 Memory (4X32GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
5696 - 0/32GB DDR2 Memory (4X8GB) DIMMS- 400 MHZ- POWER6 CoD Memory	5602 - 0/128GB DDR3 Memory (4X32GB) DIMMS - 1066 MHZ - POWER7 CoD Memory	Yes
5680 - Activation of 1GB DDR2 POWER6 Memory	8212 - Activation of 1 GB DDR3 POWER7 Memory	No
7272 - 2GB CUoD Memory Activation	8212 - Activation of 1 GB DDR3 POWER7 Memory	No
7273 - 4GB CUoD Memory Activation	8212 - Activation of 1 GB DDR3 POWER7 Memory	No
7274 - 8GB CUoD Memory Activation	8212 - Activation of 1 GB DDR3 POWER7 Memory	No
7275 - 16GB CUoD Memory Activation	8212 - Activation of 1 GB DDR3 POWER7 Memory	No
7276 - 32GB CUoD Memory Activation	8212 - Activation of 1 GB DDR3 POWER7 Memory	No
7663 - 1GB DDR2 Memory Activation	8212 - Activation of 1 GB DDR3 POWER7 Memory	No
8017 - 570 to MMA CoD Memory Activation Carry Over Indicator	8212 - Activation of 1 GB DDR3 POWER7 Memory	No
5681 - Activation of 256 GB DDR2 POWER6 Memory	8213 - Activation of 100 GB DDR3 POWER7 Memory	No
5684 - Activation of 100 GB DDR2 Memory	8213 - Activation of 100 GB DDR3 POWER7 Memory	No

Feature conversions for 9117-MMA to 9117-MMB processor features

From FC:	To FC:	RETURN PARTS
5620 - 3.5 GHz Proc Card, 0/ 2 Core POWER6, 12 DDR2 Memory Slots	4980 - 3.5 GHz Proc Card, 0/ 12 Core POWER7, 16 DDR3 Memory Slots	Yes
5621 - 4.2 GHz Proc Card, 0/ 2 Core POWER6, 8 DDR2 Memory Slots	4980 - 3.5 GHz Proc Card, 0/ 12 Core POWER7, 16 DDR3 Memory Slots	Yes
5622 - 4.2 GHz Proc Card, 0/ 2 Core POWER6, 12 DDR2 Memory Slots	4980 - 3.5 GHz Proc Card, 0/ 12 Core POWER7, 16 DDR3 Memory Slots	Yes
7380 - 4.7 GHz Proc Card, 0/ 2 Core POWER6, 12 DDR2 Memory Slots	4980 - 3.5 GHz Proc Card, 0/ 12 Core POWER7, 16 DDR3 Memory Slots	Yes
7387 - 4.4GHz Proc Card, 0/ 2 Core POWER6, 12 DDR2 Memory Slots.	4980 - 3.5 GHz Proc Card, 0/ 12 Core POWER7, 16 DDR3 Memory Slots	Yes
7388 - 5.0 GHz Proc Card, 0/ 2 Core POWER6, 12 DDR2 Memory Slots	4980 - 3.5 GHz Proc Card, 0/ 12 Core POWER7, 16 DDR3 Memory Slots	Yes
7540 - 4.2 GHz Proc Card, 0/ 4 Core POWER6, 12 DDR2 Memory Slots	4980 - 3.5 GHz Proc Card, 0/ 12 Core POWER7, 16 DDR3 Memory Slots	Yes
4990 - Single 5250 Enterprise Enablement	4992 - Single 5250 Enterprise Enablement	No
4991 - Full 5250 Enterprise Enablement	4997 - Full 5250 Enterprise Enablement	No
5403 - One Processor Activation for Processor Feature #7380	5459 - One Processor Activation for Processor Feature #4980	No
5670 - One Processor Activation for Processor Feature #5620	5459 - One Processor Activation for Processor Feature #4980	No
5671 - One Processor Activation for Processor Feature #5621	5459 - One Processor Activation for Processor Feature #4980	No
5672 - One Processor Activation for Processor Feature #5622	5459 - One Processor Activation for Processor Feature #4980	No
7306 - One Processor Activation for Processor Feature #7388	5459 - One Processor Activation for Processor Feature #4980	No
7700 - One Processor Activation for Processor Feature #7540	5459 - One Processor Activation for Processor Feature #4980	No
7719 - One Processor Activation for Processor Feature #7387	5459 - One Processor Activation for Processor Feature #4980	No

Feature conversions for 9117-MMA to 9117-MMB rack related features

From FC:	To FC:	RETURN PARTS
6246 - 1.8m Rack Trim Kit	6263 - 1.8m Rack Trim Kit	No
6247 - 2.0m Rack Trim Kit	6272 - 2.0m Rack Trim Kit	No

From FC:	To FC:	RETURN PARTS
7942 - POWER VM - Standard Edition	7995 - PowerVM - Enterprise Edition	No

Feature conversions for 9117-MMB solid state drive features

From FC:	To FC:	RETURN PARTS
ES0A - 387GB SFF-1 SSD for AIX/Linux with eMLC	EH14 - GEN2-S Conversion Carrier for Feature ES0C 387GB SSD	No
EQ0A - Quantity 150 of #ES0A	EH15 - GEN2-S Conversion Carriers for Feature EQ0C 387GB SSD	No
ES0B - 387GB SFF-1 SSD for IBM i with eMLC	EH16 - GEN2-S Conversion Carrier for Feature ES0D 387GB SSD (IBM i)	No
EQ0B - Quantity of 150 #ES0B	EH17 - GEN2-S Conversion Carrier for feature EQ0D 3787GB (IBM i)	No

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Technical description

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Physical specifications

IBM Power 770 model MMB CEC enclosure

width: 483 mm (19.0 in.)
Depth: 863 mm (32.0 in.)
Height: 174 mm (6.85 in.) 4 EIA units
weight: 70.3 kg (155 lb)

Dimensions and specifications shown are for a single drawer. Model MMB systems can have one to four CEC enclosures.

To help assure installability and serviceability in non-IBM, industry- standard racks, review the vendor's installation planning information for any product-specific installation requirements.

Operating environment

- Temperature:
 - 5 to 45 degrees C (41 to 113 F) nonoperating
 - 5 to 35 degrees C (41 to 95 F) operating
- Relative humidity: (noncondensing)
 - 8% to 80% nonoperating
 - 20% to 80% operating
- Maximum dew point:
 - 28 degrees C (82 F) nonoperating
 - 29 degrees C (84 F) operating
- Operating voltage: 200 to 240 V ac
- Operating frequency: .50 to 60 +/-3 Hz
- Power consumption: 1600 watts max. (per enclosure with 16 cores active)
- Power source loading: 1.649 kVA max.(per enclosure with 16 cores active)
- Thermal output: 5,461 BTU/hr max. (per enclosure with 16 cores active)
- Maximum altitude: 3,048 m (10,000 ft)
- Noise level
One enclosure with 16 active cores:
 - 6.8 bels (operating/idle)
 - 6.3 bels (operating/idle) with acoustic rack doors
Four enclosures with 64 active cores:
 - 7.4 bels (operating/idle)
 - 6.9 bels (operating/idle) with acoustic rack doors

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 CFR, Title 47, Part 15, EMI Class A
- EEA, Turkey: EU Council Directive 2004/108/EC, EMI Class A
- Japan: VCCI Council, EMI Class A
- Korea: KCC, EMI Class A
- China (PRC): CPCS, EMI Class A
- Taiwan (RoC): Taiwan BSMI, EMI Class A
- Australia\New Zealand: ACMA, EMI Class A
- Canada: ICES-003, EMI Class A
- Russia: GOST R, EMI Class A
- Saudi Arabia: MoCI, EMI Class A
- Vietnam: MPT, EMI Class A

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 LaGarde, France. This Power System 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 60950-1 1st Edition Underwriters Laboratory, Safety Information
- CAN/CSA22.2 No. 60950-1 1st Edition
- EN60950-1:2001 European Norm
- GS Mark (Safety, TUV, EN60950)-Germany, Europe
- IEC 60950-1 1st Edition, International Electrotechnical Commission, Safety Information
- Nordic deviations to IEC 60950-1 1st Edition

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).

Limitations

The 9117-MMB has the following limitations:

- The POWER GXT145 PCI Express Graphics Accelerator (#5748) and the POWER GXT135P Graphics Accelerator with Digital Support (#2849) is not hot-plug capable.
- The 3.5 inch DASD disk drives are not supported in the CEC enclosure.
- A number of older I/O devices, adapters and memory which were supported on the Power 570 9117-MMA are not supported on the Power 770 and newer technology must be used to replace it.
- These include:
 - The HSL-2/RIO-2 interface drawers and towers
 - The 10K SCSI disks
 - The 15K SCSI drives 35 GB or smaller
 - IDE DVD drives in the CEC enclosure (DVD drives: feature 3706, 4430, 4460, 4633, 5756, 5757)
 - DDR2 memory
 - SCSI adapters: feature code 2749, 2757, 2780, 5580, 5581, 5583, 5590, 5591, 5702, 5712, 5776, 5778, 5706
 - Fibre Channel adapters: feature code 2787, 5704, 5760, 5761
 - Integrated xSeries Servers: feature code 4812, 4813
 - Ethernet adapters: feature code 1981, 5718, 1982, 5719, 1984, 5707, 3709
 - IOPs: feature 2844, 2847, 3705
 - DTTA (telephony): feature code 6312
 - Twinax: feature 4746
 - Cryptographic adapters: features 4801, 5805
 - Diskette drives: Feature 2591
 - Quarter Inch Cartridge (QIC) tape drives (neither feature code or machine type model)
- One-step model upgrades from POWER5 or POWER5+ are not supported. Only model upgrades from the 9117-MMA is supported. A 9406-MMA must first be converted to a 9117-MMA.
- UPS attachment to the system CEC via the Serial to SPCN feature (#1827) is no longer supported. UPS support may be added by using an existing attached #5802 or #5877 drawer, plus the necessary DDR IB cables, SPCN cable and GX++ adapter (#1808).

Hardware requirements

The 9117-MMB can be installed in a 7014-T00, 7014-T42, 7014-B42, or 7014-S25 rack which provides:

- Proper dimensions
- Mounting surfaces
- Power distribution
- Ventilation
- Stability
- Other functional requirements

The design of the Power 770 is optimized for use in an IBM 7014-T00 or 7014-T42 rack. Both the front cover and the external processor fabric cables occupy space on the front left and right side of an IBM 7014 rack that may not be available in non-IBM racks. If loading two or more CEC enclosures in a 7014-T42 or 7014-B42 rack, the CEC enclosures need to be loaded 36U or below to allow space for the flex cables.

Minimum System Configuration:

Each Model MMB system must include a minimum of the following items:

- One CEC enclosure (4U) with the following:
 - 1X System Enclosure with IBM Bezel (#5659) or OEM Bezel (#5669)
 - 1X Service Processor (#5664)
 - 1X DASD Backplane (#5652)
 - 2X Power Cords (two selected by customer)
 - 2X A/C Power Supply (#5632)
 - 1X Operator Panel (#1853)
 - 1X HEA Adapters (one of these):
 - Quad 4 X 1 Gb (#1803)
 - Quad 2 X 1 Gb and 2 X 10 Gb Optical (#1804)
 - Quad 2 X 1 Gb and 2 X 10 Gb Copper (#1813)
- 1X Primary Operating System (one of these):
 - AIX (#2146)
 - Linux (#2147)
 - IBM i (#2145) plus IBM i 6.1.1 (#0566)
- 1X Processor Card (one of these):
 - 3.5 GHz, 12-Core POWER7 Processor Card, 0-core active (#4980)
 - 3.1 GHz, 16-Core POWER7 Processor Card, 0-core active (#4981)
- 4X Processor Activations (quantity of four for one of these):
 - One Processor Activation for Processor Feature #4980 (#5459)
 - One Processor Activation for Processor Feature #4981 (#5468)
- 1X DDR3 Memory DIMMS:
 - 0/32 GB (4 x 8 GB), 1066 MHz, (#5600, or larger)
- 16X Activation of 1 GB DDR3 - POWER7 Memory (#8212)
- For AIX/Linux 1X Disk Drive and for IBM i 2X disk drive: formatted to match the system Primary O/S indicator selected, or if using a Fibre Channel attached SAN (indicated by #0837) a disk drive is not required
- 1X Language Group (selected by customer)
- 1X Removable Media Device (#5762): optionally orderable, a stand- alone system (not network attached) would required this feature
- 1X HMC is required for every 9117-MMB (physical hardware HMC or a virtual appliance (vHMC)); however, a communal HMC is acceptable.

Note:

- Additional optional features can be added, as desired
- Feature coded racks are allowed for I/O expansion only
- A machine type/model rack, if desired, should be ordered as the primary rack
- A minimum number of four processor activations must be order per system
- The minimum number of memory activation must enable at least 50% of the ordered memory

Hardware Management Console (HMC) Machine Code

If attaching an HMC to a new server or adding function to an existing server that requires a firmware update, the HMC machine code may need to be updated.

To determine the HMC machine code level required for the firmware level on any server, go to the following Web site to access the Fix Level Recommendation Tool (FLRT) on or after the planned availability date for this product. FLRT will identify the correct HMC machine code for the selected system firmware level.

<http://www14.software.ibm.com/webapp/set2/flrt/home>

If a single HMC is attached to multiple servers, the HMC machine code level must be updated to the server with the most recent firmware level. All prior levels of server firmware are supported with the latest HMC machine code level.

An HMC is required to manage POWER7 processor-based servers implementing partitioning. Multiple POWER7 processor-based servers can be supported by a single HMC.

If an HMC is used to manage any POWER7 processor based server, the HMC must be a CR3 model, or later, rack-mount HMC or C05 model, or later, deskside HMC.

When IBM Systems Director is used to manage an HMC or if the HMC manages more than 254 partitions, the HMC should have 3 GB of RAM minimum and be CR3 model, or later, rack-mount or C06 model, or later, deskside.

Software requirements

If installing the AIX operating system (one of these):

- AIX 5.3 with the 5300-11 Technology Level and Service Pack 2, or later
- AIX 5.3 with the 5300-10 Technology Level and Service Pack 4, or later, available May 28, 2010
- AIX 5.3 with the 5300-09 Technology Level and Service Pack 7, or later, available May 28, 2010
- AIX 6.1 with the 6100-04 Technology Level and Service Pack 3, or later
- AIX 6.1 with the 6100-03 Technology Level and Service Pack 5, or later, available June 25, 2010
- AIX 6.1 with the 6100-02 Technology Level and Service Pack 8, or later, available June 25, 2010

If installing the IBM i operating system:

- IBM i 6.1 with 6.1.1 machine code, or later

Visit the IBM Prerequisite Web site for compatibility information for hardware features and the corresponding AIX and IBM i Technology Levels:

http://www-912.ibm.com/e_dir/eserverprereq.nsf

If installing the Linux operating system (one of these):

- Red Hat Enterprise Linux 5.5 or later
- SUSE Linux Enterprise Server 10 Service Pack 3 or later, with current maintenance updates available from Novell to enable all planned functionality.
- SUSE Linux Enterprise Server 11 or later, with current maintenance updates available from Novell to enable all planned functionality.

If installing VIOS:

- VIOS 2.1.2.12 with Fix Pack 22.1 and Service Pack 2, or later

If installing Java 1.4.2 on POWER7, there are unique considerations when running Java 1.4.2 on POWER7. For more information refer to the following Web site:

<http://www.ibm.com/developerworks/java/jdk/aix/service.html>

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Publications

IBM power systems hardware documentation provides you with the following topical information:

- System overview
- Planning for the system
- Installing and configuring the system
- Working with consoles, terminals and interfaces
- Managing system resources
- Working with operating systems and software applications
- Troubleshooting, service, and support

Product documentation is available on a DVD (SK5T-7087), which is shipped with the Power 770, or you can access the product documentation on the Web at:

<http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/index.jsp>

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Features

- ↓ [Features - No charge](#)
- ↓ [Features - Chargeable](#)

- ↓ [Feature availability matrix](#)
- ↓ [Feature descriptions](#)

Features - No charge

- Languages
 - (#9300) -Language Group Specify - US English
 - (#9700) -Language Group Specify - Dutch
 - (#9703) -Language Group Specify - French
 - (#9704) -Language Group Specify - German
 - (#9705) -Language Group Specify - Polish
 - (#9706) -Language Group Specify - Norwegian
 - (#9707) -Language Group Specify - Portuguese
 - (#9708) -Language Group Specify - Spanish
 - (#9711) -Language Group Specify - Italian
 - (#9712) -Language Group Specify - Canadian French
 - (#9714) -Language Group Specify - Japanese
 - (#9715) -Language Group Specify - Traditional Chinese (Taiwan)
 - (#9716) -Language Group Specify - Korean
 - (#9718) -Language Group Specify - Turkish
 - (#9719) -Language Group Specify - Hungarian
 - (#9720) -Language Group Specify - Slovakian
 - (#9721) -Language Group Specify - Russian
 - (#9722) -Language Group Specify - Simplified Chinese (PRC)
 - (#9724) -Language Group Specify - Czech
 - (#9725) -Language Group Specify -- Romanian
 - (#9726) -Language Group Specify - Croatian
 - (#9727) -Language Group Specify -- Slovenian
 - (#9728) -Language Group Specify - Brazilian Portuguese
 - (#9729) -Language Group Specify - Thai
- Miscellaneous
 - (#0710) -Balanced Warehouse Solution Indicator
 - (#0983) -US TAA Compliance Indicator
 - (#1120) -Decline Electronic Service Agent Install Indicator
 - (#7305) -SDI Software Pre-Install Indicator
 - (#9461) -Month Indicator
 - (#9462) -Day Indicator
 - (#9463) -Hour Indicator
 - (#9464) -Minute Indicator
 - (#9465) -Qty Indicator
 - (#9466) -Countable Member Indicator
- Rack Related
 - (#9570) -Reserved Rack Space Indicator - 4U
- Specify Codes
 - (#9169) -Order Routing Indicator-System Plant
 - (#9440) -New AIX License Core Counter
 - (#9441) -New IBM i License Core Counter
 - (#9442) -New Red Hat License Core Counter
 - (#9443) -New SUSE License Core Counter
 - (#9444) -Other AIX License Core Counter
 - (#9445) -Other Linux License Core Counter
 - (#9446) -3rd Party Linux License Core Counter
 - (#9447) -VIOS Core Counter

Features - Chargeable

Special Features - Initial Orders

- Administrative
 - (#0463) -SSD Placement Indicator (5802/5803)
 - (#0464) -SSD Placement Indicator - 5886
 - (#0465) -SSD Placement Indicator - 5887
- Miscellaneous
 - (#0712) -Manufacturing Routing Code for CSC
 - (#4891) -CBU SPECIFY
 - (#5000) -Software Preload Required
 - (#8143) -Linux Software Preinstall
 - (#8144) -Linux Software Preinstall (Business Partners)
- Specify Codes
 - (#0205) -RISC-to-RISC Data Migration
 - (#0724) -#1996 Load Source Specify

One and only one rack indicator features is required onall orders (#4650 to #4666).

- (#4650) -Rack Indicator-Not Factory Integrated
- (#4651) -Rack Indicator, Rack #1
- (#4652) -Rack Indicator, Rack #2
- (#4653) -Rack Indicator, Rack #3
- (#4654) -Rack Indicator, Rack #4
- (#4655) -Rack Indicator, Rack #5
- (#4656) -Rack Indicator, Rack #6
- (#4657) -Rack Indicator, Rack #7
- (#4658) -Rack Indicator, Rack #8
- (#4659) -Rack Indicator, Rack #9
- (#4660) -Rack Indicator, Rack #10
- (#4661) -Rack Indicator, Rack #11
- (#4662) -Rack Indicator, Rack #12
- (#4663) -Rack Indicator, Rack #13
- (#4664) -Rack Indicator, Rack #14
- (#4665) -Rack Indicator, Rack #15
- (#4666) -Rack Indicator, Rack #16
- (#5002) -Customer Solution Center - Rochester Mfg
- (#8453) -Base Customer Spec Plcmnt
- (#EUC5) -12X Cable Performance Specify

Special Features - Plant and/or Field Installable

- Adapters
 - (#1803) -Integrated, 4 Port-1Gb Virtual Ethernet, I/O ports
 - (#1804) -Integrated, 4 Port (2x1Gb and 2x10Gb SFP+ Optical ports)
 - (#1808) -GX++ 12X DDR Adapter, Dual-port
 - (#1813) -Integrated, 4 Port (2x1Gb and 2x10Gb SFP+ Copper twinax ports)
 - (#1912) -PCI-X DDR Dual Channel Ultra320 SCSI Adapter
 - (#2055) -PCIe RAID & SSD SAS Adapter 3Gb w/ Blind Swap Cassette
 - (#2728) -4 port USB PCIe Adapter
 - (#2738) -2-Port USB PCI Adapter
 - (#2849) -POWER GXT135P Graphics Accelerator with Digital Support
 - (#2893) -PCIe 2-Line WAN w/Modem
 - (#2943) -8-Port Asynchronous Adapter EIA-232/RS-422, PCI bus
 - (#2947) -IBM ARTIC960Hx 4-Port Multiprotocol PCI Adapter
 - (#2962) -2-Port Multiprotocol PCI Adapter
 - (#4764) -PCI-X Cryptographic Coprocessor (FIPS 4)
 - (#4808) -PCIe Crypto Coprocessor Gen3 BSC 4765-001
 - (#4809) -PCIe Crypto Coprocessor Gen4 BSC 4765-001
 - (#5289) -2 Port Async EIA-232 PCIe Adapter
 - (#5646) -Blind Swap Type III Cassette-PCIe, Short Slot
 - (#5647) -Blind Swap Type III Cassette-PCI-X or PCIe, Standard Slot
 - (#5662) -175MB Cache RAID - Dual IOA Enablement Card
 - (#5664) -Service Processor
 - (#5665) -FSP/Clock Pass Through Card
 - (#5700) -IBM Gigabit Ethernet-SX PCI-X Adapter
 - (#5701) -IBM 10/100/1000 Base-TX Ethernet PCI-X Adapter
 - (#5706) -IBM 2-Port 10/100/1000 Base-TX Ethernet PCI-X Adapter
 - (#5708) -10Gb FCoE PCIe Dual Port Adapter
 - (#5713) -1 Gigabit iSCSI TOE PCI-X on Copper Media Adapter
 - (#5714) -1 Gigabit iSCSI TOE PCI-X on Optical Media Adapter
 - (#5716) -2 Gigabit Fibre Channel PCI-X Adapter
 - (#5717) -4-Port 10/100/1000 Base-TX PCI Express Adapter
 - (#5721) -10 Gb Ethernet-SR PCI-X 2.0 DDR Adapter
 - (#5722) -10 Gb Ethernet-LR PCI-X 2.0 DDR Adapter
 - (#5723) -2-Port Asynchronous EIA-232 PCI Adapter
 - (#5732) -10 Gigabit Ethernet-CX4 PCI Express Adapter
 - (#5735) -8 Gigabit PCI Express Dual Port Fibre Channel Adapter
 - (#5736) -PCI-X DDR Dual Channel Ultra320 SCSI Adapter
 - (#5740) -4-Port 10/100/1000 Base-TX PCI-X Adapter
 - (#5741) -IBM Single Bus Ultra 320 SCSI Repeater Card
 - (#5742) -IBM Dual Bus Ultra 320 SCSI Repeater Card
 - (#5748) -POWER GXT145 PCI Express Graphics Accelerator
 - (#5749) -4Gbps Fibre Channel (2-Port)
 - (#5758) -4 GB Single-Port Fibre Channel PCI-X 2.0 DDR Adapter
 - (#5759) -4 Gb Dual-Port Fibre Channel PCI-X 2.0 DDR Adapter
 - (#5767) -2-Port 10/100/1000 Base-TX Ethernet PCI Express Adapter
 - (#5768) -2-Port Gigabit Ethernet-SX PCI Express Adapter
 - (#5769) -10 Gigabit Ethernet-SR PCI Express Adapter
 - (#5772) -10 Gigabit Ethernet-LR PCI Express Adapter
 - (#5773) -4 Gigabit PCI Express Single Port Fibre Channel Adapter
 - (#5774) -4 Gigabit PCI Express Dual Port Fibre Channel Adapter
 - (#5782) -PCI-X EXP24 Ctl-1.5GB No IOP
 - (#5785) -4 Port Async EIA-232 PCIe Adapter
 - (#5805) -PCIe 380MB Cache Dual - x4 3Gb SAS RAID Adapter
 - (#5899) -PCIe2 4-port 1GbE Adapter
 - (#5900) -PCI-X DDR Dual -x4 SAS Adapter
 - (#5901) -PCIe Dual-x4 SAS Adapter
 - (#5902) -PCI-X DDR Dual - x4 3Gb SAS RAID Adapter
 - (#5903) -PCIe 380MB Cache Dual - x4 3Gb SAS RAID Adapter
 - (#5908) -PCI-X DDR 1.5GB Cache SAS RAID Adapter (BSC)
 - (#5912) -PCI-X DDR Dual - x4 SAS Adapter
 - (#5913) -PCIe2 1.8GB Cache RAID SAS Adapter Tri-port 6Gb
 - (#5922) -Non-paired SAS RAID indicator
 - (#5923) -Non-paired PCIe SAS RAID Indicator
 - (#5924) -Non-paired Indicator 5913 PCIe SAS RAID Adapter
 - (#6446) -Dual-port 12X Channel Attach-Short Run
 - (#6457) -Dual-port 12X Channel Attach-Long Run
 - (#6805) -PCI 2-Line WAN IOA No IOP
 - (#6808) -PCI 4-Modem WAN IOA No IOP

- (#7514) -Quantity 150 of #5741

- (#7862) -PCI Blind Swap Cassette Kit, Single Wide Adapters, Type II
- (#7863) -PCI Blind Swap Cassette Kit, Double Wide Adapters, Type III
- (#EJ28) -PCIe Crypto Coprocessor Gen3 BSC 4765-001
- (#EJ29) -PCIe Crypto Coprocessor Gen4 BSC 4765-001
- (#EN13) -PCIe 1-port Bisync Adapter
- (#EN27) -2 Port Async EIA-232 PCIe Adapter
- (#EN29) -2 Port Async EIA-232 PCIe Adapter
- (#ESA3) -PCIe2 1.8GB Cache RAID SAS Adapter Tri-port 6Gb CR
- Administrative
 - (#0462) -SSD Placement Indicator - CEC
 - (#0719) -Load Source Not in CEC
 - (#ESC0) -S&H - No Charge
 - (#ESC8) -S&H
- Cable
 - (#0348) -V.24/EIA232 6.1m (20-Ft) PCI Cable
 - (#0349) -V.24/EIA232 15.2m (50-Ft) PCI Cable
 - (#0353) -V.35 6.1m (20-Ft) PCI Cable
 - (#0354) -V.35 15.2m (50-Ft) PCI Cable
 - (#0356) -V.36 6.1m (20-Ft) PCI Cable
 - (#0359) -X.21 6.1m (20-Ft) PCI Cable
 - (#0360) -X.21 15.2m (50-Ft) PCI Cable
 - (#0365) -V.24/EIA232 (80-Ft) PCI Cable
 - (#1025) -Modem Cable - US/Canada and General Use
 - (#1111) -3m, Blue Cat5e Cable
 - (#1112) -10m, Blue Cat5e Cable
 - (#1113) -25m, Blue Cat5e Cable
 - (#1115) -CAT5E Ethernet Cable, 3M GREEN
 - (#1116) -CAT5E Ethernet Cable, 10M GREEN
 - (#1119) -CAT5E Ethernet Cable, 10M YELLOW
 - (#1121) -CAT5E Ethernet Cable, 25M YELLOW
 - (#1466) -30m SPCN Cable
 - (#1815) -SAS Cable for triple split DASD backplane
 - (#1819) -SAS Cable Assembly for SAS Port
 - (#1828) -1.5 Meter 12X to 4X Channel Conversion Cable
 - (#1829) -0.6 Meter 12X Cable
 - (#1830) -1.5 Meter 12X cable
 - (#1834) -8.0 Meter 12X Cable
 - (#1840) -3.0 Meter 12X Cable
 - (#1841) -3 Meter 12X to 4X Channel Conversion Cable
 - (#1842) -10 Meter 12X to 4X Channel Conversion Cable
 - (#1854) -10 Meter 12X to 4X Enhanced Channel Conversion Cable
 - (#1861) -0.6 Meter 12X DDR Cable
 - (#1862) -1.5 Meter 12X DDR Cable
 - (#1864) -8.0 Meter 12X DDR Cable
 - (#1865) -3.0 Meter 12X DDR Cable
 - (#2118) -Converter Cable, VHDCI to P, Mini-68 pin to 68 pin, 0.3M
 - (#2124) -Ultra 320 SCSI Cable 1 Meter
 - (#2125) -Ultra 320 SCSI Cable 3 Meter
 - (#2126) -Ultra 320 SCSI Cable 5 Meter
 - (#2127) -Ultra 320 SCSI Cable 10 Meter
 - (#2128) -Ultra 320 SCSI Cable 20 Meter
 - (#2138) -0.55 Meter Ultra 320 SCSI Cable
 - (#2456) -2M LC-SC 50 Micron Fiber Converter Cable
 - (#2459) -2M LC-SC 62.5 Micron Fiber Converter Cable
 - (#2861) -ARTIC960Hx 4-Port EIA-232 Cable
 - (#2863) -ARTIC960Hx 4-Port X.21 Cable
 - (#2864) -ARTIC960Hx 4-Port V.35 (DTE) Cable
 - (#2934) -3M Asynchronous Terminal/Printer Cable EIA-232
 - (#2936) -Asynchronous Cable EIA-232/V.24 3M
 - (#2951) -Cable, V.24 / EIA-232
 - (#2952) -Cable, V.35
 - (#2953) -Cable, V.36 / EIA-499
 - (#2954) -Cable, X.21
 - (#3124) -Serial-to-Serial Port Cable for Drawer/Drawer-3.7M
 - (#3125) -Serial-to-Serial Port Cable for Rack/Rack-8M
 - (#3450) -SAS YO Cable 1.5m - HD 6Gb Adapter to Enclosure
 - (#3451) -SAS YO Cable 3m - HD 6Gb Adapter to Enclosure
 - (#3452) -SAS YO Cable 6m - HD 6Gb Adapter to Enclosure
 - (#3453) -SAS YO Cable 10m - HD 6Gb Adapter to Enclosure
 - (#3454) -SAS Y Cable 3m - HD 6Gb 2 Adapter to Enclosure

- (#3454) -SAS X Cable 3m - HD 6Gb 2-Adapter to Enclosure
- (#3455) -SAS X Cable 6m - HD 6Gb 2-Adapter to Enclosure
- (#3456) -SAS X Cable 10m - HD 6Gb 2-Adapter to Enclosure
- (#3457) -SAS YO Cable 15m - HD 3Gb Adapter to Enclosure
- (#3458) -SAS X Cable 15m - HD 3Gb 2-Adapter to Enclosure
- (#3652) -SAS Cable (EE) Drawer to Drawer 1M
- (#3653) -SAS Cable (EE) Drawer to Drawer 3M
- (#3654) -SAS Cable (EE) Drawer to Drawer 6M
- (#3661) -SAS Cable (X) Adapter to SAS Enclosure, Dual Controller/ Dual Path 3M:
- (#3662) -SAS Cable (X) Adapter to SAS Enclosure, Dual Controller/ Dual Path 6M:
- (#3663) -SAS Cable (X) Adapter to SAS Enclosure, Dual Controller/ Dual Path 15M:
- (#3671) -Serv Interface Cable-2, 3, and 4 Enclosure
- (#3672) -Serv Interface Cable-3 and 4 Enclosure
- (#3673) -Serv Interface Cable-4 Enclosure
- (#3679) -SAS Cable (AI)-Adapter to Internal drive 1M
- (#3681) -3M SAS CABLE, ADPTR TO ADPTR (AA)
- (#3682) -6M SAS CABLE, ADPTR TO ADPTR (AA)
- (#3684) -SAS Cable (AE) Adapter to Enclosure, single controller/ single path 3M
- (#3685) -SAS Cable (AE) Adapter to Enclosure, single controller/ single path 6M
- (#3686) -SAS Cable (YI) System to SAS Enclosure, Single Controller/Dual Path 1.5M
- (#3687) -SAS Cable (YI) System to SAS Enclosure, Single Controller/Dual Path 3M
- (#3688) -SAS Cable (AT) 0.6 Meter
- (#3689) -SAS AT Cable 0.6m - HD 6Gb Adapter to 12X Enclosure (AT)
- (#3691) -SAS Cable (YO) Adapter to SAS Enclosure, Single Controller/Dual Path 1.5 M
- (#3692) -SAS Cable (YO) Adapter to SAS Enclosure, Single Controller/Dual Path 3 M
- (#3693) -SAS Cable (YO) Adapter to SAS Enclosure, Single Controller/Dual Path 6 M
- (#3694) -SAS Cable (YO) Adapter to SAS Enclosure, Single Controller/Dual Path 15 M
- (#3711) -Processor Cable, Two-Drawer System
- (#3712) -Processor Cable, Two, Three or Four Drawer System
- (#3713) -Processor Cable, Three or Four Drawer System
- (#3714) -Processor Cable, Four-Drawer System
- (#3925) -0.3M Serial Port Converter Cable, 9-Pin to 25-Pin
- (#3926) -Asynch Printer/Terminal Cable, 9-pin to 25-pin, 4M
- (#3927) -Serial Port Null Modem Cable, 9-pin to 9-pin, 3.7M
- (#3928) -Serial Port Null Modem Cable, 9-pin to 9-pin, 10M
- (#3930) -System Serial Port Converter Cable
- (#4242) -1.8 M (6-ft) Extender Cable for Displays (15-pin D-shell to 15-pin D-shell)
- (#4256) -Extender Cable-USB KEYB1.8
- (#4276) -VGA to DVI Connection Converter
- (#5915) -SAS AA Cable 3m - HD 6Gb Adapter to Adapter
- (#5916) -SAS AA Cable 6m - HD 6Gb Adapter to Adapter
- (#5917) -SAS AA Cable 1.5m - HD 6Gb Adapter to Adapter
- (#5918) -SAS AA Cable 0.6m - HD 6Gb Adapter to Adapter
- (#6001) -Power Control Cable (SPCN) - 2 meter
- (#6006) -Power Control Cable (SPCN) - 3 meter
- (#6007) -Power Control Cable (SPCN) - 15 meter
- (#6008) -Power Control Cable (SPCN) - 6 meter
- (#6029) -Power Control Cable (SPCN) - 30 meter
- (#7204) -Quantity 150 of #2124
- (#7205) -Quantity 150 of #2125
- (#7206) -Quantity 150 of #2126
- (#7207) -Quantity 150 of #2127
- (#7208) -Quantity 150 of #2128
- (#7213) -Quantity 150 of #2138
- (#7801) -Ethernet Cable, 6M, Hardware Management Console to System Unit
- (#7802) -Ethernet Cable, 15m, Hardware Management Console to System Unit
- (#8133) -RJ-45 to DB-25 Converter Cable
- (#ECB0) -0.6m (2.0-ft), Blue CAT5 Ethernet Cable
- (#ECB2) -1.5m (4.9-ft), Blue CAT5 Ethernet Cable
- (#ECW0) -Optical Wrap Plug
- (#EQ02) -Quantity 150 of #3452 SAS YO Cable 6m - HD 6Gb Adapter to Enclosure
- (#EQ03) -Quantity 150 of #3453 SAS YO Cable 10m - HD 6Gb Adapter to Enclosure
- (#EN01) -1m (3.3-ft), 10GbE'Net Cable SFP+ Act Twinax Copper
- (#EN02) -3m (9.8-ft) 10GbE'Net Cable SFP+ Act Twinax Copper
- (#EN03) -5m (16.4-ft) 10GbE'Net Cable SFP+ Act Twinax Copper
- Disk
 - (#1738) -856GB 10k RPM SAS SFF-2 Disk Drive (IBM i)
 - (#1752) -900GB 10k RPM SAS SFF-2 Disk Drive (AIX/Linux)
 - (#1790) -600GB 10K RPM SAS SFF Disk Drive (AIX/Linux)

- (#1818) -Quantity 150 of #1964
- (#1844) -Quantity 150 of #1956
- (#1866) -Quantity 150 of #1917
- (#1868) -Quantity 150 of #1947
- (#1869) -Quantity 150 of #1925
- (#1879) -283GB 15K RPM SAS SFF Disk Drive (IBM i)
- (#1880) -300GB 15K RPM SAS SFF Disk Drive (AIX/Linux)
- (#1882) -146.8GB 10K RPM SAS SFF Disk Drive
- (#1883) -73.4 GB 15K RPM SAS SFF Disk Drive
- (#1884) -69.7 GB 15K RPM SAS SFF Disk Drive
- (#1885) -300GB 10K RPM SFF SAS Disk Drive (AIX/Linux)
- (#1886) -146GB 15K RPM SFF SAS Disk Drive (AIX/Linux)
- (#1888) -139GB 15K RPM SFF SAS Disk Drive (IBM i)
- (#1890) -69GB SFF SAS Solid State Drive
- (#1891) -Quantity 150 of #1883
- (#1899) -Quantity 150 of #1882
- (#1909) -69GB SFF SAS Solid State Drive
- (#1911) -283GB 10K RPM SFF SAS Disk Drive (IBM i)
- (#1916) -571GB 10k RPM SAS SFF Disk Drive (IBM i)
- (#1917) -146GB 15k RPM SAS SFF-2 Disk Drive (AIX/Linux)
- (#1925) -300GB 10k RPM SAS SFF-2 Disk Drive (AIX/Linux)
- (#1926) -Quantity 150 of #1879
- (#1927) -Quantity 150 of #1948
- (#1928) -Quantity 150 of #1880
- (#1929) -Quantity 150 of #1953
- (#1947) -139GB 15k RPM SAS SFF-2 Disk Drive (IBM i)
- (#1948) -283GB 15k RPM SAS SFF-2 Disk Drive (IBM i)
- (#1953) -300GB 15k RPM SAS SFF-2 Disk Drive (AIX/Linux)
- (#1956) -283GB 10k RPM SAS SFF-2 Disk Drive (IBM i)
- (#1962) -571GB 10k RPM SAS SFF-2 Disk Drive (IBM i)
- (#1964) -600GB 10k RPM SAS SFF-2 Disk Drive (AIX/Linux)
- (#1995) -177GB SSD Module with eMLC (AIX/Linux)
- (#1996) -177GB SSD Module with eMLC (IBM i)
- (#3278) -73.4 GB 15,000 RPM Ultra320 SCSI Disk Drive Assembly
- (#3279) -146.8 GB 15,000 RPM Ultra320 SCSI Disk Drive Assembly
- (#3585) -300 GB 15K RPM SCSI Disk Drive (AIX/Linux)
- (#3586) -69GB 3.5" SAS Solid State Drive
- (#3587) -69GB 3.5" SAS Solid State Drive
- (#3646) -73GB 15K RPM SAS Disk Drive
- (#3647) -146GB 15K RPM SAS Disk Drive (AIX/Linux)
- (#3648) -300GB 15K RPM SAS Disk Drive (AIX/Linux)
- (#3649) -450GB 15K RPM SAS Disk Drive (AIX/Linux)
- (#3658) -428GB 15K RPM SAS Disk Drive (IBM i)
- (#3676) -69.7GB 15k rpm SAS Disk Drive
- (#3677) -139.5GB 15k rpm SAS Disk Drive (IBM i)
- (#3678) -283.7GB 15k rpm SAS Disk Drive (IBM i)
- (#4327) -70.56GB 15k rpm Disk Unit

- (#4328) -141.12GB 15k rpm Disk Unit
- (#4329) -282.25GB 15k rpm Disk Unit
- (#7509) -Quantity 150 of #4327
- (#7510) -Quantity 150 of #4328
- (#7511) -Quantity 150 of #4329
- (#7517) -Quantity 150 of #3676
- (#7518) -Quantity 150 of #3677
- (#7519) -Quantity 150 of #3678
- (#7535) -Quantity 150 of #3586
- (#7536) -Quantity 150 of #3587
- (#7538) -Quantity 150 of #3658
- (#7543) -Quantity 150 of #1884
- (#7544) -Quantity 150 of #1888
- (#7545) -Quantity 150 of #1890
- (#7546) -Quantity 150 of #1909
- (#7547) -Quantity 150 of #1885
- (#7548) -Quantity 150 of #1886
- (#7549) -Quantity 150 of #3647
- (#7550) -Quantity 150 of #1790
- (#7564) -Quantity 150 of #3648
- (#7557) -Quantity 150 of #1911
- (#7565) -Quantity 150 of #3649
- (#7566) -Quantity 150 of #1916
- (#ELS1) -#ES11 Load Source Specify (387GB SSD SFF-1)
- (#ELS9) -#ES1A Load Source Specify (387GB SSD SFF-2)
- (#EQ38) -Quantity 150 of #1738 (856GB SFF-2 disk)
- (#EQ52) -Quantity 150 of #1752 (900GB SFF-2 disk)
- (#EQD0) -Quantity 150 of #ESD0 (1.1TB 10K SSF1)
- (#EQD1) -Quantity 150 of #ESD1 (1.2TB 10K SFF-1)
- (#EQD2) -Quantity 150 of #ESD2 (1.1TB 10k SFF-2)
- (#EQD3) -Quantity 150 of #ESD3 (1.2TB 10k SFF-2)
- (#ESD0) -1.1TB 10K RPM SAS SFF-1 Disk Drive (IBM i)
- (#ESD1) -1.2TB 10K RPM SAS SFF-1 Disk Drive (AIX/Linux)
- (#ESD2) -1.1TB 10K RPM SAS SFF-2 Disk Drive (IBMi)
- (#ESD3) -1.2TB 10K RPM SAS SFF-2 Disk Drive (AIX/Linux)
- Display
 - (#3632) -Widescreen LCD Monitor
 - (#3635) -T210 Flat-Panel Monitor
 - (#3637) -IBM T541H /L150p 15" TFT Color Monitor
 - (#3639) -IBM ThinkVision L170p Flat Panel Monitor
 - (#3640) -ThinkVision L171p Flat Panel Monitor
 - (#3641) -IBM T115 Flat Panel Monitor
 - (#3642) -ThinkVision L191p Flat Panel Monitor
 - (#3643) -IBM T120 Flat Panel Monitor
 - (#3644) -IBM T119 Flat Panel Monitor
 - (#3645) -IBM T117 Flat Panel Monitor
- Drive
 - (#1104) -USB External Docking Station for Removable Disk Drive
 - (#1106) -USB 160 GB Removable Disk Drive
 - (#1107) -USB 500 GB Removable Disk Drive
 - (#EU01) -1TB Removable Disk Drive Cartridge
 - (#EU04) -RDX USB External Docking Station for Removable Disk Cartridge
 - (#EU08) -RDX 320 GB Removable Disk Drive
 - (#EU15) -1.5TB Removable Disk Drive Cartridge
 - (#EU2T) -2TB Removable Disk Drive Cartridge (RDX)
- Keyboards
 - (#5951) -Full Width Keyboard -- USB, US English, #103P
 - (#5952) -Full Width Keyboard -- USB, French, #189
 - (#5953) -Full Width Keyboard -- USB, Italian, #142
 - (#5954) -Full Width Keyboard -- USB, German/Austrian, #129
 - (#5955) -Full Width Keyboard -- USB, UK English, #166P
 - (#5956) -Full Width Keyboard -- USB, Spanish, #172
 - (#5957) -Full Width Keyboard -- USB, Japanese, #194
 - (#5958) -Full Width Keyboard -- USB, Brazilian Portuguese, #275
 - (#5959) -Full Width Keyboard -- USB, Hungarian, #208
 - (#5960) -Full Width Keyboard -- USB, Korean, #413
 - (#5961) -Full Width Keyboard -- USB, Chinese, #467
 - (#5962) -Full Width Keyboard -- USB, French Canadian, #445
 - (#5964) -Full Width Keyboard -- USB, Belgian/UK, #120
 - (#5965) -Full Width Keyboard -- USB, Swedish/Finnish, #153

- (#5966) -Full Width Keyboard -- USB, Danish, #159

- (#5967) -Full Width Keyboard -- USB, Bulgarian, #442
- (#5968) -Full Width Keyboard -- USB, Swiss/French/German, #150
- (#5969) -Full Width Keyboard -- USB, Norwegian, #155
- (#5970) -Full Width Keyboard -- USB, Dutch, #143
- (#5971) -Full Width Keyboard -- USB, Portuguese, #163
- (#5972) -Full Width Keyboard -- USB, Greek, #319
- (#5973) -Full Width Keyboard -- USB, Hebrew, #212
- (#5974) -Full Width Keyboard -- USB, Polish, #214
- (#5975) -Full Width Keyboard -- USB, Slovakian, #245
- (#5976) -Full Width Keyboard -- USB, Czech, #243
- (#5977) -Full Width Keyboard -- USB, Turkish, #179
- (#5978) -Full Width Keyboard -- USB, LA Spanish, #171
- (#5979) -Full Width Keyboard -- USB, Arabic, #253
- (#5980) -Full Width Keyboard -- USB, Thai, #191
- (#5981) -Full Width Keyboard -- USB, Russian, #443
- (#5982) -Full Width Keyboard -- USB, Slovenian, #234
- (#5983) -Full Width Keyboard -- USB, US English Euro, #103P
- (#EK51) -Full Width Keyboard -- USB, US English, #103P
- (#EK52) -Full Width Keyboard -- USB, French, #189
- (#EK53) -Full Width Keyboard -- USB, Italian, #142
- (#EK54) -Full Width Keyboard -- USB, German/Austrian, #129
- (#EK55) -Full Width Keyboard -- USB, UK English, #166P
- (#EK56) -Full Width Keyboard -- USB, Spanish, #172
- (#EK57) -Full Width Keyboard -- USB, Japanese, #194
- (#EK58) -Full Width Keyboard -- USB, Brazilian Portuguese, #275
- (#EK59) -Full Width Keyboard -- USB, Hungarian, #208
- (#EK60) -Full Width Keyboard -- USB, Korean, #413
- (#EK61) -Full Width Keyboard -- USB, Chinese, #467
- (#EK62) -Full Width Keyboard -- USB, French Canadian, #445
- (#EK64) -Full Width Keyboard -- USB, Belgian/UK, #120
- (#EK65) -Full Width Keyboard -- USB, Swedish/Finnish, #153
- (#EK66) -Full Width Keyboard -- USB, Danish, #159
- (#EK67) -Full Width Keyboard -- USB, Bulgarian, #442
- (#EK68) -Full Width Keyboard -- USB, Swiss/French/German, #150
- (#EK69) -Full Width Keyboard -- USB, Norwegian, #155
- (#EK70) -Full Width Keyboard -- USB, Dutch, #143
- (#EK71) -Full Width Keyboard -- USB, Portuguese, #163
- (#EK72) -Full Width Keyboard -- USB, Greek, #319
- (#EK73) -Full Width Keyboard -- USB, Hebrew, #212
- (#EK74) -Full Width Keyboard -- USB, Polish, #214
- (#EK75) -Full Width Keyboard -- USB, Slovakian, #245
- (#EK76) -Full Width Keyboard -- USB, Czech, #243
- (#EK77) -Full Width Keyboard -- USB, Turkish, #179
- (#EK78) -Full Width Keyboard -- USB, LA Spanish, #171
- (#EK79) -Full Width Keyboard -- USB, Arabic, #253
- (#EK80) -Full Width Keyboard -- USB, Thai, #191
- (#EK81) -Full Width Keyboard -- USB, Russian, #443
- (#EK82) -Full Width Keyboard -- USB, Slovenian, #234
- (#EK83) -Full Width Keyboard -- USB, US English Euro, #103P
- Linecords
 - (#1406) -200V 16A 4.3m (14-Ft) TL Line Cord
 - (#1413) -125V 4.3m (14-Ft) Line Cord
 - (#1414) -200V 1.8m (6-Ft) Locking Line Cord
 - (#1415) -200V 1.8m (6-Ft) Watertight Line Cord
 - (#1416) -200V 4.3m (14-Ft) Locking Line Cord
 - (#1417) -200V 4.3m (14-Ft) Watertight Line Cord
 - (#1418) -4.3m 200V/16A Power Cord S. Africa
 - (#1419) -4.3m 200V/16A Power Cord Israel
 - (#1420) -4.3m 200V/16A Power Cord EU/Asia
 - (#1421) -4.3m 200V/16A Power Cord CH/DK
 - (#1424) -200V 1.8m (6-Ft) Locking Line Cord
 - (#1425) -200V 1.8m (6-Ft) Watertight Line Cord
 - (#1426) -200V 4.3m (14-Ft) Locking Line Cord
 - (#1427) -200V 4.3m (14-Ft) Watertight Line Cord
 - (#1439) -4.3m 200V/10A Power Cord EU/Asia
 - (#1440) -4.3m 200V/10A Power Cord Denmark
 - (#1441) -4.3m 200V/10A Power Cord S. Africa
 - (#1442) -4.3m 200V/10A Power Cord Swiss

- (#1445) -4.3m 200V/10A Power Cord Israel

- (#1449) -4.3m 200V/32A Power Cord EU 1-PH
- (#1450) -4.3m 200V/16A Power Cord EU 2-PH
- (#1451) -200V (6-Ft) 1.8m Line Cord
- (#1452) -200V (14-Ft) 4.3m Line Cord
- (#1453) -200V (6-Ft) 1.8m Locking Line Cord
- (#1454) -200V 12A (14-Ft) 4.3m TL Line Cord
- (#1455) -200V (6-Ft) 1.8m Watertight Line Cord
- (#1456) -200V (14-Ft) 4.3m Watertight Line Cord
- (#1457) -200V (6-Ft) 1.8m Upper Line Cord
- (#1458) -200V (6-Ft) 1.8m Upper Locking Cord
- (#1459) -200V (6-Ft) 1.8m Upper Locking Cord
- (#1476) -4.3m 200V/12A Pwr Cd UK
- (#1477) -4.3m 200V/16A Pwr Cd
- (#6451) -4.3m (14-Ft) 250V/10A Power Cord
- (#6455) -4.3m (14-Ft) 250V/10A Power Cord
- (#6458) -Power Cable -- Drawer to IBM PDU, 14-foot, 250V/10A
- (#6459) -3.7m (12-Ft) 250V/10A RA Pwr Cd
- (#6460) -Power Cord 4.3m (14-ft), Drawer To OEM PDU (125V, 15A)
- (#6461) -4.3m (14-Ft) 250V/10A Power Cord
- (#6462) -4.3m (14-Ft) 250V/10A Power Cord
- (#6463) -4.3m (14-Ft) 250V/10A Power Cord
- (#6464) -4.3m (14-Ft) 250V/10A Power Cord
- (#6465) -4.3m (14-Ft) 250V/10A Power Cord
- (#6466) -4.3m (14-Ft) 250V/10A Power Cord
- (#6467) -4.3m (14-Ft) 250V/10A Power Cord
- (#6469) -Power Cord 4.3m(14-ft), Drawer to Wall/OEM PDU, (250V, 15A), U.S.
- (#6470) -Power Cord 1.8m(6-foot), To Wall (125V, 15A)
- (#6471) -Power Cord 2.7m (9-foot), To Wall/OEM PDU, (125V, 15A)
- (#6472) -Power Cord 2.7m (9-foot), To Wall/OEM PDU, (250V, 16A)
- (#6473) -Power Cord 2.7m (9-foot), To Wall/OEM PDU, (250V, 10A)
- (#6474) -Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 13A)
- (#6475) -Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 16A)
- (#6476) -Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 10A)
- (#6477) -Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 16A)
- (#6478) -Power Cord 2.7 M(9-foot), To Wall/OEM PDU, (250V, 16A)
- (#6479) -Power Cord (9-foot) , To Wall/OEM PDU, (250V, 10A)
- (#6487) -Power Cord 1.8M (6-foot),To Wall, (250V, 15A), United States
- (#6488) -Power Cord 2.7M (9-foot), To Wall/OEM PDU, (125V, 15A or 250V, 10A)
- (#6489) -4.3m (14-Ft) 3PH/24A Power Cord
- (#6491) -4.3m (14-Ft) 1PH/48A Pwr Cord
- (#6492) -4.3m (14-Ft) 1PH/48-60A Pwr Cord
- (#6493) -Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 10A)
- (#6494) -Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 10A)
- (#6495) -Power Cord (9-foot), To Wall/OEM PDU, (250V, 10A)
- (#6496) -Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 10A)
- (#6497) -Power Cord (6-foot), To Wall/OEM PDU, (250V, 10A)
- (#6498) -Power Cord (6-foot), To Wall/OEM PDU, (250V, 15A)
- (#6577) -Power Cable - Drawer to IBM PDU, 200-240V/10A
- (#6651) -Power Cord 2.7M (9-foot), To Wall/OEM PDU, (125V, 15A)
- (#6654) -4.3m (14-Ft) 1PH/24-30A Pwr Cord
- (#6655) -4.3m (14-Ft) 1PH/24-30A WR Pwr Cord
- (#6656) -4.3m (14-Ft)1PH/24A Power Cord
- (#6659) -Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 15A)
- (#6660) -Power Cord (14-foot), Drawer To OEM PDU (125V, 15A)
- (#6664) -2.1m (7-Ft) 200V PDU Power Cable
- (#6665) -Power Cord 3 M (10 ft), Drawer to IBM PDU, 250V/10A
- (#6669) -Power Cord 4.3M (14-foot), Drawer to OEM PDU, (250V, 15A)
- (#6670) -Power Cord (6-foot), To Wall (125V, 15A),
- (#6671) -Power Cord 2.7M (9-foot), Drawer to IBM PDU, 250V/10A
- (#6672) -Power Cord 2M (6.5-foot), Drawer to IBM PDU, 250V/10A
- (#6680) -Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 10A)
- (#6687) -Power Cord (6-foot), To Wall, (250V, 15A)
- (#8430) -Power Cord Carry Over Indicator, #9800, Model Conversion Only
- (#8431) -Power Cord Carry Over Indicator, #9802, Model Conversion Only
- (#8432) -Power Cord Carry Over Indicator, #9820, Model Conversion Only
- (#8433) -Power Cord Carry Over Indicator, #9821, Model Conversion Only
- (#8434) -Power Cord Carry Over Indicator, #9825, Model Conversion Only
- (#8435) -Power Cord Carry Over Indicator, #9827, Model Conversion Only

- (#8437) -Power Cord Carry Over Indicator, #9829, Model Conversion Only

- (#8438) -Power Cord Carry Over Indicator, #9830, Model Conversion Only
- (#8439) -Power Cord Carry Over Indicator, #9831, Model Conversion Only
- (#8440) -Power Cord Carry Over Indicator, #9833, Model Conversion Only
- (#8441) -Power Cord Carry Over Indicator, #9834, Model Conversion Only
- (#ELC0) -PDU Access Cord 0.38m
- (#EQ77) -Qty 150 of #6577
- Manufacturing Instruction
 - (#0373) -UPS Factory Integration Specify
 - (#0374) -HMC Factory Integration Specify
 - (#0375) -Display Factory Integration Specify
 - (#0376) -Reserve Rack Space for UPS
 - (#0377) -Reserve Rack Space for HMC
 - (#0378) -Reserve Rack Space for Display
 - (#9359) -specify mode-1 & (1)5901/5278 for EXP24S #5887
 - (#9360) -Specify mode-1 & (2)5901/5278 for EXP24S #5887
 - (#9361) -Specify mode-2 & (2)5901/5278 for EXP24S #5887
 - (#9365) -Specify mode-4 & (4)5901/5278 for EXP24S #5887
 - (#9366) -Specify mode-2 & (4)5901/5278 for EXP24S #5887
 - (#9367) -Specify mode-1 & (2)5903/5805 for EXP24S #5887
 - (#9368) -Specify mode-2 & (4)5903/5805 for EXP24S #5887
 - (#9382) -Specify mode-1 & (1)5904/6/8 for EXP24S #5887
 - (#9383) -Specify mode-1 & (2) 5904/6/8 for EXP24S #5887
 - (#9384) -Specify mode-1 & CEC SAS port for EXP24 #5887
 - (#9385) -Specify mode-1 & (2) 5913 for EXP24S #5887
 - (#9386) -Specify mode-2 & (4) 5913 for EXP24S #5887
 - (#EJP2) -Specify Mode-1 & (2)ESA1/ESA2 for EXP24S #5887
 - (#EJP3) -Specify Mode-2 & (2)ESA1/ESA2 for EXP24S #5887
 - (#EJP4) -Specify Mode-2 & (4)ESA1/ESA2 for EXP24S #5887
 - (#EJP5) -Specify Mode-4 & (4)ESA1/ESA2 for EXP24S #5887
 - (#EJP6) -Specify Mode-2 & (1)ESA1/ESA2 for EXP24S #5887
 - (#EJP7) -Specify Mode-2 (2)ESA1/ESA2 for EXP24 #5887
 - (#EJPA) -Specify mode-2 (1) ESA1/ESA2 for EXP24 #5887
 - (#EJPB) -Specify mode-2 (2)ESA1/ESA2 for EXP24#5887
 - (#EJPC) -Specify mode-4 (1)ESA1/ESA2 for EXP24 #5887
 - (#EJPD) -Specify mode-4 (2)ESA1/ESA2 for EXP24 #5887
 - (#EJPE) -Specify mode-4 (3)ESA1/ESA2 for EXP24 #5887
 - (#EJPJ) -Specify mode-2 (1)5901/5278 for EXP24 #5887
 - (#EJPK) -Specify mode-2 (2)5901/5278 for EXP24 #5887
 - (#EJPL) -Specify mode-4 (1)5901/5278 for EXP24 #5887
 - (#EJPM) -Specify mode-4 (2)5901/5278 for EXP24 #5887
 - (#EJPN) -Specify mode-4 (3)5901/5278 for EXP24 #5887
 - (#EJPR) -Specify mode-2 (2)5903/5805 for EXP24 #5887
 - (#EJPT) -Specify mode-2 (2)5913 for EXP24 #5887
 - (#EJPY) -Specify Left Half 12X I/O Drawer to ESA1/ESA2
 - (#EJPZ) -Specify Right Half 12X I/O Drawer to ESA1/ESA2
 - (#EJS1) -Non-paired Indicator ESA3 PCIe SAS RAID Adapter
 - (#EJS2) -Specify Mode-2 & (2)ESA3 for EXP24S (#5887/#EL1S)
 - (#EJS3) -Specify Mode-1 & (2)ESA3 for EXP24S (#5887/#EL1S)
 - (#EJS4) -Specify Mode-2 & (4)ESA3 for EXP24S (#5887/#EL1S)
 - (#EJS5) -Specify Left Half 12X I/O Drawer to PCIe2 1.8GB RAID SAS Adapter
 - (#EJS6) -Specify Right Half 12X I/O Drawer to PCIe2 1.8GB RAID SAS Adapter
- Media Devices
 - (#5652) -Disk/Media Backplane
 - (#5762) -SATA Slimline DVD-RAM Drive
- Memory
 - (#4710) -On/Off 999 GB-Days, Memory Billing POWER7
 - (#4791) -ACTIVE MEMORY EXPANSION ENABLEMENT
 - (#5600) -0/32GB DDR3 Memory (4X8GB) DIMMS - 1066 MHz - POWER7 CoD Memory
 - (#5601) -0/64GB DDR3 Memory (4X16GB) DIMMS - 1066 MHz - POWER7 CoD Memory
 - (#5602) 0/128GB DDR3 MEMORY (4X32GB) DIMMS - 1066 MHZ - POWER7 COD MEMORY
 - (#7377) -On/Off, 1GB-1Day, Memory Billing POWER7
 - (#7954) -On/Off Memory Enablement
 - (#8212) -Activation of 1 GB DDR3 POWER7 Memory
 - (#8213) -Activation of 100 GB DDR3 POWER7 Memory
 - (#EMJ3) -On/Off 100 GB-Days, Memory Billing POWER7
- Miscellaneous
 - (#0032) -Specify Code for External High Speed Modem
 - (#1140) -Custom Service Specify, Rochester Minn, USA
 - (#1853) -Operator Panel

- (#2146) -Primary OS - AIX

- (#2147) -Primary OS - Linux
- (#4367) -Package 5X #2055 & 20X #1995 (AIX/Linux)
- (#4377) -Package 5X #2055 & 20X #1996 (IBM i)
- (#5001) -Custom Service Specify, Off-Site
- (#6586) -Modem Tray for 19-Inch Rack
- Pointing Device
 - (#8841) -Mouse - USB, with Keyboard Attachment Cable
 - (#8845) -USB Mouse
- Power
 - (#5160) -Power Dist Unit 1 Phase NEMA
 - (#5161) -Power Dist Unit 1 Phase IEC
 - (#5162) -Power Dist Unit 2 of 3 Phase
 - (#5163) -Power Dist Unit - 3 Phase
 - (#5632) -System AC Power Supply, 1725 W
 - (#7109) -Intelligent PDU+, 1 EIA Unit, Universal UTG0247 Connector
 - (#7188) -Power Distribution Unit
- Processor
 - (#4980) -3.5 GHz Proc Card, 0/12 Core POWER7, 16 DDR3 Memory Slots
 - (#4981) -3.1 GHz Proc Card, 0/16 Core POWER7, 16 DDR3 Memory Slots
 - (#4992) -Single 5250 Enterprise Enablement
 - (#4997) -Full 5250 Enterprise Enablement
 - (#5459) -One Processor Activation for Processor Feature #4980
 - (#5468) -One Processor Activation for Processor Feature #4981
 - (#7642) -PROC COD UTILITY BILLING FOR FC 4980, 100 PROC-MINS
 - (#7643) -PROC COD UTILITY BILLING FOR FC 4980. 100 PROC-MINS, FOR IBM i
 - (#7644) -1 PROC-DAY ON/OFF BILLING FOR FC 4980
 - (#7645) -1 PROC-DAY ON/OFF BILLING FOR FC 4980, FOR IBM i
 - (#7646) -PROC COD UTILITY BILLING FOR FC 4981, 100 PROC-MINS
 - (#7647) -PROC COD UTILITY BILLING FOR FC 4981, 100 PROC-MINS, FOR IBM i
 - (#7648) -1 PROC-DAY ON/OFF BILLING FOR FC 4981
 - (#7649) -1 PROC-DAY ON/OFF BILLING FOR FC 4981, FOR IBM i
 - (#7951) -On/Off Processor Enablement
 - (#EP2A) -100 On/Off Proc-Days of CoD Billing for Processor #4980. AIX/Linux
 - (#EP2B) -100 On/Off Proc-Days of CoD Billing for Processor #4980. IBM i
 - (#EP2C) -100 On/Off Proc-Days of CoD Billing for Processor #4981, AIX/Linux
 - (#EP2D) -100 On/Off Proc-Days of CoD Billing for Processor #4981, IBM i
- Rack Related
 - (#0551) -19 inch, 1.8 meter high rack
 - (#0553) -19 inch, 2.0 meter high rack
 - (#0555) -19 inch, 1.3 meter high rack
 - (#0599) -Rack Filler Panel Kit
 - (#5786) -TotalStorage EXP24 Disk Dwr
 - (#5796) -PCI-DDR 12X Expansion Drawer
 - (#5802) -12X I/O Drawer PCIe, SFF disk
 - (#5877) -12X I/O Drawer PCIe, No Disk
 - (#5886) -EXP 12S Expansion Drawer
 - (#5887) -EXP24S SFF Gen2-bay Drawer
 - (#6068) -Opt Front Door for 1.8m Rack
 - (#6069) -Opt Front Door for 2.0m Rack
 - (#6246) -1.8m Rack Trim Kit
 - (#6247) -2.0m Rack Trim Kit
 - (#6248) -1.8m Rack Acoustic Doors
 - (#6249) -2.0m Rack Acoustic Doors
 - (#6263) -1.8m Rack Trim Kit
 - (#6272) -2.0m Rack Trim Kit
 - (#6580) -Optional Rack Security Kit
 - (#7118) -Environmental Monitoring Probe
 - (#7314) -I/O Drawer Mounting Enclosure
 - (#7780) -2.0m Rack Side Attach Kit
 - (#7840) -Side-by-Side for 1.8m Racks
 - (#7841) -Ruggedize Rack Kit
 - (#EC01) -Rack Front Door (Black)
 - (#EC02) -Rack Rear Door
 - (#EC03) -Rack Side Cover
 - (#EC04) -Rack Suite Attachment Kit
 - (#EC15) -Rear Door Heat Exchanger for 2.0 Meter Slim Rack
 - (#ER05) -42U Slim Rack
- Services
 - (#0010) -One CSC Billing Unit
 - (#0011) -Ten CSC Billing Units

- Solid State Drive
 - (#0893) -#ES0B Load Source Specify
 - (#0894) -#ES0D Load Source Specify
 - (#1775) -177GB SFF-1 SSD w/ eMLC (AIX/Linux)
 - (#1787) -177GB SFF-1 SSD w/ eMLC (IBM i)
 - (#1793) -177GB SFF-2 SSD w/ eMLC (AIX/Linux)
 - (#1794) -177GB SFF-2 SSD w/ eMLC (IBM i)
 - (#1887) -Quantity 150 of #1793
 - (#1958) -Quantity 150 of #1794
 - (#7578) -QTY 150, 177GB SFF-1 SSD w/ eMLC (AIX/Linux)
 - (#7582) -QTY 150, 177GB SFF-1 SSD w/ eMLC (IBM i)
 - (#EH14) -GEN2-S Conversion Carrier for Feature ES0C 387GB SSD
 - (#EH15) -Qty 150 Gen2-S Conversion Carriers for feature EQ0A 387GB SSD.
 - (#EH16) -GEN2-S Conversion Carrier for Feature ES0D 387GB SSD (IBM i)
 - (#EH17) -Qty 150 GEN2-S Conversion Carriers for Feature EQ0B 387GB SSD (IBM i)
 - (#ELSF) -#ES0F Load Source Specify (775GB SSD SFF-1)
 - (#ELSH) -#ES0H Load Source Specify (775GB SSD SFF-2)
 - (#ELT9) -#ES79 Load Source Specify (387GB SFF-2 SSD 5xx for IBM i)
 - (#ELTF) -#ES7F Load Source Specify (775GB SFF-2 SSD 5xx for IBM i)
 - (#EQ0A) -Quantity 150 of #ES0A
 - (#EQ0B) -Quantity of 150 #ES0B
 - (#EQ0C) -Quantity of 150 #ES0C
 - (#EQ0D) -Quantity of 150 #ES0D
 - (#ES0A) -387GB SFF-1 SSD for AIX/Linux with eMLC
 - (#ES0B) -387GB SFF-1 SSD for IBM i with eMLC
 - (#ES0C) -387GB SFF-2 SSD for AIX/Linux with eMLC
 - (#ES0D) -387GB SFF-2 SSD for IBM i with eMLC
 - (#EQ0E) -Quantity 150 of #ES0E (775GB SSD SFF-1)
 - (#EQ0F) -Quantity 150 of #ES0F (775GB SSD SFF-1)
 - (#EQ0G) -Quantity 150 of #ES0G (775GB SSD SFF-2)
 - (#EQ0H) -Quantity 150 of #ES0H (775GB SSD SFF-2)
 - (#EQ10) -Quantity 150 of #ES10 (387GB SSD SFF-1)
 - (#EQ11) -Quantity 150 of #ES11 (387GB SSD SFF-1)
 - (#EQ19) -Quantity 150 of #ES19 (387GB SSD SFF-2)
 - (#EQ1A) -Quantity 150 of #ES1A (387GB SSD SFF-2)
 - (#EQ78) -Quantity 150 of #ES78 387GB SFF-2 SSD 5xx
 - (#EQ79) -Quantity 150 of #ES79 387GB SFF-2 SSD 5xx
 - (#EQ7E) -Quantity 150 of #ES7E 775GB SFF-2 SSD 5xx
 - (#EQ7F) -Quantity 150 of #ES7F 775GB SFF-2 SSD 5xx
 - (#ES0E) -775GB SFF-1 SSD for AIX/Linux
 - (#ES0F) -775GB SFF-1 SSD for IBM i
 - (#ES0G) -775GB SFF-2 SSD for AIX/Linux
 - (#ES0H) -775GB SFF-2 SSD for IBM i
 - (#ES10) -387GB SFF-1 SSD for AIX/Linux
 - (#ES11) -387GB SFF-1 SSD for IBM i
 - (#ES19) -387GB SFF-2 SSD for AIX/Linux
 - (#ES1A) -387GB SFF-2 SSD for IBM i
 - (#ES78) -387GB SFF-2 SSD 5xx eMLC4 for AIX/Linux
 - (#ES79) -387GB SFF-2 SSD 5xx eMLC4 for IBM i
 - (#ES7E) -775GB SFF-2 SSD 5xx eMLC4 for AIX/Linux
 - (#ES7F) -775GB SFF-2 SSD 5xx eMLC4 for IBM i
- Specify Codes
 - (#0040) -Mirrored System Disk Level, Specify Code
 - (#0041) -Device Parity Protection-All, Specify Code
 - (#0043) -Mirrored System Bus Level, Specify Code
 - (#0047) -Device Parity RAID-6 All, Specify Code
 - (#0265) -AIX Partition Specify
 - (#0266) -Linux Partition Specify
 - (#0267) -IBM i Operating System Partition Specify
 - (#0275) -CSC Specify
 - (#0290) -Ext Tape Attached via #5736
 - (#0296) -Specify Custom Data Protection
 - (#0302) -Specify EXP24 Attach via Existing Controller
 - (#0308) -Mirrored Level System Specify Code
 - (#0347) -RAID Hot Spare Specify
 - (#0566) -IBM i 6.1 with 6.1.1 Machine Code Specify Code
 - (#0567) -IBM i 7.1 Specify Code
 - (#0722) -#1787 Load Source Specify
 - (#0725) -Specify Load Source in #5786
 - (#0726) -Specify Load Source in #5802/5803

- (#0726) -Specify Load Source in #3602/3603
- (#0727) -Specify #5886 Load Source placement
- (#0728) -Specify #5887 Load Source placement
- (#0835) -#4327 Load Source Specify
- (#0836) -#4328 Load Source Specify
- (#0837) -SAN Load Source Specify
- (#0838) -#3676 Load Source Specify
- (#0839) -#3677 Load Source Specify
- (#0840) -#3678 Load Source Specify
- (#0841) -#4329 Load Source Specify
- (#0844) -#3658 Load Source Specify
- (#0851) -#1884 Load Source Specify
- (#0853) -#1888 Load Source Specify
- (#0854) -#1909 Load Source Specify
- (#0855) -#3587 Load Source Specify
- (#0856) -#1911 Load Source Specify
- (#0857) -#1916 Load Source Specify
- (#0870) -#1879 Load Source Specify
- (#0872) -#1948 Load Source Specify
- (#0871) -#1947 Load Source Specify
- (#0874) -#1956 Load Source Specify
- (#0875) -#1962 Load Source Specify
- (#0876) -#1794 Load Source Specify
- (#0880) -#1738 Load Source Specify (856GB SFF-2 disk)
- (#0907) -#ESD0 Load Source Specify (1.1TB 10k SFF-1)
- (#0911) -#ESD2 Load Souce Specify (1.1TB 10k SFF-2)
- (#5550) -Sys Console On HMC
- (#5553) -Sys Console-Ethernet No IOP
- (#EB72) -IBM i 7.2 Indicator
- (#EB73) -IBM i 7.3 Indicator
- (#ELJ0) -Power Integrated Facility for Linux Package
- (#ELJ1) -Power IFL Processor Activation
- (#ELJ2) -Power IFL Memory Activation
- (#ELJ3) -Power IFL PowerVM for Linux
- (#ELJ4) -Power IFL Processor Activation
- System Unit Base
 - (#5659) -System CEC Enclosure with IBM BEZEL, I/O Backplane, and System Midplane
 - (#5669) -System CEC Enclosure with OEM BEZEL, I/O Backplane, and System Midplane
- Virtualization Engine
 - (#0397) -MMA/MMB/MHB upgrade indicator
 - (#7942) -PowerVM -Standard Edition
 - (#7995) -PowerVM - Enterprise Edition
 - (#8018) -Advanced POWER Virtualization Carry Over Indicator
 - (#8030) -Advanced POWER Virtualization Carry Over Indicator
 - (#ELPM) -Trial PowerVM Live Partition Mobility

Feature availability matrix

The following feature availability matrix for MT 9117 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. Please check with your Marketing Representative for additional information.

FEAT/PN	M	B	A = AVAILABLE S = SUPPORTED
			N = NOT SUPPORTED, MUST BE REMOVED
			DESCRIPTION
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0010	A	One CSC Billing Unit
0011	A	Ten CSC Billing Units
0032	S	Specify Code for External High Speed Modem

0040	A	Mirrored System Disk Level, Specify Code
0041	A	Device Parity Protection-All, Specify Code
0042	N	Mirrored System IOP Level Specify Code
0043	A	Mirrored System Bus Level, Specify Code
0047	A	Device Parity RAID-6 All, Specify Code

0205 |S| RISC-to-RISC Data Migration
 0226 |N| 1Gbps Ethernet Specify
 0265 |A| AIX Partition Specify
 0266 |A| Linux Partition Specify
 0267 |A| IBM i Operating System Partition Specify
 0275 |S| CSC Specify
 0290 |S| Ext Tape Attached via #5736
 0296 |A| Specify Custom Data Protection
 0302 |S| Specify EXP24 Attach via Existing Controller
 0308 |A| Mirrored Level System Specify Code
 0325 |N| IPCS Extension Cables for NT
 0347 |A| RAID Hot Spare Specify
 0348 |A| V.24/EIA232 6.1m (20-Ft) PCI Cable
 0349 |S| V.24/EIA232 15.2m (50-Ft) PCI Cable
 0353 |A| V.35 6.1m (20-Ft) PCI Cable
 0354 |S| V.35 15.2m (50-Ft) PCI Cable
 0356 |S| V.36 6.1m (20-Ft) PCI Cable
 0359 |A| X.21 6.1m (20-Ft) PCI Cable
 0360 |S| X.21 15.2m (50-Ft) PCI Cable
 0365 |S| V.24/EIA232 (80-Ft) PCI Cable
 0367 |N| V.24/EIA232 6.1M (20-Ft) PCI Cable

0373 |A| UPS Factory Integration Specify
 0374 |A| HMC Factory Integration Specify
 0375 |A| Display Factory Integration Specify
 0376 |A| Reserve Rack Space for UPS
 0377 |A| Reserve Rack Space for HMC
 0378 |A| Reserve Rack Space for Display
 0395 |N| MTM Upgrade Indicator
 0397 |A| MMA/MMB/MHB upgrade indicator
 0446 |N| 512MB DDR Server Memory
 0447 |N| 1GB DDR Server Memory
 0453 |N| Customer Specified Placement
 0462 |A| SSD Placement Indicator - CEC
 0463 |S| SSD Placement Indicator (5802/5803)
 0464 |S| SSD Placement Indicator - 5886
 0465 |S| SSD Placement Indicator - 5887
 0533 |N| IBM i 5.4 w/ V5R4M5 specify Code
 0534 |N| IBM i 6.1 Specify Code
 0551 |A| 19 inch, 1.8 meter high rack
 0553 |A| 19 inch, 2.0 meter high rack
 0555 |S| 19 inch, 1.3 meter high rack
 0566 |S| IBM i 6.1 with 6.1.1 Machine Code Specify Code
 0567 |S| IBM i 7.1 Specify Code
 0588 |N| PCI-X Expansion Unit in Rack
 0595 |N| PCI/SCSI Disk Expansion Drawer
 0599 |A| Rack Filler Panel Kit
 0694 |N| #5094 Equivalent
 0696 |N| #5096 Equivalent
 0710 |N| Balanced Warehouse Solution Indicator
 0712 |A| Manufacturing Routing Code for CSC
 0719 |A| Load Source Not in CEC
 0720 |N| Load Source in #0595
 0721 |N| Load Source in #5094/5294
 0722 |A| #1787 Load Source Specify
 0724 |S| #1996 Load Source Specify
 0725 |S| Specify Load Source in #5786
 0726 |A| Specify Load Source in #5802/5803
 0727 |A| Specify #5886 Load Source placement
 0728 |S| Specify #5887 Load Source placement
 0830 |N| #4319 Load Source Specify
 0834 |N| #4326 Load Source Specify
 0835 |S| #4327 Load Source Specify
 0836 |S| #4328 Load Source Specify
 0837 |A| SAN Load Source Specify
 0838 |S| #3676 Load Source Specify
 0839 |A| #3677 Load Source Specify
 0840 |A| #3678 Load Source Specify
 0841 |S| #4329 Load Source Specify
 0844 |A| #3658 Load Source Specify
 0851 |S| #1884 Load Source Specify
 0853 |A| #1888 Load Source Specify
 0854 |S| #1909 Load Source Specify
 0855 |S| #3587 Load Source Specify
 0856 |A| #1911 Load Source Specify
 0857 |A| #1916 Load Source Specify
 0870 |A| #1879 Load Source Specify
 0871 |A| #1947 Load Source Specify
 0872 |A| #1948 Load Source Specify
 0874 |A| #1956 Load Source Specify
 0875 |A| #1962 Load Source Specify
 0876 |A| #1794 Load Source Specify
 0880 |S| #1738 Load Source Specify (856GB SFF-2 disk)
 0893 |A| #ES0B Load Source Specify
 0894 |A| #ES0D Load Source Specify
 0907 |A| #ESD0 Load Source Specify (1.1TB 10k SFF-1)
 0911 |A| #ESD2 Load souce Specify (1.1TB 10k SFF-2)

1025 |S| Modem Cable - US/Canada and General Use
 1104 |S| USB External Docking Station for Removable Disk Drive
 1106 |S| USB 160 GB Removable Disk Drive
 1107 |A| USB 500 GB Removable Disk Drive
 1111 |A| 3m, Blue Cat5e Cable
 1112 |A| 10m, Blue Cat5e Cable
 1113 |A| 25m, Blue Cat5e Cable
 1115 |A| CAT5E Ethernet Cable, 3M GREEN
 1116 |A| CAT5E Ethernet Cable, 10M GREEN
 1119 |A| CAT5E Ethernet Cable, 10M YELLOW
 1120 |S| Decline Electronic Service Agent Install Indicator
 1121 |S| CAT5E Ethernet Cable, 25M YELLOW

1140 |A| Custom Service Specify, Rochester Minn, USA

1311 |N| System Unique Identifier

1406 |S| 200V 16A 4.3m (14-Ft) TL Line Cord

1414 1413 |S| 125V 4.3m (14-Ft) Line Cord
 |S| 200V 1.8m (6-Ft) Locking Line Cord

1415 |S| 200V 1.8m (6-Ft) Watertight Line Cord

1416 |S| 200V 4.3m (14-Ft) Locking Line Cord

1417 |S| 200V 4.3m (14-Ft) Watertight Line Cord

1418 |S| 4.3m 200V/16A Power Cord S. Africa
 1419 |S| 4.3m 200V/16A Power Cord Israel
 1420 |S| 4.3m 200V/16A Power Cord EU/Asia
 1421 |S| 4.3m 200V/16A Power Cord CH/DK

1425 1424 |S| 200V 1.8m (6-Ft) Locking Line Cord
 |S| 200V 1.8m (6-Ft) Watertight Line Cord

1426 |S| 200V 4.3m (14-Ft) Locking Line Cord

1427 |S| 200V 4.3m (14-Ft) Watertight Line Cord

1439 |S| 4.3m 200V/10A Power Cord EU/Asia
1440 |S| 4.3m 200V/10A Power Cord Denmark
1441 |S| 4.3m 200V/10A Power Cord S. Africa
1442 |S| 4.3m 200V/10A Power Cord Swiss
1443 |S| 4.3m 200V/10A Power Cord UK
1445 |S| 4.3m 200V/10A Power Cord Israel

1449 |S| 4.3m 200V/32A Power Cord EU 1-PH
1450 |S| 4.3m 200V/16A Power Cord EU 2-PH

1451 |S| 200V (6-Ft) 1.8m Line Cord
1452 |S| 200V (14-Ft) 4.3m Line Cord
1453 |S| 200V (6-Ft) 1.8m Locking Line Cord
1454 |S| 200V 12A (14-Ft) 4.3m TL Line Cord

1455 |S| 200V (6-Ft) 1.8m Watertight Line Cord

1456 |S| 200V (14-Ft) 4.3m Watertight Line Cord

1457 |S| 200V (6-Ft) 1.8m Upper Line Cord
1458 |S| 200V (6-Ft) 1.8m Upper Locking Cord
1459 |S| 200V (6-Ft) 1.8m Upper Locking Cord

1460 |N| 3m Copper RIO Cable
1461 |N| 6m Copper RIO Cable
1462 |N| 15m RIO Cable
1466 |S| 30m SPCN Cable
1474 |N| 6m RIO to RIO-2 Cable
1475 |N| 10m RIO to RIO-2 Cable
1476 |S| 4.3m 200V/12A Pwr Cd UK
1477 |S| 4.3m 200V/16A Pwr Cd
1485 |N| Remote I/O Cable, 15M
1487 |N| 3m RIO to RIO-2 Cable
1700 |N| IPCS Keyboard/Mouse for NT
1738 |S| 856GB 10k RPM SAS SFF-2 Disk Drive (IBM i)
1752 |A| 900GB 10k RPM SAS SFF-2 Disk Drive (AIX/Linux)
1775 |S| 177GB SFF-1 SSD w/ eMLC (AIX/Linux)
1787 |S| 177GB SFF-1 SSD w/ eMLC (IBM i)
1790 |S| 600GB 10K RPM SAS SFF Disk Drive (AIX/Linux)
1793 |S| 177GB SFF-2 SSD w/ eMLC (AIX/Linux)
1794 |S| 177GB SFF-2 SSD w/ eMLC (IBM i)
1800 |N| GX Dual Port- RIO-2 Attach
1802 |N| GX Dual Port- 12X Channel Attach
1803 |S| Integrated, 4 Port- 1Gb Virtual Ethernet, I/O ports
1804 |S| Integrated, 4 Port (2x1Gb and 2x10Gb SFP+ Optical ports)
1808 |S| GX++ 12X DDR Adapter, Dual-port
1813 |S| Integrated, 4 Port (2x1Gb and 2x10Gb SFP+ Copper twinax ports)
1815 |S| SAS Cable for triple split DASD backplane
1817 |S| Quantity 150 of #1962
1818 |S| Quantity 150 of #1964
1819 |S| SAS Cable Assembly for SAS Port
1827 |N| System port/UPS Conversion Cable
1828 |S| 1.5 Meter 12X to 4X Channel Conversion Cable
1829 |S| 0.6 Meter 12X Cable
1830 |S| 1.5 Meter 12X cable
1834 |S| 8.0 Meter 12X Cable
1840 |S| 3.0 Meter 12X Cable
1841 |S| 3 Meter 12X to 4X Channel Conversion Cable
1842 |S| 10 Meter 12X to 4X Channel Conversion Cable
1844 |S| Quantity 150 of #1956
1845 |N| Operator Panel
1846 |N| Operator Panel
1853 |S| Operator Panel
1854 |S| 10 Meter 12X to 4X Enhanced Channel Conversion Cable
1861 |S| 0.6 Meter 12X DDR Cable
1862 |S| 1.5 Meter 12X DDR Cable

1864 | S | 8.0 Meter 12X DDR Cable
 1865 | S | 3.0 Meter 12X DDR Cable
 1866 | S | Quantity 150 of #1917
 1868 | S | Quantity 150 of #1947
 1869 | S | Quantity 150 of #1925
 1879 | S | 283GB 15K RPM SAS SFF Disk Drive (IBM i)
 1880 | S | 300GB 15K RPM SAS SFF Disk Drive (AIX/Linux)
 1882 | S | 146.8GB 10K RPM SAS SFF Disk Drive
 1883 | S | 73.4 GB 15K RPM SAS SFF Disk Drive
 1884 | S | 69.7 GB 15K RPM SAS SFF Disk Drive
 1885 | S | 300GB 10K RPM SFF SAS Disk Drive (AIX/Linux)
 1886 | S | 146GB 15K RPM SFF SAS Disk Drive (AIX/Linux)
 1887 | S | Quantity 150 of #1793
 1888 | S | 139GB 15K RPM SFF SAS Disk Drive (IBM i)
 1890 | S | 69GB SFF SAS Solid State Drive
 1891 | S | Quantity 150 of #1883
 1899 | S | Quantity 150 of #1882
 1909 | S | 69GB SFF SAS Solid State Drive
 1911 | S | 283GB 10K RPM SFF SAS Disk Drive (IBM i)
 1912 | S | PCI-X DDR Dual Channel Ultra320 SCSI Adapter
 1916 | S | 571GB 10k RPM SAS SFF Disk Drive (IBM i)
 1917 | S | 146GB 15k RPM SAS SFF-2 Disk Drive (AIX/Linux)
 1925 | S | 300GB 10k RPM SAS SFF-2 Disk Drive (AIX/Linux)
 1926 | S | Quantity 150 of #1879
 1927 | S | Quantity 150 of #1948
 1928 | S | Quantity 150 of #1880
 1929 | S | Quantity 150 of #1953
 1947 | S | 139GB 15k RPM SAS SFF-2 Disk Drive (IBM i)
 1948 | S | 283GB 15k RPM SAS SFF-2 Disk Drive (IBM i)
 1953 | S | 300GB 15k RPM SAS SFF-2 Disk Drive (AIX/Linux)
 1956 | S | 283GB 10k RPM SAS SFF-2 Disk Drive (IBM i)
 1958 | S | Quantity 150 of #1794
 1962 | S | 571GB 10k RPM SAS SFF-2 Disk Drive (IBM i)
 1964 | S | 600GB 10k RPM SAS SFF-2 Disk Drive (AIX/Linux)
 1995 | S | 177GB SSD Module with eMLC (AIX/Linux)
 1996 | S | 177GB SSD Module with eMLC (IBM i)
 2055 | S | PCIe RAID & SSD SAS Adapter 3Gb w/ Blind Swap Cassette
 2114 | N | PCI SCSI Adapter 16-Bit Differential External Y Cable
 2118 | S | Converter Cable, VHDCI to P, Mini-68 pin to 68 pin, 0.3M
 2124 | S | Ultra 320 SCSI Cable 1 Meter
 2125 | S | Ultra 320 SCSI Cable 3 Meter
 2126 | S | Ultra 320 SCSI Cable 5 Meter
 2127 | S | Ultra 320 SCSI Cable 10 Meter
 2128 | S | Ultra 320 SCSI Cable 20 Meter
 2138 | S | 0.55 Meter Ultra 320 SCSI Cable
 2145 | A | Primary OS - IBM i
 2146 | A | Primary OS - AIX
 2147 | A | Primary OS - Linux
 2424 | N | 0.6M 16-bit SCSI-2 System-to-System Cable
 2425 | N | 2.5M 16-bit SCSI-2 System-to-System Cable
 2456 | A | 2M LC-SC 50 Micron Fiber Converter Cable
 2459 | A | 2M LC-SC 62.5 Micron Fiber Converter Cable
 2591 | N | External USB 1.44 MB Diskette Drive
 2728 | S | 4 port USB PCIe Adapter
 2738 | S | 2-Port USB PCI Adapter
 2749 | N | PCI Ultra Mag Media Controller
 2757 | N | PCI-X Ultra RAID Disk Controller
 2780 | N | PCI-X Ultra4 RAID Disk Controller
 2787 | N | PCI-X Fibre Chan Disk Controller
 2844 | N | PCI IOP
 2847 | N | PCI IOP for SAN Load Source
 2849 | S | POWER GXT135P Graphics Accelerator with Digital Support
 2861 | S | ARTIC960Hx 4-Port EIA-232 Cable
 2863 | S | ARTIC960Hx 4-Port X.21 Cable
 2864 | S | ARTIC960Hx 4-Port V.35 (DTE) cable
 2893 | S | PCIe 2-Line WAN w/Modem

2934 | A | 3M Asynchronous Terminal/Printer Cable EIA-232
 2936 | A | Asynchronous Cable EIA-232/V.24 3M
 2943 | S | 8-Port Asynchronous Adapter EIA-232/RS-422, PCI bus
 2947 | S | IBM ARTIC960Hx 4-Port Multiprotocol PCI Adapter
 2951 | S | Cable, V.24 / EIA-232
 2952 | S | Cable, V.35
 2953 | S | Cable, V.36 / EIA-499
 2954 | S | Cable, X.21
 2962 | S | 2-Port Multiprotocol PCI Adapter
 3124 | A | Serial-to-Serial Port Cable for Drawer/Drawer- 3.7M
 3125 | A | Serial-to-Serial Port Cable for Rack/Rack- 8M
 3146 | N | RIO-2(Remote I/O-2)Cbl, 1.2M
 3147 | N | RIO-2(Remote I/O-2)Cbl, 3.5M
 3148 | N | RIO-2 (Remote I/O-2) Cable, 10M
 3156 | N | RIO-2 (Remote I/O-2) Cable, 1.75M
 3168 | N | RIO-2 (Remote I/O-2) Cbl, 2.5M
 3273 | N | 36.4 GB 10,000 RPM Ultra320 SCSI Disk Drive Assembly
 3274 | N | 73.4 GB 10,000 RPM Ultra320 SCSI Disk Drive Assembly
 3275 | N | 146.8 GB 10,000 RPM Ultra320 SCSI Disk Drive Assembly
 3277 | N | 36.4 GB 15,000 RPM Ultra320 SCSI Disk Drive Assembly
 3278 | S | 73.4 GB 15,000 RPM Ultra320 SCSI Disk Drive Assembly
 3279 | S | 146.8 GB 15,000 RPM Ultra320 SCSI Disk Drive Assembly
 3450 | S | SAS YO Cable 1.5m - HD 6Gb Adapter to Enclosure
 3451 | S | SAS YO Cable 3m - HD 6Gb Adapter to Enclosure
 3452 | S | SAS YO Cable 6m - HD 5Gb Adapter to Enclosure

3453 | A SAS YO Cable 10m - HD 6Gb Adapter to Enclosure
 3454 | A SAS X Cable 3m - HD 6Gb 2-Adapter to Enclosure
 3455 | A SAS X Cable 6m - HD 6Gb 2-Adapter to Enclosure
 3456 | S SAS X Cable 10m - HD 6Gb 2-Adapter to Enclosure
 3457 | S SAS YO Cable 15m - HD 3Gb Adapter to Enclosure
 3458 | A SAS X Cable 15m - HD 3Gb 2-Adapter to Enclosure
 3578 | N 300 GB 10,000 RPM Ultra320 SCSI Disk Drive Assembly
 3585 | S 300 GB 15K RPM SCSI Disk Drive (AIX/Linux)
 3586 | S 69GB 3.5" SAS Solid State Drive
 3587 | S 69GB 3.5" SAS Solid State Drive
 3632 | S Widescreen LCD Monitor
 3635 | S T210 Flat-Panel Monitor
 3636 | N L200P Flat Panel Monitor
 3637 | S IBM T541H /L150p 15" TFT Color Monitor
 3639 | S IBM ThinkVision L170p Flat Panel Monitor
 3640 | S ThinkVision L171p Flat Panel Monitor
 3641 | S IBM T115 Flat Panel Monitor
 3642 | S ThinkVision L191p Flat Panel Monitor
 3643 | S IBM T120 Flat Panel Monitor
 3644 | S IBM T119 Flat Panel Monitor
 3645 | S IBM T117 Flat Panel Monitor
 3646 | S 73GB 15K RPM SAS Disk Drive
 3647 | S 146GB 15K RPM SAS Disk Drive (AIX/Linux)
 3648 | S 300GB 15K RPM SAS Disk Drive (AIX/Linux)
 3649 | S 450GB 15K RPM SAS Disk Drive (AIX/Linux)
 3650 | N External connection for 3 of 6 internal SAS disk slots
 3651 | N External connection for the 6 internal SAS disk slots.
 3652 | S SAS Cable (EE) Drawer to Drawer 1M
 3653 | S SAS Cable (EE) Drawer to Drawer 3M
 3654 | S SAS Cable (EE) Drawer to Drawer 6M
 3658 | S 428GB 15K RPM SAS Disk Drive (IBM i)
 3660 | N Processor Fabric Cable, 2 enclosure
 3661 | A SAS Cable (X) Adapter to SAS Enclosure, Dual Controller/
 | Dual Path 3M:
 3662 | A SAS Cable (X) Adapter to SAS Enclosure, Dual Controller/
 | Dual Path 6M:
 3663 | S SAS Cable (X) Adapter to SAS Enclosure, Dual Controller/
 | Dual Path 15M:
 3664 | N Processor Fabric Cable, 3 enclosure
 3665 | N Processor Fabric Cable, 4 enclosure
 3667 | N SAS Cable (YR) -1M
 3671 | S Serv Interface Cable- 2, 3, and 4 Enclosure
 3672 | S Serv Interface Cable- 3 and 4 Enclosure
 3673 | S Serv Interface Cable- 4 Enclosure
 3676 | S 69.7GB 15k rpm SAS Disk Drive
 3677 | S 139.5GB 15k rpm SAS Disk Drive (IBM i)
 3678 | S 283.7GB 15k rpm SAS Disk Drive (IBM i)
 3679 | S SAS Cable (AI)- Adapter to Internal drive 1M
 3681 | S 3M SAS CABLE, ADPTR TO ADPTR (AA)
 3682 | A 6M SAS CABLE, ADPTR TO ADPTR (AA)
 3684 | A SAS Cable (AE) Adapter to Enclosure, single controller/
 | single path 3M
 3685 | S SAS Cable (AE) Adapter to Enclosure, single controller/
 | single path 6M
 3686 | S SAS Cable (YI) System to SAS Enclosure, Single Controller/
 | Dual Path 1.5M
 3687 | S SAS Cable (YI) System to SAS Enclosure, Single Controller/
 | Dual Path 3M
 3688 | S SAS Cable (AT) 0.6 Meter
 3689 | S SAS AT Cable 0.6m - HD 6Gb Adapter to 12X Enclosure (AT)
 3691 | A SAS Cable (YO) Adapter to SAS Enclosure, Single Controller/
 | Dual Path 1.5 M
 3692 | A SAS Cable (YO) Adapter to SAS Enclosure, Single Controller/
 | Dual Path 3 M
 3693 | A SAS Cable (YO) Adapter to SAS Enclosure, Single Controller/
 | Dual Path 6 M
 3694 | S SAS Cable (YO) Adapter to SAS Enclosure, Single Controller/
 | Dual Path 15 M
 3704 | N External xSeries Attach
 3705 | N PCI IOP
 3706 | N DVD-ROM
 3707 | N 30GB 1/4-Inch Cartridge Tape
 3708 | N 50GB 1/4-Inch Cartridge Tape
 3709 | N PCI 100/10Mbps Ethernet IOA
 3711 | S Processor Cable, Two-Drawer System
 3712 | S Processor Cable, Two, Three or Four Drawer System
 3713 | S Processor Cable, Three or Four Drawer System
 3714 | S Processor Cable, Four-Drawer System
 3925 | A 0.3M Serial Port Converter Cable, 9-Pin to 25-Pin
 3926 | S Asynch Printer/Terminal Cable, 9-pin to 25-pin, 4M
 3927 | A Serial Port Null Modem Cable, 9-pin to 9-pin, 3.7M
 3928 | A Serial Port Null Modem Cable, 9-pin to 9-pin, 10M
 3930 | A System Serial Port Converter Cable
 4242 | S 1.8 M (6-ft) Extender Cable for Displays (15-pin D-shell
 | to 15-pin D-shell)
 4256 | A Extender Cable - USB KEYB1.8
 4276 | A VGA to DVI Connection Converter
 4319 | N 35.16GB 10k rpm Disk Unit
 4326 | N 35.16GB 15k rpm Disk Unit
 4327 | S 70.56GB 15k rpm Disk Unit
 4328 | S 141.12GB 15k rpm Disk Unit
 4329 | S 282.25GB 15k rpm Disk Unit
 4367 | S Package 5X #2055 & 20X #1995 (AIX/Linux)
 4377 | S Package 5X #2055 & 20X #1996 (IBM i)
 4430 | N DVD-RAM
 4487 | N 50GB 1/4-Inch Cartridge Tape

4495 |N| 4/8GB (4X2GB) DIMMS, 276 PIN 533 MHZ, DDR2 SDRAM
 4496 |N| 8/16GB (4X4GB) DIMMS, 276 PIN, 533 MHZ DDR2 SDRAM
 4497 |N| 16GB (4X4GB) DIMMS, 276 PIN, 533 MHZ, DDR2 SDRAM
 4499 |N| 16GB (4X4GB) DIMMS, 276 pin, 400MHZ DDR2 SDRAM
 4630 |N| DVD-RAM
 4633 |N| DVD-RAM
 One and only one rack indicator features is required on all orders (#4650 to #4666).
 4650 |S| Rack Indicator- Not Factory Integrated
 4651 |S| Rack Indicator, Rack #1
 4652 |S| Rack Indicator, Rack #2
 4653 |S| Rack Indicator, Rack #3
 4654 |S| Rack Indicator, Rack #4
 4655 |S| Rack Indicator, Rack #5
 4656 |S| Rack Indicator, Rack #6
 4657 |S| Rack Indicator, Rack #7
 4658 |S| Rack Indicator, Rack #8
 4659 |S| Rack Indicator, Rack #9
 4660 |S| Rack Indicator, Rack #10
 4661 |S| Rack Indicator, Rack #11
 4662 |S| Rack Indicator, Rack #12
 4663 |S| Rack Indicator, Rack #13
 4664 |S| Rack Indicator, Rack #14
 4665 |S| Rack Indicator, Rack #15
 4666 |S| Rack Indicator, Rack #16
 4710 |A| On/Off 999 GB-Days, Memory Billing POWER7
 4746 |N| PCI Twinaxial Workstn IOA
 4764 |S| PCI-X Cryptographic Coprocessor (FIPS 4)
 4791 |A| ACTIVE MEMORY EXPANSION ENABLEMENT
 4801 |N| PCI Crypto Coprocessor
 4805 |N| PCI Crypto Accelerator
 4808 |S| PCIe Crypto Coprocessor Gen3 BSC 4765-001
 4809 |S| | PCIe Crypto Coprocessor Gen4 BSC 4765-001
 4812 |N| PCI Integ xSeries Server
 4813 |N| PCI Integ xSeries Server
 4891 |A| CBU SPECIFY
 4980 |S| 3.5 GHz Proc Card, 0/12 Core POWER7, 16 DDR3 Memory Slots
 4981 |S| 3.1 GHz Proc Card, 0/16 Core POWER7, 16 DDR3 Memory Slots
 4990 |N| Single 5250 Enterprise Enablement
 4991 |N| Full 5250 Enterprise Enablement
 4992 |A| Single 5250 Enterprise Enablement
 4997 |A| Full 5250 Enterprise Enablement
 5000 |S| Software Preload Required

5001 |S| Custom Service Specify, off-site

5002 |S| Customer Solution Center - Rochester Mfg

5005 |N| Software Preinstall
 5088 |N| PCI-X Expansion Unit
 5094 |N| PCI-X Expansion Tower
 5096 |N| PCI-X Exp Tower (no disk)
 5108 |N| 30-Disk Expansion Feature
 5115 |N| Dual Line Cords - Tower
 5116 |N| Dual Line Cords - 5294 Tower
 5138 |N| Redundant Power and Cooling
 5160 |S| Power Dist Unit 1 Phase NEMA
 5161 |S| Power Dist Unit 1 Phase IEC
 5162 |S| Power Dist Unit 2 of 3 Phase
 5163 |S| Power Dist Unit - 3 Phase
 5289 |S| 2 Port Async EIA-232 PCIe Adapter
 5294 |N| 1.8m I/O Tower
 5296 |N| 1.8m I/O Tower (no disk)
 5403 |N| One Processor Activation for Processor Feature #7380
 5404 |N| Utility Billing for FC# 7380- 100 processor minutes
 5459 |S| One Processor Activation for Processor Feature #4980
 5468 |S| One Processor Activation for Processor Feature #4981
 5480 |N| Utility Billing for FC# 7380 with IBM i - 100 processor minutes
 5481 |N| Utility Billing for FC# 5620 with IBM i - 100 processor minutes
 5482 |N| Utility Billing for FC# 5621 or #5622 with IBM i - 100 processor minutes
 5483 |N| On/Off Processor Billing for FC#5620 with IBM i - 1 processor day
 5484 |N| On/Off Processor Billing for Feature #5621 or #5622 with IBM i - 1 processor day
 5485 |N| On/Off Processor Billing for FC#7380 with IBM i - 1 processor day
 5524 |S| RFID TAGS FOR SERVERS, BLADES, BLADECENTERS, RACKS, AND HMCS
 5544 |N| Sys Console on OP Console
 5548 |N| Sys Console 100Mbps Ethernet
 5550 |A| Sys Console On HMC
 5553 |A| Sys Console-Ethernet No IOP
 5554 |N| Mirror 35GB Disk/Controller Pkg
 5555 |N| Mirror 70GB Disk/Controller Pkg
 5556 |N| Mirror 141GB Disk/Controller Pkg
 5560 |N| Mirror 25GB Processor Package

5580 N Mirror 70GB Drawer Package
5581 N 2780 Controller w/Aux Write Cache
5583 N 2757 Controller w/Aux Write Cache
5590 N 5777 Controller w/Aux Write Cache
5591 N 2780 Controller w/Aux Write Cache
5600 N 2757 Controller w/Aux Write Cache
5601 S 0/32GB DDR3 Memory (4X8GB) DIMMS - 1066 MHZ - POWER7 CoD
Memory
5602 S 0/64GB DDR3 Memory (4X16GB) DIMMS - 1066 MHZ - POWER7 CoD
Memory
5617 S 0/128GB DDR3 Memory (4X32GB) DIMMS - 1066 MHZ - POWER7 CoD
Memory
5620 N Processor Power Regulator
5621 N 3.5 GHz Proc Card, 0/2 Core POWER6, 12 DDR2 Memory Slots
5622 N 4.2 GHz Proc Card, 0/2 Core POWER6, 8 DDR2 Memory Slots
5625 N 4.2 GHz Proc Card, 0/2 Core POWER6, 12 DDR2 Memory Slots
5626 N Proc Power Regulator
5628 N System CEC Enclosure with IBM Bezel
5629 N Sys AC Power Supply, 1600 W
5632 N Media Enclosure and Backplane
5633 S System AC Power Supply, 1725 W
5636 N Integrated, 2 Port- 1Gb Virtual Ethernet, I/O ports
5637 N Integrated, 2 Port- 10Gb (SR) Virtual Ethernet, I/O ports
5639 N Integrated, 4 Port- 1Gb Virtual Ethernet, I/O ports
5640 N Utility Billing for FC# 5620- 100 processor minutes
5641 N Utility Billing for FC# 5621 or #5622 - 100 processor
minutes
5646 S Blind Swap Type III Cassette- PCIe, Short Slot
5647 S Blind Swap Type III Cassette- PCI-X or PCIe, Standard Slot
5648 N Service Interface Card
5650 N On/Off Processor Day Billing for Feature #5620
5652 S Disk/Media Backplane
5653 N On/Off Processor Billing for Feature #5621 or #5622 - 1
processor day
5656 N On/Off Processor Day Billing for Feature #7380
5657 N Serv Interface Cable- 2 Enclosure
5658 N Serv Interface Cable- 3 Enclosure
5659 S System CEC Enclosure with IBM BEZEL, I/O Backplane, and
System Midplane
5660 N Serv Interface Cable- 4 Enclosure
5662 S 175MB Cache RAID - Dual IOA Enablement Card
5663 N Proc Enclosure and Backplane
5664 S Service Processor
5665 S FSP/Clock Pass Through Card
5666 N I/O Backplane
5667 N System Midplane
5668 N SAS Disk Backplane -6 slot
5669 S System CEC Enclosure with OEM BEZEL, I/O Backplane, and
System Midplane
5670 N One Processor Activation for Processor Feature #5620
5671 N One Processor Activation for Processor Feature #5621
5672 N One Processor Activation for Processor Feature #5622
5674 N SATA Media Enclosure and Backplane
5675 N 0/4 Core Processor Enclosure and Backplane
5680 N Activation of 1GB DDR2 POWER6 Memory
5681 N Activation of 256 GB DDR2 POWER6 Memory
5682 N Power 570 System Bezel
5683 N System Chassis - 4 EIA
5684 N Activation of 100 GB DDR2 Memory
5686 N Virtual Processor Power Regulator
5690 N 0/32GB DDR2 Memory (4X8GB) DIMMS- 400 MHZ- POWER6 CoD
Memory
5691 N On/Off, 1GB-1Day, Memory Billing POWER6 Memory
5692 N 0/2GB DDR2 Memory (4X0.5GB) DIMMS- 667 MHZ- POWER6 Memory
5693 N 0/4GB DDR2 Memory (4X1GB) DIMMS- 667 MHZ- POWER6 CoD Memory
5694 N 0/8GB DDR2 Memory (4X2GB) DIMMS- 667 MHZ- POWER6 CoD Memory
5695 N 0/16GB DDR2 Memory (4X4GB) DIMMS- 533 MHZ- POWER6 CoD
Memory
5696 N 0/32GB DDR2 Memory (4X8GB) DIMMS- 400 MHZ- POWER6 CoD
Memory
5699 N System Ship Group
5700 S IBM Gigabit Ethernet-SX PCI-X Adapter
5701 S IBM 10/100/1000 Base-TX Ethernet PCI-X Adapter
5702 N PCI-X Ultra Tape Controller
5704 N PCI-X Fibre Channel Tape Controller
5706 S IBM 2-Port 10/100/1000 Base-TX Ethernet PCI-X Adapter
5707 N IBM 2-Port Gigabit Ethernet-SX PCI-X Adapter
5708 S 10Gb FCoE PCIe Dual Port Adapter
5712 N PCI-X Dual Channel Ultra320 SCSI Adapter
5713 S 1 Gigabit iSCSI TOE PCI-X on Copper Media Adapter
5714 S 1 Gigabit iSCSI TOE PCI-X on Optical Media Adapter
5716 S 2 Gigabit Fibre Channel PCI-X Adapter
5717 S 4-Port 10/100/1000 Base-TX PCI Express Adapter
5718 N 10 Gigabit Ethernet -SR PCI-X Adapter
5719 N IBM 10 Gigabit Ethernet-LR PCI-X Adapter
5721 S 10 Gb Ethernet-SR PCI-X 2.0 DDR Adapter
5722 S 10 Gb Ethernet-LR PCI-X 2.0 DDR Adapter
5723 S 2-Port Asynchronous EIA-232 PCI Adapter
5732 S 10 Gigabit Ethernet-CX4 PCI Express Adapter
5735 S 8 Gigabit PCI Express Dual Port Fibre Channel Adapter
5736 S PCI-X DDR Dual Channel Ultra320 SCSI Adapter
5740 S 4-Port 10/100/1000 Base-TX PCI-X Adapter
5741 S IBM Single Bus Ultra 320 SCSI Repeater Card
5742 S IBM Dual Bus Ultra 320 SCSI Repeater Card
5743 N SATA Slimline DVD-ROM Drive
5748 S IBM CX145 PCI Express Graphics Accelerator

5749 S 4Gbps Fibre Channel (2-Port)
 5756 N IDE Slimline DVD-ROM Drive
 5757 N IBM 4.7 GB IDE Slimline DVD-RAM Drive
 5758 S 4 GB Single-Port Fibre Channel PCI-X 2.0 DDR Adapter
 5759 S 4 Gb Dual-Port Fibre Channel PCI-X 2.0 DDR Adapter
 5760 N PCI-X Fibre Chan Disk Controller
 5761 N PCI-X Fibre Chan Tape Controller
 5762 S SATA Slimline DVD-RAM Drive
 5767 S 2-Port 10/100/1000 Base-TX Ethernet PCI Express Adapter
 5768 S 2-Port Gigabit Ethernet-SX PCI Express Adapter
 5769 S 10 Gigabit Ethernet-SR PCI Express Adapter
 5772 S 10 Gigabit Ethernet-LR PCI Express Adapter
 5773 S 4 Gigabit PCI Express Single Port Fibre Channel Adapter
 5774 S 4 Gigabit PCI Express Dual Port Fibre Channel Adapter
 5776 N PCI-X Disk Controller-90MB No IOP
 5777 N PCI-X Disk Controller-1.5GB No IOP
 5778 N PCI-X EXP24 Ctl-1.5GB No IOP
 5782 S PCI-X EXP24 Ctl-1.5GB No IOP
 5785 S 4 Port Async EIA-232 PCIe Adapter
 5786 S TotalStorage EXP24 Disk Dwr
 5790 N PCI Expansion Drawer
 5796 S PCI-DDR 12X Expansion Drawer
 5802 S 12X I/O Drawer PCIe, SFF disk
 5805 S PCIe 380MB Cache Dual - x4 3Gb SAS RAID Adapter
 5806 N PCI-X DDR Dual Channel Ultra320 SCSI Adapter
 5877 S 12X I/O Drawer PCIe, No Disk
 5878 N SAS Disk Backplane -6 slot
 5886 S EXP 12S Expansion Drawer
 5887 S EXP24S SFF Gen2-bay Drawer
 5899 S PCIe2 4-port 1GbE Adapter
 5900 S PCI-X DDR Dual -x4 SAS Adapter
 5901 S PCIe Dual-x4 SAS Adapter
 5902 S PCI-X DDR Dual - x4 3Gb SAS RAID Adapter
 5903 S PCIe 380MB Cache Dual - x4 3Gb SAS RAID Adapter
 5904 N PCI-X DDR 1.5GB Cache SAS RAID Adapter
 5908 S PCI-X DDR 1.5GB Cache SAS RAID Adapter (BSC)
 5909 N Alternate SAS controller for 3 of 6 internal SAS Disk Slots
 5911 N SAS adapter for internal Split DASD option
 5912 S PCI-X DDR Dual - x4 SAS Adapter
 5913 S PCIe2 1.8GB Cache RAID SAS Adapter Tri-port 6Gb
 5915 A SAS AA Cable 3m - HD 6Gb Adapter to Adapter
 5916 A SAS AA Cable 6m - HD 6Gb Adapter to Adapter
 5917 A SAS AA Cable 1.5m - HD 6Gb Adapter to Adapter
 5918 A SAS AA Cable 0.6m - HD 6Gb Adapter to Adapter
 5921 N Non-paired PCIx SAS RAID Indicator
 5922 S Non-paired SAS RAID indicator
 5923 S Non-paired PCIe SAS RAID Indicator
 5924 S Non-paired Indicator 5913 PCIe SAS RAID Adapter
 5951 S Full width Keyboard -- USB, US English, #103P
 5952 S Full width Keyboard -- USB, French, #189
 5953 S Full width Keyboard -- USB, Italian, #142
 5954 S Full width Keyboard -- USB, German/Austrian, #129
 5955 S Full width Keyboard -- USB, UK English, #166P
 5956 S Full width Keyboard -- USB, Spanish, #172
 5957 S Full width Keyboard -- USB, Japanese, #194
 5958 S Full width Keyboard -- USB, Brazilian Portuguese, #275
 5959 S Full width Keyboard -- USB, Hungarian, #208
 5960 S Full width Keyboard -- USB, Korean, #413
 5961 S Full width Keyboard -- USB, Chinese, #467
 5962 S Full width Keyboard -- USB, French Canadian, #445
 5963 S Full width Keyboard -- USB, Canadian French, #058
 5964 S Full width Keyboard -- USB, Belgian/UK, #120
 5965 S Full width Keyboard -- USB, Swedish/Finnish, #153
 5966 S Full width Keyboard -- USB, Danish, #159
 5967 S Full width Keyboard -- USB, Bulgarian, #442
 5968 S Full width Keyboard -- USB, Swiss/French/German, #150
 5969 S Full width Keyboard -- USB, Norwegian, #155
 5970 S Full width Keyboard -- USB, Dutch, #143
 5971 S Full width Keyboard -- USB, Portuguese, #163
 5972 S Full width Keyboard -- USB, Greek, #319
 5973 S Full width Keyboard -- USB, Hebrew, #212
 5974 S Full width Keyboard -- USB, Polish, #214
 5975 S Full width Keyboard -- USB, Slovakian, #245
 5976 S Full width Keyboard -- USB, Czech, #243
 5977 S Full width Keyboard -- USB, Turkish, #179
 5978 S Full width Keyboard -- USB, LA Spanish, #171
 5979 S Full width Keyboard -- USB, Arabic, #253
 5980 S Full width Keyboard -- USB, Thai, #191
 5981 S Full width Keyboard -- USB, Russian, #443
 5982 S Full width Keyboard -- USB, Slovenian, #234
 5983 S Full width Keyboard -- USB, US English Euro, #103P
 6001 S Power Control Cable (SPCN) - 2 meter
 6006 S Power Control Cable (SPCN) - 3 meter
 6007 S Power Control Cable (SPCN) - 15 meter
 6008 S Power Control Cable (SPCN) - 6 meter
 6029 S Power Control Cable (SPCN) - 30 meter
 6068 A Opt Front Door for 1.8m Rack
 6069 A Opt Front Door for 2.0m Rack
 6246 S 1.8m Rack Trim Kit
 6247 S 2.0m Rack Trim Kit
 6248 A 1.8m Rack Acoustic Doors
 6249 A 2.0m Rack Acoustic Doors
 6263 A 1.8m Rack Trim Kit
 6272 A 2.0m Rack Trim Kit
 6417 N RIO-2 Bus Adapter
 6438 N RIO-2 Remote I/O Adapter for #5790

6446 |A| Dual-port 12X Channel Attach- Short Run
6451 |S| 4.3m (14-Ft) 250V/10A Power Cord

6455 |S| 4.3m (14-Ft) 250V/10A Power Cord

6457 |A| Dual-port 12X Channel Attach- Long Run
6458 |A| Power Cable -- Drawer to IBM PDU, 14-foot, 250V/10A
6459 |A| 3.7m (12-Ft) 250V/10A RA Pwr Cd
6460 |A| Power Cord 4.3m (14-ft), Drawer To OEM PDU (125V, 15A)
6461 |S| 4.3m (14-Ft) 250V/10A Power Cord
6462 |S| 4.3m (14-Ft) 250V/10A Power Cord
6463 |S| 4.3m (14-Ft) 250V/10A Power Cord
6464 |S| 4.3m (14-Ft) 250V/10A Power Cord
6465 |S| 4.3m (14-Ft) 250V/10A Power Cord
6466 |S| 4.3m (14-Ft) 250V/10A Power Cord
6467 |S| 4.3m (14-Ft) 250V/10A Power Cord

6469 |A| Power Cord 4.3m (14-ft), Drawer to wall/OEM PDU, (250V,15A),
|U.S.
6470 |S| Power Cord 1.8m(6-foot), To wall (125V, 15A)
6471 |A| Power Cord 2.7m (9-foot), To wall/OEM PDU, (125V, 15A)
6472 |A| Power Cord 2.7m (9-foot), To wall/OEM PDU, (250V, 16A)
6473 |A| Power Cord 2.7m (9-foot), To wall/OEM PDU, (250V, 10A)
6474 |A| Power Cord 2.7M (9-foot), To wall/OEM PDU, (250V, 13A)
6475 |A| Power Cord 2.7M (9-foot), To wall/OEM PDU, (250V, 16A)
6476 |A| Power Cord 2.7M (9-foot), To wall/OEM PDU, (250V, 10A)
6477 |A| Power Cord 2.7M (9-foot), To wall/OEM PDU, (250V, 16A)
6478 |A| Power Cord 2.7 M(9-foot), To wall/OEM PDU, (250V, 16A)
6479 |S| Power Cord (9-foot) , To wall/OEM PDU, (250V, 10A)
6487 |A| Power Cord 1.8M (6-foot),To wall, (250V, 15A), United
|States
6488 |A| Power Cord 2.7M (9-foot), To wall/OEM PDU, (125V, 15A or
|250V, 10A)
6489 |A| 4.3m (14-Ft) 3PH/24A Power Cord
6491 |A| 4.3m (14-Ft) 1PH/48A Pwr Cord

6492 |A| 4.3m (14-Ft) 1PH/48-60A Pwr Cord

6493 |A| Power Cord 2.7M (9-foot), To wall/OEM PDU, (250V, 10A)
6494 |A| Power Cord 2.7M (9-foot), To wall/OEM PDU, (250V, 10A)
6495 |S| Power Cord (9-foot), To wall/OEM PDU, (250V, 10A)
6496 |A| Power Cord 2.7M (9-foot), To wall/OEM PDU, (250V, 10A)
6497 |S| Power Cord (6-foot), To wall/OEM PDU, (250V, 10A)
6498 |S| Power Cord (6-foot), To wall/OEM PDU, (250V, 15A)

6577 |A| Power Cable - Drawer to IBM PDU, 200-240V/10A
6580 |A| Optional Rack Security Kit
6586 |S| Modem Tray for 19-Inch Rack
6651 |A| Power Cord 2.7M (9-foot), To wall/OEM PDU, (125V, 15A)

6654 |A| 4.3m (14-Ft) 1PH/24-30A Pwr Cord

6655 |A| 4.3m (14-Ft) 1PH/24-30A WR Pwr Cord
6656 |A| 4.3m (14-Ft) 1PH/24A Power Cord

6659 |A| Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 15A)
 6660 |A| Power Cord (14-foot), Drawer To OEM PDU (125V, 15A)

6664 |S| 2.1m (7-Ft) 200V PDU Power Cable
 6665 |A| Power Cord 3 M (10 ft), Drawer to IBM PDU, 250V/10A

6669 |A| Power Cord 4.3M (14-foot), Drawer to OEM PDU, (250V, 15A)
 6670 |S| Power Cord (6-foot), To Wall (125V, 15A),
 6671 |A| Power Cord 2.7M (9-foot), Drawer to IBM PDU, 250V/10A
 6672 |A| Power Cord 2M (6.5-foot), Drawer to IBM PDU, 250V/10A
 6680 |A| Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 10A)

6687 |S| Power Cord (6-foot), To Wall, (250V, 15A)

6699 |N| RIO-2 Bus Adapter
 6805 |S| PCI 2-Line WAN IOA No IOP
 6808 |S| PCI 4-Modem WAN IOA No IOP

6833 |S| PCI 2-Line WAN w/Modem NoIOP

7099 |N| Cable Restraint Hardware- excess Service Interface Cable
 7109 |S| Intelligent PDU+, 1 EIA Unit, Universal UTG0247 Connector
 7118 |A| Environmental Monitoring Probe
 7164 |N| IBM/OEM Rack-mount Drawer Rail Kit- Adjustable Depth
 7165 |N| OEM Rack-mount Drawer Rail Kit
 7188 |A| Power Distribution Unit
 7204 |S| Quantity 150 of #2124
 7205 |S| Quantity 150 of #2125
 7206 |S| Quantity 150 of #2126
 7207 |S| Quantity 150 of #2127
 7208 |S| Quantity 150 of #2128
 7213 |S| Quantity 150 of #2138
 7272 |N| 2GB CUoD Memory Activation
 7273 |N| 4GB CUoD Memory Activation
 7274 |N| 8GB CUoD Memory Activation
 7275 |N| 16GB CUoD Memory Activation
 7276 |N| 32GB CUoD Memory Activation

7305 |S| SDI Software Pre-Install Indicator

7306 |N| One Processor Activation for Processor Feature #7388
 7307 |N| Dual I/O Unit Enclosure
 7311 |N| Dual I/O Unit Enclosure
 7314 |S| I/O Drawer Mounting Enclosure
 7332 |N| Utility Billing for Processor #7388- 100 processor minutes
 7333 |N| On/Off Processor Day Billing for Processor #7388
 7334 |N| Utility Billing for Processor #7388 with IBM i - 100
 | processor minutes
 7346 |N| On/Off Processor Billing for Processor #7388 with IBM i -
 | 1 processor day
 7377 |A| On/Off, 1GB-1Day, Memory Billing POWER7
 7380 |N| 4.7 GHz Proc Card, 0/2 Core POWER6, 12 DDR2 Memory Slots
 7387 |N| 4.4GHz Proc Card, 0/2 Core POWER6, 12 DDR2 Memory Slots.
 7388 |N| 5.0 GHz Proc Card, 0/2 Core POWER6, 12 DDR2 Memory Slots
 7504 |N| Quantity 150 of #4319
 7508 |N| Quantity 150 of #4326
 7509 |S| Quantity 150 of #4327
 7510 |S| Quantity 150 of #4328
 7511 |S| Quantity 150 of #4329
 7514 |S| Quantity 150 of #5741
 7517 |S| Quantity 150 of #5742

7518	S	Quantity 150 of #3677
7519	S	Quantity 150 of #3678
7535	S	Quantity 150 of #3586
7536	S	Quantity 150 of #3587
7538	S	Quantity 150 of #3658
7540	N	4.2 GHz Proc Card, 0/4 Core POWER6, 12 DDR2 Memory Slots
7543	S	Quantity 150 of #1884
7544	S	Quantity 150 of #1888
7545	S	Quantity 150 of #1890
7546	S	Quantity 150 of #1909
7547	S	Quantity 150 of #1885
7548	S	Quantity 150 of #1886
7549	S	Quantity 150 of #3647
7550	S	Quantity 150 of #1790
7557	S	Quantity 150 of #1911
7564	S	Quantity 150 of #3648
7565	S	Quantity 150 of #3649
7566	S	Quantity 150 of #1916
7578	S	QTY 150, 177GB SFF-1 SSD w/ eMLC (AIX/Linux)
7582	S	QTY 150, 177GB SFF-1 SSD w/ eMLC (IBM i)
7642	A	PROC COD UTILITY BILLING FOR FC 4980, 100 PROC-MINS
7643	A	PROC COD UTILITY BILLING FOR FC 4980. 100 PROC-MINS, FOR IBM i
7644	A	1 PROC-DAY ON/OFF BILLING FOR FC 4980
7645	A	1 PROC-DAY ON/OFF BILLING FOR FC 4980, FOR IBM i
7646	A	PROC COD UTILITY BILLING FOR FC 4981, 100 PROC-MINS
7647	A	PROC COD UTILITY BILLING FOR FC 4981, 100 PROC-MINS, FOR IBM i
7648	A	1 PROC-DAY ON/OFF BILLING FOR FC 4981
7649	A	1 PROC-DAY ON/OFF BILLING FOR FC 4981, FOR IBM i
7663	N	1GB DDR2 Memory Activation
7700	N	One Processor Activation for Processor Feature #7540
7701	N	Utility Billing for Processor #7540- 100 processor minutes
7702	N	On/Off Processor Day Billing for Processor #7540
7706	N	Utility Billing for Processor #7540 with IBM i - 100 processor minutes
7709	N	On/Off Processor Billing for Processor #7540 with IBM i - 1 processor day
7719	N	One Processor Activation for Processor Feature #7387
7726	N	Utility Billing for Processor #7387 - 100 processor minutes
7743	N	Utility Billing for Processor #7387 with IBM i - 100 processor minutes
7744	N	On/Off Processor Billing for Processor #7387 with IBM i - 1 processor day
7745	N	On/Off Processor Day Billing for Processor #7387
7780	S	2.0m Rack Side Attach Kit
7801	S	Ethernet Cable, 6M, Hardware Management Console to System Unit
7802	A	Ethernet Cable, 15m, Hardware Management Console to System Unit
7840	S	Side-by-Side for 1.8m Racks
7841	S	Ruggedize Rack Kit
7862	S	PCI Blind Swap Cassette Kit, Single wide Adapters, Type II
7863	S	PCI Blind Swap Cassette Kit, Double wide Adapters, Type III
7870	N	Power Distribution Backplane
7888	N	AC Power Supply, 1400 W
7892	N	2GB (4x512MB) DIMMs, 276-pin, 533MHZ DDR2 SDRAM
7893	N	4GB (4x1GB) DIMMs, 276-pin, 533MHZ DDR2 SDRAM
7894	N	8GB (4x2GB) DIMMs, 276-pin, 533 MHZ DDR2 SDRAM
7942	A	PowerVM -Standard Edition
7951	S	On/Off Processor Enablement
7954	S	On/Off Memory Enablement
7995	A	PowerVM - Enterprise Edition
8017	N	570 to MMA CoD Memory Activation Carry Over Indicator
8018	A	Advanced POWER Virtualization Carry Over Indicator
8030	A	Advanced POWER Virtualization Carry Over Indicator
8129	N	0/256GB DDR2 Memory (32x8GB) DIMMS- 400 MHZ- POWER6 Memory
8133	S	RJ-45 to DB-25 Converter Cable
8143	S	Linux Software Preinstall
8144	S	Linux Software Preinstall (Business Partners)
8212	S	Activation of 1 GB DDR3 POWER7 Memory
8213	S	Activation of 100 GB DDR3 POWER7 Memory
8430	S	Power Cord Carry Over Indicator, #9800, Model Conversion Only
8431	S	Power Cord Carry Over Indicator, #9802, Model Conversion Only
8432	S	Power Cord Carry Over Indicator, #9820, Model Conversion Only
8433	S	Power Cord Carry Over Indicator, #9821, Model Conversion Only
8434	S	Power Cord Carry Over Indicator, #9825, Model Conversion Only
8435	S	Power Cord Carry Over Indicator, #9827, Model Conversion Only
8436	S	Power Cord Carry Over Indicator, #9828, Model Conversion Only
8437	S	Power Cord Carry Over Indicator, #9829, Model Conversion Only
8438	S	Power Cord Carry Over Indicator, #9830, Model Conversion Only
8439	S	Power Cord Carry Over Indicator, #9831, Model Conversion Only
8440	S	Power Cord Carry Over Indicator, #9833, Model Conversion Only
8441	S	Power Cord Carry Over Indicator, #9834, Model Conversion Only

8453 S Base Customer Spec Plcmnt
 8800 N Keyboard - USB, US English, #103P
 8801 N Keyboard - USB, French, #189
 8802 N Keyboard - USB, Italian, #142
 8803 N Keyboard - USB, German/Austrian, #129
 8804 N Keyboard - USB, UK English, #166
 8805 N Keyboard - USB, Spanish, #172
 8806 N Keyboard - USB, Japanese, #194
 8807 N Keyboard - USB, Brazilian/Portuguese, #275
 8808 N Keyboard - USB, Canadian French, #058
 8810 N Keyboard - USB, Belgium/UK, #120
 8811 N Keyboard - USB, Swedish/Finnish, #153
 8812 N Keyboard - USB, Danish, #159
 8813 N Keyboard - USB, Bulgarian, #442
 8814 N Keyboard - USB, Swiss/French/German, #150F/G
 8816 N Keyboard - USB, Norwegian, #155
 8817 N Keyboard - USB, Dutch, #143
 8818 N Keyboard - USB, Portuguese, #163
 8819 N Keyboard - USB, Greek, #319
 8820 N Keyboard - USB, Hebrew, #212
 8821 N Keyboard - USB, Hungarian, #208
 8823 N Keyboard - USB, Polish, #214
 8825 N Keyboard - USB, Slovakian, #245
 8826 N Keyboard - USB, Czech, #243
 8827 N Keyboard - USB, Turkish, #179
 8829 N Keyboard - USB, LA Spanish, #171
 8830 N Keyboard - USB, Arabic, #253
 8833 N Keyboard - USB, Korean, #413
 8834 N Keyboard - USB, Chinese/US, #467
 8835 N Keyboard - USB, French Canadian, #445
 8836 N Keyboard - USB, Thai, #191
 8838 N Keyboard - USB, Russian, #443
 8839 N Keyboard - USB, Yugoslavian/Latin, #105
 8840 N Keyboard - USB, US English (EMEA), #103P
 8841 S Mouse - USB, with Keyboard Attachment Cable
 8845 S USB Mouse
 9169 S Order Routing Indicator- System Plant
 9300 S Language Group Specify - US English
 9359 S Specify mode-1 & (1)5901/5278 for EXP24S #5887
 9360 S Specify mode-1 & (2)5901/5278 for EXP24S #5887
 9361 S Specify mode-2 & (2)5901/5278 for EXP24S #5887
 9365 S Specify mode-4 & (4)5901/5278 for EXP24S #5887
 9366 S Specify mode-2 & (4)5901/5278 for EXP24S #5887
 9367 S Specify mode-1 & (2)5903/5805 for EXP24S #5887
 9368 S Specify mode-2 & (4)5903/5805 for EXP24S #5887
 9382 S Specify mode-1 & (1)5904/6/8 for EXP24S #5887
 9383 S Specify mode-1 & (2) 5904/6/8 for EXP24S #5887
 9384 S Specify mode-1 & CEC SAS port for EXP24 #5887
 9385 S Specify mode-1 & (2) 5913 for EXP24S #5887
 9386 S Specify mode-2 & (4) 5913 for EXP24S #5887
 9440 S New AIX License Core Counter
 9441 S New IBM i License Core Counter
 9442 S New Red Hat License Core Counter
 9443 S New SUSE License Core Counter
 9444 S Other AIX License Core Counter
 9445 S Other Linux License Core Counter
 9446 S 3rd Party Linux License Core Counter
 9447 S VIOS Core Counter
 9461 S Month Indicator
 9462 S Day Indicator
 9463 S Hour Indicator
 9464 S Minute Indicator
 9465 S Qty Indicator
 9466 S Countable Member Indicator
 9570 S Reserved Rack Space Indicator - 4U
 9700 S Language Group Specify - Dutch
 9703 S Language Group Specify - French
 9704 S Language Group Specify - German
 9705 S Language Group Specify - Polish
 9706 S Language Group Specify - Norwegian
 9707 S Language Group Specify - Portuguese
 9708 S Language Group Specify - Spanish
 9711 S Language Group Specify - Italian
 9712 S Language Group Specify - Canadian French
 9714 S Language Group Specify - Japanese
 9715 S Language Group Specify - Traditional Chinese (Taiwan)
 9716 S Language Group Specify - Korean
 9718 S Language Group Specify - Turkish
 9719 S Language Group Specify - Hungarian
 9720 S Language Group Specify - Slovakian
 9721 S Language Group Specify - Russian
 9722 S Language Group Specify - Simplified Chinese (PRC)
 9724 S Language Group Specify - Czech
 9725 S Language Group Specify -- Romanian
 9726 S Language Group Specify - Croatian
 9727 S Language Group Specify -- Slovenian
 9728 S Language Group Specify - Brazilian Portuguese
 9729 S Language Group Specify - Thai
 EB72 S IBM i 7.2 Indicator
 EB73 A IBM i 7.3 Indicator
 EC01 S Rack Front Door (Black)
 EC02 S Rack Rear Door
 EC03 S Rack Side Cover
 EC04 S Rack Suite Attachment Kit
 EC15 S Rear Door Heat Exchanger for 2.0 Meter Slim Rack
 EC20 S Rack (2.0 ft) plus CAT5 Ethernet Cable

ECB2	A 1.5m (4.9-ft), Blue CAT5 Ethernet Cable
ECW0	A Optical Wrap Plug
EH14	S GEN2-S Conversion Carrier for Feature ES0C 387GB SSD
EH15	S Qty 150 Gen2-S Conversion Carriers for feature EQ0A 387GB SSD.
EH16	S GEN2-S Conversion Carrier for Feature ES0D 387GB SSD (IBM i)
EH17	S GEN2-S Conversion Carrier for feature EQ0D 3787GB (IBM i)
EJ29	S PCIe Crypto Coprocessor Gen4 BSC 4765-001
EJP2	A Specify Mode-1 & (2)ESA1/ESA2 for EXP24S #5887
EJP3	A Specify Mode-2 & (2)ESA1/ESA2 for EXP24S #5887
EJP4	A Specify Mode-2 & (4)ESA1/ESA2 for EXP24S #5887
EJP5	A Specify Mode-4 & (4)ESA1/ESA2 for EXP24S #5887
EJP6	A Specify Mode-2 & (1)ESA1/ESA2 for EXP24S #5887
EJP7	A Specify Mode-2 (2)ESA1/ESA2 for EXP24 #5887
EJPA	A Specify mode-2 (1) ESA1/ESA2 for EXP24 #5887
EJPB	A Specify mode-2 (2)ESA1/ESA2 for EXP24#5887
EJPC	A Specify mode-4 (1)ESA1/ESA2 for EXP24 #5887
EJPD	A Specify mode-4 (2)ESA1/ESA2 for EXP24 #5887
EJPE	A Specify mode-4 (3)ESA1/ESA2 for EXP24 #5887
EJPJ	A Specify mode-2 (1)5901/5278 for EXP24 #5887
EJPK	A Specify mode-2 (2)5901/5278 for EXP24 #5887
EJPL	A Specify mode-4 (1)5901/5278 for EXP24 #5887
EJPM	A Specify mode-4 (2)5901/5278 for EXP24 #5887
EJPN	A Specify mode-4 (3)5901/5278 for EXP24 #5887
EJPR	A Specify mode-2 (2)5903/5805 for EXP24 #5887
EJPT	A Specify mode-2 (2)5913 for EXP24 #5887
EJPY	A Specify Left Half 12X I/O Drawer to ESA1/ESA2
EJPZ	A Specify Right Half 12X I/O Drawer to ESA1/ESA2
EJS1	A Non-paired Indicator ESA3 PCIe SAS RAID Adapter
EJS2	S Specify Mode-2 & (2)ESA3 for EXP24S (#5887/#EL1S)
EJS3	S Specify Mode-1 & (2)ESA3 for EXP24S (#5887/#EL1S)
EJS4	S Specify Mode-2 & (4)ESA3 for EXP24S (#5887/#EL1S)
EJS5	A Specify Left Half 12X I/O Drawer to PCIe2 1.8GB RAID SAS Adapter
EJS6	A Specify Right Half 12X I/O Drawer to PCIe2 1.8GB RAID SAS Adapter
EK51	S Full width Keyboard -- USB, US English, #103P
EK52	S Full width Keyboard -- USB, French, #189
EK53	S Full width Keyboard -- USB, Italian, #142
EK54	S Full width Keyboard -- USB, German/Austrian, #129
EK55	S Full width Keyboard -- USB, UK English, #166P
EK56	S Full width Keyboard -- USB, Spanish, #172
EK57	S Full width Keyboard -- USB, Japanese, #194
EK58	S Full width Keyboard -- USB, Brazilian Portuguese, #275
EK59	S Full width Keyboard -- USB, Hungarian, #208
EK60	S Full width Keyboard -- USB, Korean, #413
EK61	S Full width Keyboard -- USB, Chinese, #467
EK62	S Full width Keyboard -- USB, French Canadian, #445
EK64	S Full width Keyboard -- USB, Belgian/UK, #120
EK65	S Full width Keyboard -- USB, Swedish/Finnish, #153
EK66	S Full width Keyboard -- USB, Danish, #159
EK67	S Full width Keyboard -- USB, Bulgarian, #442
EK68	S Full width Keyboard -- USB, Swiss/French/German, #150
EK69	S Full width Keyboard -- USB, Norwegian, #155
EK70	S Full width Keyboard -- USB, Dutch, #143
EK71	S Full width Keyboard -- USB, Portuguese, #163
EK72	S Full width Keyboard -- USB, Greek, #319
EK73	S Full width Keyboard -- USB, Hebrew, #212
EK74	S Full width Keyboard -- USB, Polish, #214
EK75	S Full width Keyboard -- USB, Slovakian, #245
EK76	S Full width Keyboard -- USB, Czech, #243
EK77	S Full width Keyboard -- USB, Turkish, #179
EK78	S Full width Keyboard -- USB, LA Spanish, #171
EK79	S Full width Keyboard -- USB, Arabic, #253
EK80	S Full width Keyboard -- USB, Thai, #191
EK81	S Full width Keyboard -- USB, Russian, #443
EK82	S Full width Keyboard -- USB, Slovenian, #234
EK83	S Full width Keyboard -- USB, US English Euro, #103P
ELC0	A PDU Access Cord 0.38m
ELJ0	S Power Integrated Facility for Linux Package
ELJ1	S Power IFL Processor Activation
ELJ2	A Power IFL Memory Activation
ELJ3	A Power IFL PowerVM for Linux
ELJ4	A Power IFL Processor Activation
ELPM	A Trial PowerVM Live Partition Mobility
ELS1	A #ES11 Load Source Specify (387GB SSD SFF-1)
ELS9	A #ES1A Load Source Specify (387GB SSD SFF-2)
ELSF	A #ES0F Load Source Specify (775GB SSD SFF-1)
ELSH	A #ES0H Load Source Specify (775GB SSD SFF-2)
ELT9	S #ES79 Load Source Specify (387GB SFF-2 SSD 5xx for IBM i)
ELTF	S #ES7F Load Source Specify (775GB SFF-2 SSD 5xx for IBM i)
EN01	A 1m (3.3-ft), 10GbE'Net Cable SFP+ Act Twinax Copper
EN02	A 3m (9.8-ft) 10GbE'Net Cable SFP+ Act Twinax Copper
EN03	A 5m (16.4-ft) 10GbE'Net Cable SFP+ Act Twinax Copper
EN13	S PCIe 1-port Bisync Adapter

EJ28	S	PCIe Crypto Coprocessor Gen3 BSC 4765-001
EN27	S	2 Port Async EIA-232 PCIe Adapter
EN29	S	2 Port Async EIA-232 PCIe Adapter
EMJ3	A	On/Off 100 GB-Days, Memory Billing POWER7
EP2A	A	100 On/Off Proc-Days of CoD Billing for Processor #4980. AIX/Linux
EP2B	A	100 On/Off Proc-Days of CoD Billing for Processor #4980. IBM i
EP2C	A	100 On/Off Proc-Days of CoD Billing for Processor #4981, AIX/Linux
EP2D	A	100 On/Off Proc-Days of CoD Billing for Processor #4981, IBM i
EQ02	S	Quantity 150 of #3452 SAS YO Cable 6m - HD 6Gb Adapter to Enclosure
EQ03	A	Quantity 150 of #3453 SAS YO Cable 10m - HD 6Gb Adapter to Enclosure
EQ38	S	Quantity 150 of #1738 (856GB SFF-2 disk)
EQ52	S	Quantity 150 of #1752 (900GB SFF-2 disk)
EQ77	A	Qty 150 of #6577
EQ78	S	Quantity 150 of #ES78 387GB SFF-2 SSD 5xx
EQ79	S	Quantity 150 of #ES79 387GB SFF-2 SSD 5xx
EQ7E	S	Quantity 150 of #ES7E 775GB SFF-2 SSD 5xx
EQ7F	S	Quantity 150 of #ES7F 775GB SFF-2 SSD 5xx
EQ0A	S	Quantity 150 of #ES0A
EQ0B	S	Quantity of 150 #ES0B
EQ0C	S	Quantity of 150 #ES0C
EQ0D	S	Quantity of 150 #ES0D
EQ0E	S	Quantity 150 of #ES0E (775GB SSD SFF-1)
EQ0F	S	Quantity 150 of #ES0F (775GB SSD SFF-1)
EQ0G	S	Quantity 150 of #ES0G (775GB SSD SFF-2)
EQ0H	S	Quantity 150 of #ES0H (775GB SSD SFF-2)
EQ10	S	Quantity 150 of #ES10 (387GB SSD SFF-1)
EQ11	S	Quantity 150 of #ES11 (387GB SSD SFF-1)
EQ19	S	Quantity 150 of #ES19 (387GB SSD SFF-2)
EQ1A	S	Quantity 150 of #ES1A (387GB SSD SFF-2)
EQD0	S	Quantity 150 of #ESD0 (1.1TB 10K SSF1)
EQD1	S	Quantity 150 of #ESD1 (1.2TB 10K SFF-1)
EQD2	S	Quantity 150 of #ESD2 (1.1TB 10k SFF-2)
EQD3	S	Quantity 150 of #ESD3 (1.2TB 10k SFF-2)
ER05	S	42U slim Rack
ESC0	A	S&H - No Charge
ESC8	A	S&H
ES0A	S	387GB SFF-1 SSD for AIX/Linux with eMLC
ES0B	S	387GB SFF-1 SSD for IBM i with eMLC
ES0C	S	387GB SFF-2 SSD for AIX/Linux with eMLC
ES0D	S	387GB SFF-2 SSD for IBM i with eMLC
ES0E	S	775GB SFF-1 SSD for AIX/Linux
ES0F	S	775GB SFF-1 SSD for IBM i
ES0G	S	775GB SFF-2 SSD for AIX/Linux
ES0H	S	775GB SFF-2 SSD for IBM i
ES10	S	387GB SFF-1 SSD for AIX/Linux
ES11	S	387GB SFF-1 SSD for IBM i
ES19	S	387GB SFF-2 SSD for AIX/Linux
ES1A	S	387GB SFF-2 SSD for IBM i
ES78	S	387GB SFF-2 SSD 5xx eMLC4 for AIX/Linux
ES79	S	387GB SFF-2 SSD 5xx eMLC4 for IBM i
ES7E	S	775GB SFF-2 SSD 5xx eMLC4 for AIX/Linux
ES7F	S	775GB SFF-2 SSD 5xx eMLC4 for IBM i
ESA3	S	PCIe2 1.8GB Cache RAID SAS Adapter Tri-port 6Gb CR
ESD0	S	1.1TB 10K RPM SAS SFF-1 Disk Drive (IBM i)
ESD1	S	1.2TB 10K RPM SAS SFF-1 Disk Drive (AIX/Linux)
ESD2	S	1.1TB 10K RPM SAS SFF-2 Disk Drive (IBMi)
ESD3	S	1.2TB 10K RPM SAS SFF-2 Disk Drive (AIX/Linux)
EU01	A	1TB Removable Disk Drive Cartridge
EU04	S	RDX USB External Docking Station for Removable Disk Cartridge
EU08	S	RDX 320 GB Removable Disk Drive
EU15	S	1.5TB Removable Disk Drive Cartridge
EU2T	A	2TB Removable Disk Drive Cartridge (RDX)
EUC5	S	12X Cable Performance Specify

Feature descriptions

Note: Not all of the following features are available in all countries. Check with your country representative for specific feature availability. The following is a list of all feature codes in numeric order for the IBM Power Systems 9117 machine type.

Attributes, as defined in the following feature descriptions, state the interaction of requirements among features.

Minimums and maximums are the absolute limits for a single feature without regard to interaction with other features. The maximum valid quantity for MES orders may be different than for initial orders. The maximums listed below refer to the largest quantity of these two possibilities.

The order type defines if a feature is orderable only on initial orders, only on MES orders, on both initial and MES orders, or if a feature is supported on a model due to a model conversion. Supported features cannot be ordered on the converted model, only left on or removed from the converted model.

(#0010) - One CSC Billing Unit

One Billing Unit used by the Customer Solution Center.

- Attributes provided: One CSC Billing Unit
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#0011) - Ten CSC Billing Units

Ten Billing Units used by the Customer Solutions Center.

- Attributes provided: Ten CSC Billing Units
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#0032) - Specify Code for External High Speed Modem

(No Longer Available as of July 29, 2011)

This specify feature is required if an external high speed modem is to be shipped with the system. The exact machine type-model of the modem shipped will vary based on what is currently stocked in manufacturing.

This feature code cannot be ordered in the following countries: Albania, Angola, Armenia, Bahamas, Belize, Brunei, Ghana, Kenya, Macedonia, Moldavia, Nigeria, Rep Dominica, Santa Lucia, Serbia, Trinidad & Tobago, Zambia.

- Attributes provided: Attached Modem
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 480 (Initial order maximum: 250)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0040) - Mirrored System Disk Level, Specify Code

This code indicates the level of disk protection desired and helps ensure that adequate hardware is in the final configuration.

- Attributes provided: Device-level mirrored protection
- Attributes required: Minimum of two (2) disk units
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0041) - Device Parity Protection-All, Specify Code

This code indicates the level of disk protection desired and helps ensure that adequate hardware is in the final configuration.

- Attributes provided: RAID Data Protection
- Attributes required: RAID-capable disk unit controller
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

This code indicates the level of disk protection desired and helps ensure that adequate hardware is in the final configuration.

- Attributes provided: IOP-level mirrored protection
- Attributes required: Minimum of 4 (four) disk units
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0043) - Mirrored System Bus Level, Specify Code

This code indicates the level of disk protection desired and helps ensure that adequate hardware is in the final configuration.

For new systems: The marketing configurator will error on an order if sufficient disk units, and expansion units are not included on the order to support bus-level mirrored protection for all disk units. New, preloaded systems will be shipped with bus-level mirroring enabled.

- Attributes provided: Bus-level mirrored protection
- Attributes required: Minimum of 2 (two) disk units
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0047) - Device Parity RAID-6 All, Specify Code

This code indicates the level of disk protection desired and helps ensure that adequate hardware is in the final configuration.

- Attributes provided: RAID-6 Data Protection
- Attributes required: RAID-6 capable disk unit controller
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0205) - RISC-to-RISC Data Migration

(No Longer Available as of August 31, 2012)

#0205 is used on initial orders to designate that the new server should only receive a partial load of IBM i in IBM Mfg.

When #0205 is on the order, manufacturing will only load SLIC and up through QSYS of IBM i. Ensure that enough storage is ordered to contain the additional OS code that will be loaded following installation of the system at the Client location. Specify code #0205 is mutually exclusive with #5000, SW Preload Required

The migration process requires that the installed model be at the same version and release level of IBM i and other licensed programs as the new server.

More information, and an updated IBM i Upgrade and Data Migration Road Map (RISC-RISC) are available at

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

- Attributes provided: Partial load of IBM i in IBM Mfg.
- Attributes required: #2145 - Primary OS - IBM i and partition specify code #0267 and RISC to RISC Data Migration from Clients existing system
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Initial
- CSU: Yes
- Return parts MES: No

(#0226) - 1Gbps Ethernet Specify

Indicates that a #5700/#5701 1Gbps Ethernet adapter is being used on an integrated xSeries server. One #0226 is required for each #5700 or #5701 used.

- Attributes provided: #5700 or #5701 installed on Integrated xSeriesServer
- Attributes required: Integrated xSeries Server and (#5700 or #5701)
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0265) - AIX Partition Specify

This feature indicates customers intend to create a partition on the system that will use the AIX operating system. This feature should be included once for each intended AIX partition. This feature is an indicator and does not deliver parts, software, or services.

- Attributes provided: None
- Attributes required: Customers intend to create a partition on the system that will run the AIX operating system.
- Minimum required: 0
- Maximum allowed: 640 (Initial order maximum: 254)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

Note: 1. Above 160 partitions the minimum firmware level required is 7.2.0 and above 254 partitions the minimum firmware level required is 7.3.0.
 Note: 2. If a system has more than 144 PCI adapters allocated to a single logical partition it may not be possible to load the operating system. For logical partitions containing more than 144 PCI adapters, only the first 144 PCI adapters configured by system firmware and/or their respective child devices will be available as boot candidates. After the operating system has been loaded then a single partition can have more than 144 PCI adapters

(#0266) - Linux Partition Specify

This feature indicates customers intend to create a partition on the system that will use the Linux operating system. This feature should be included once for each intended Linux partition. This feature is an indicator and does not deliver parts, software, or services.

- Attributes provided: None
- Attributes required: Customers intend to create a partition on the system that will run the Linux operating system.
- Minimum required: 0
- Maximum allowed: 640 (Initial order maximum: 254)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

Note: 1. Above 160 partitions the minimum firmware level required is 7.2.0 and above 254 partitions the minimum firmware level required is 7.3.0.
 Note: 2. If a system has more than 144 PCI adapters allocated to a single logical partition it may not be possible to load the operating system. For logical partitions containing more than 144 PCI adapters, only the first 144 PCI adapters configured by system firmware and/or their respective child devices will be available as boot candidates. After the operating system has been loaded then a single partition can have more than 144 PCI adapters.

(#0267) - IBM i Operating System Partition Specify

This feature indicates customers intend to create a partition on the system that will use the IBM i operating system. This feature should be included once for each intended IBM i partition. This feature is an indicator and does not deliver parts, software, or services.

- Attributes provided: None
- Attributes required: Customers intend to create a partition on the system that will run the IBM i operating system.
- Minimum required: 0
- Maximum allowed: 640 (Initial order maximum: 254)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

Note: 1. Above 160 partitions the minimum firmware level required is 7.2.0 and above 254 partitions the minimum firmware level required is 7.3.0.
 Note: 2. If a system has more than 144 PCI adapters allocated to a single logical partition it may not be possible to load the operating system. For logical partitions containing more than 144 PCI adapters, only the first 144 PCI adapters configured by system firmware and/or their respective child devices will be available as boot candidates. After the operating system has been loaded then a single partition can have more than 144 PCI adapters.

(#0275) - CSC Specify

(No Longer Available as of October 12, 2010)

Having #0275 on the order, will cause the order content to be internally routed to the CSC build area in building 114 (Rochester).

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0290) - Ext Tape Attached via #5736

(No Longer Available as of May 27, 2011)

Each #0290 is used to indicate one external port of a #5736 will be used to control an external tape device.

- Attributes provided: Placement code for IBM Configurator Tools
- Attributes required: #5736 PCI-X Disk/Tape Controller
- Minimum required: 0
- Maximum allowed: 48 (Initial order maximum: 48)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0296) - Specify Custom Data Protection

#0296 specifies that a system has multiple IBM i partitions and that data protection schemes should be considered separately for each partition instead of only for an overall system level. Each partition's data protection scheme can be different or the same.

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 11 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0302) - Specify EXP24 Attach via Existing Controller

This specify code is used to help IBM configuration tools. It is used on an EXP24 Disk Enclosure MES order to indicate that an already installed disk controller will be used to control an EXP24 6 pack or 12 pack of disk drives. Fewer disk controllers or disk controller ports are therefore required on the EXP24 MES order. The marketing configurator will determine the quantity (if any) of #0302 on a given EXP24 Disk Enclosure MES order.

- Attributes provided: N/A
- Attributes required: Existing SCSI disk controller port being used to connect to an EXP24 enclosure
- Minimum required: 0
- Maximum allowed: 229 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#0308) - Mirrored Level System Specify Code

This specify code indicates the level of disk protection desired and helps ensure that adequate hardware is in the final configuration.

For new systems, the marketing configurator will show an error if sufficient disk units and disk controllers are not included on the order to support IOA-level mirroring protection. #0308 causes all disk units to be placed into configurations capable of IOA-level mirroring. Each disk unit and its mirrored pair must be on a different disk controller.

Note that the load source disk unit in a new, preloaded system will be device-level mirrored (same protection as provided with feature #0040). This means that the load source is controlled by the first disk unit controller on the first system bus, and will be mirrored with a like disk unit that is also attached to the same first disk controller on the first system bus.

For upgrade orders, #0308 will cause the marketing configurator to show an error if sufficient disk units and disk controllers are not available to provide the capability to enable IOA-level mirrored protection for all DASD.

It is the client's responsibility to start mirroring on their system.

- Attributes provided: IOA level system mirroring
- Attributes required: A minimum of two disk controllers and an even number of disk units (with a minimum of four disk units on a system).
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0325) - IPCS Extension Cables for NT

(No Longer Available as of May 8, 2007)

This feature provides extension cables for the display, mouse and keyboard that are required when running an IXS with the NT operating system. This feature should be used when longer cables are required to attach the display, mouse, and keyboard to the IXS.

Note that the keyboard cable supplied with this feature is for a standard keyboard connection, not a USB attached keyboard.

- Attributes provided: Connectivity for keyboard, display and mouse
- Attributes required: Integrated xSeries Server with NT OperatingSystem, keyboard, display and mouse.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0347) - RAID Hot Spare Specify

#0347 is a specify code that indicates to IBM configuration tools and to IBM Manufacturing that RAID-5 or RAID-6 disk arrays should be further protected using the IBM i function of RAID hot spare. If specified, IBM will ship a configuration which has at least one stand-by disk drive for each disk controller in the system or designated partition. The customer may alter the hot spare configuration selecting different options once the system is installed.

- Attributes provided: N/A
- Attributes required: Existence of #0041 or #0047
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0348) - V.24/EIA232 6.1m (20-Ft) PCI Cable

This feature provides a 20-foot WAN PCI cable that supports a V.24 or a EIA232 electrical connection interface.

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 480 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0349) - V.24/EIA232 15.2m (50-Ft) PCI Cable

(No Longer Available as of December 15, 2002).

This feature provides a 50-foot WAN PCI cable that supports a V.24 or a EIA232 electrical connection interface.

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 480 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#0353) - V.35 6.1m (20-Ft) PCI Cable

This feature provides a 20-foot WAN PCI cable that supports a V.35 electrical connection interface.

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 480 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0354) - V.35 15.2m (50-Ft) PCI Cable

(No Longer Available as of December 15, 2002).

This feature provides a 50-foot WAN PCI cable that supports a V.35 electrical connection interface.

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 480 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#0356) - V.36 6.1m (20-Ft) PCI Cable

(No Longer Available as of December 1, 2007)

This feature provides a 20-foot WAN PCI cable that supports a V.36 electrical connection interface.

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 480 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#0359) - X.21 6.1m (20-Ft) PCI Cable

This feature provides a 20-foot WAN PCI cable that supports a X.21 electrical connection interface.

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 480 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0360) - X.21 15.2m (50-Ft) PCI Cable

(No Longer Available as of December 15, 2002).

This feature provides a 50-foot WAN PCI cable that supports a X.21 electrical connection interface.

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 480 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#0365) - V.24/EIA232 (80-Ft) PCI Cable

(No Longer Available as of December 15, 2002).

This feature provides a 80-foot WAN PCI cable that supports a V.24 electrical connection interface.

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 480 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#0367) - V.24/EIA232 6.1M (20-Ft) PCI Cable

A #0367 requires one RVX port (communications port, not modem port). A customer can select a #0367 for each IBM i partition. There is a max of one #0367 per card. If a card has two RVX ports, a #0367 can connect to one port and the other port can be used for other comm support. Features supporting the #0367 cable are #6833, #6834. If a system has #5544, then at a minimum, one #0367 is required.

This feature ships a PCI card compatible Operations Console cable. This cable ships with a 25 pin to 9 pin adapter.

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0373) - UPS Factory Integration Specify

Used in manufacturing to ensure that a UPS ordered from IBM under a separate machine type/model, is associated with the system order, and is shipped concurrently.

- Attributes provided: N/A
- Attributes required: Ordered machine type-model UPS.
- Minimum required: 0
- Maximum allowed: 42 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No
Note: Available only when ordered with 19 inch feature code rack on an MES order. Max. is 36 with rack feature 0551.

(#0374) - HMC Factory Integration Specify

Used in manufacturing to ensure that an HMC ordered from IBM under a separate machine type/model is associated with the system order and is shipped concurrently.

- Attributes provided: N/A
- Attributes required: Ordered machine type-model HMC.
- Minimum required: 0
- Maximum allowed: 42 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No
Note: Available only when ordered with 19 inch feature code rack on an MES order. Max. is 36 with rack feature 0551.

(#0375) - Display Factory Integration Specify

Used in manufacturing to ensure that a display ordered from IBM under a separate machine type/model, is associated with the system order, and is shipped concurrently.

- Attributes provided: N/A
- Attributes required: Ordered machine type-model display.
- Minimum required: 0
- Maximum allowed: 42 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No
Note: Available only when ordered with 19 inch feature code rack on an MES order. Max. is 36 with rack feature 0551.

(#0376) - Reserve Rack Space for UPS

Used in manufacturing to reserve 1 EIA of rack space in the bottom of the rack for later client installation of a UPS.

- Attributes provided: 1 EIA rack space reserved.
- Attributes required: Ordered rack feature.
- Minimum required: 0
- Maximum allowed: 42 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No
Note: Available only when ordered with 19 inch feature code rack on an MES order. Max. is 36 with rack feature 0551.

(#0377) - Reserve Rack Space for HMC

Used in manufacturing to reserve 1 EIA of rack space in the middle of the rack for later client installation of a rack-mounted HMC.

- Attributes provided: 1 EIA rack space reserved.
- Attributes required: Ordered rack feature.
- Minimum required: 0
- Maximum allowed: 42 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No
Note: Available only when ordered with 19 inch feature code rack on an MES order. Max. is 36 with rack feature 0551.

(#0378) - Reserve Rack Space for Display

Used in manufacturing to reserve 1 EIA of rack space in the middle of the rack for later client installation of an HMC rack-mounted display such as the 7316.

- Attributes provided: 1 EIA rack space reserved.
- Attributes required: Ordered rack feature.
- Minimum required: 0
- Maximum allowed: 42 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No
Note: Available only when ordered with 19 inch feature code rack on an MES order. Max. is 36 with rack feature 0551.

(#0395) - MTM Upgrade Indicator

Machine type model upgrade indicator for upgrades from a 9406-570/ MMA to a 9117-MMA.

- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0397) - MMA/MMB/MHB upgrade indicator

This feature indicates that this 9117-MMA system was created as a model conversion from a 9406-MMA or the 9117-MMB/9179-MHB was created as a model conversion from a 9117-MMA. This feature may only be added to MES orders when placing an order for one of these model conversions.

- Attributes provided: MMA function carryover indicator
- Attributes required: Model conversion.
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No
Note: When migrating a 9117-MMA with an existing #0397 feature, note that PowerVM needs to be present on the server in order to enable micro- partitioning.

(#0446) - 512MB DDR Server Memory

512 MB DDR memory for an Integrated xSeries Server.

- Attributes provided: 512MB memory for Integrated xSeries Server
- Attributes required: One memory slot on Integrated xSeries Server
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A

(#0447) - 1GB DDR Server Memory

1 GB DDR memory for an Integrated xSeries Server.

- Attributes provided: 1GB memory for Integrated xSeries Server
- Attributes required: One memory slot on Integrated xSeries Server
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0453) - Customer Specified Placement

1. Requests that IBM deliver the system to the customer according to the slot in drawer hardware placement defined by the account team.
2. Eliminates the need to have these parts relocated in the customers environment as may happen if the order is placed without this feature code.
3. Client placement specifications are collected using the System Planning Tool (SPT) and processed through the marketing configurator. (Use of the SPT is not required).
4. Requires account team to submit the output of the marketing configurator into IBM manufacturing via the CSP Web site: <http://www.ibm.com/eserver/power/csp> (US Business Partners and Distributors can bypass this step.)
5. Requires account team to assure that the marketing configurator output submitted reflects the actual order placed.

- Attributes provided: I/O component placement
- Attributes required: Marketing Configurator output submitted to the CSP Web site. (US Business Partners and Distributors can bypass this step.)
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0462) - SSD Placement Indicator - CEC

This is an IBM internal automatic generated SSD specify indicator for placement and it is not selectable.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#0463) - SSD Placement Indicator (5802/5803)

(No Longer Available as of August 31, 2012)

This is an IBM internal automatic generated SSD specify indicator for placement and it is not selectable.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#0464) - SSD Placement Indicator - 5886

(No Longer Available as of August 31, 2012)

This is an IBM internal automatic generated SSD specify indicator for placement and it is not selectable.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#0465) - SSD Placement Indicator - 5887

This is an IBM internal automatic generated SSD specify indicator for placement and it is not selectable.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: No Maximum (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#0533) - IBM i 5.4 w/ V5R4M5 Specify Code

This feature is used to indicate the correct level of code when IBM i operating system is specified.

- Attributes provided: IBM i 5.4 with V5R4M5 Machine Code Indicator
- Attributes required: IBM i operating system
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0534) - IBM i 6.1 Specify Code

This feature is used to indicate the correct level of code when IBM i is specified.

- Attributes provided: IBM i 6.1 indicator
- Attributes required: IBM i operating system
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0551) - 19 inch, 1.8 meter high rack

Provides a 19 inch, 1.8 meter high rack with 36 EIA units of total space for installing rack mounted CECs and/or expansion units. One of the following features are required on the #0551:

- #6068 - Optional Front Door for 1.8m Rack
- #6246 - 1.8m Rack Trim Kit
- #6248 - 1.8m Rack Acoustic Doors

The following features are also orderable on the #0551:

- #0599 - Rack Filler Panel Kit
- #6580 - Optional Rack Security Kit
- #7840 - Side-By-Side for 1.8m Racks
- #7841 - Ruggedize Rack Kit

The #0551 can support up to eight PDUs, four mounted vertically and four mounted horizontally. Each PDU mounted horizontally takes up 1 EIA of rack space. The following PDUs are supported:

- #7188 - Power Distribution Unit (12, C-13 sockets)
- #7109 - Power Distribution Unit (12, C-13 sockets)
- Attributes provided: 19 inch, 1.8M, 36 EIA Rack
- Attributes required: #6068 or #6246 or #6248.
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#0553) - 19 inch, 2.0 meter high rack

Provides a 19-inch, 2.0 meter high rack with 42 EIA units of total space for installing rack mounted CECs and/or expansion units. One of the following features are required on the #0553:

- #6069 - Optional Front Door for 2.0m Rack
- #6247 - 2.0m Rack Trim Kit
- #6249 - 2.0m Rack Acoustic Doors
- #6272 - 2.0m Rack Trim Kit

The #0553 can support up to nine power distribution units (PDU), four mounted vertically and five mounted horizontally. Each PDU mounted horizontally takes up 1 EIA of rack space. The following PDUs are supported:

- #7188 - Power Distribution Unit (12, C13 sockets)
- #7109 - Power Distribution Unit (12, C13 sockets)
- Attributes provided: 19 inch, 2.0M, 42 EIA Rack
- Attributes required: #6069 or #6247 or #6249 or #6272
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#0555) - 19 inch, 1.3 meter high rack

Provides a 19-inch, 1.3 meter (49-inch) high rack with 25 EIA units of total space for installing rack-mounted CECs and/or expansion units. The #0555 includes lockable front and rear doors. Filler panels and perforated doors are included to help provide proper airflow and cooling.

PDU and power cord features are available for ordering with the rack. This rack does not feature side pockets for PDU mounting. All PDUs must mount horizontally in EIA space.

Note: The #0555 rack only supports a single 9117-MMB CEC enclosure.

- Attributes provided: 19 inch, 1.3M, 25 EIA Rack
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#0566) - IBM i 6.1 with 6.1.1 Machine Code Specify Code

(No longer available as of October 22, 2019)

This feature is used to indicate the correct level of code when IBM i is specified.

- Attributes provided: IBM i 6.1 with 6.1.1 Machine Code Indicator
 - Attributes required: IBM i operating system
 - Minimum required: 0
 - Maximum allowed: 1 (Initial order maximum: 1)
 - OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
 - Initial Order/MES/Both/Supported: Both
 - CSU: Yes
 - Return parts MES: No
- Note: One Per Order

(#0567) - IBM i 7.1 Specify Code

(No longer available as of October 19, 2018)

This feature is used to indicate the correct level of code when IBM i is specified.

- Attributes provided: IBM i 7.1 indicator
- Attributes required: IBM i operating system
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 9999)
- OS level required:
 - AIX - not supported
 - IBM i 7.1.0 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0588) - PCI-X Expansion Unit in Rack

(No Longer Available as of June 1, 2006)

#0588 is the equivalent of a #5088 PCI-X Expansion Unit, but the #0588 is a rack mounted unit. An #0588 is eight EIA units high and has 14 PCI-X slots for PCI IOPs and IOAs. Disk units and removable media are not supported in the #0588. The #0588 cannot be converted to a #5088. A #5088 cannot be converted to a #0588.

PCI IOAs are supported by feature #3705/#2844 PCI IOPs. A #2844 may be used in a #0588.

The #0588 has two redundant 575W power supplies and two integrated PDU compatible line cords. Both line cords must be connected to the same PDU or to separate PDUs in a rack. When the line cords are connected to separate PDUs, and those PDUs are connected to two different power sources, the #0588 has dual line cord capability.

A bus adapter to provide the RIO-2 interface to the system is included.

Cables must be ordered to attach to the RIO-2 ports.

Select the appropriate cable(s) based on desired cable length.

- #3156 - 1.75m RIO-2 Cable
- #3168 - 2.5m RIO-2 Cable
- #3146 - 1m RIO-2 Cable
- #3147 - 3.5m RIO-2 Cable
- #3148 - 10m RIO-2 Cable
- #1485 - 15m RIO-2 Cable

For each I/O tower/unit select one of the following SPCN cables:

- #1466 - 30m SPCN Cable -supported only
- #6001 - 2m SPCN Cable - supported only
- #6006 - 3m SPCN Cable
- #6007 - 15m SPCN Cable
- #6008 - 6m SPCN Cable
- #6029 - 30m SPCN Cable
- Attributes provided: 14 PCI-X slots
- Attributes required: RIO-2 cables, SPCN cables
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0595) - PCI/SCSI Disk Expansion Drawer

Feature #0595 is a rack mounted Remote I/O drawer. The #0595 has seven PCI-X IOP/IOA slots and supports up to 12 SCSI disk units. #0595 uses five EIA units of space in a 19 inch rack.

- Attributes provided: 7 PCI slots and 12 disk positions
- Attributes required: RIO-2 interface
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0599) - Rack Filler Panel Kit

Provides rack filler panels for IBM 19-inch racks. The #0599 provides three 1-EIA -unit filler panels and one 3-EIA-unit filler panel. These are snap-on panels.

- Attributes provided: Snap on rack filler panels
- Attributes required: 19-inch rack
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0694) - #5094 Equivalent

A #0694 is used by the marketing configurator to keep track of which units within a #5294 are connected to this system.

For each #5294 ordered, the marketing configurator adds two #0694 specify codes. #0694s maybe added to, or deleted from, system inventory records, but at least one #0694 must exist for each #5294 on the inventory records. If an existing #5294 is to be shared between two systems, one #0694 must be removed from the system that the #5294 was ordered against, and one #0694 must be added to the other sharing system. The adds and deletes are done as record purpose only (RPO) changes.

- Attributes provided: None
- Attributes required: At least one #5294 or the sharing of a#5294/#8094(top unit) with another system.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0696) - #5096 Equivalent

#0696 is used by the marketing configurator to keep track of which units within a #5296 are connected to this system.

For each #5296 ordered, the marketing configurator will add two #0696 specify codes. #0696s maybe added to, or deleted from system inventory records, but at least one #0696 must exist for each #5296 on the inventory records. If an existing #5296 is to be shared between two systems, one #0696 must be removed from the system that the #5296 was ordered against, and one #0696 must be added to the other sharing system. These adds and deletes are done as record purpose only (RPO) changes.

- Attributes provided: None
- Attributes required: At least one #5296, or the sharing of a #5296 with another system
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0710) - Balanced Warehouse Solution Indicator

This feature specifies that the DS4000 EXP810 ordered will be a component of the Balanced Warehouse Solution. This feature will automatically be selected by the configurator when a Balanced Warehouse solution is configured. The solution will be integrated at the Customer Solution Center.

- Attributes provided: none
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0712) - Manufacturing Routing Code for CSC

A manufacturing routing code used to route orders to the Custom Solution Center for assembly .

- Attributes provided: Manufacturing Routing Code
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#0719) - Load Source Not in CEC

This specify feature indicates to the IBM Marketing configurator tools and IBM manufacturing that disk drives will not be placed in the system unit, but will be placed in I/O drawers or in external SAN attached disk.

- Attributes provided: System unit(s) are shipped with no disk units placed inside.
- Attributes required: Alternate load source specified
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: N/A
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0720) - Load Source in #0595

#0720 Specifies that i5/OS load source disk drive is placed in a #0595 I/O Expansion Unit.

- Attributes provided: External load source placement capability
- Attributes required: DASD Slot 1 open in #0595 drawer
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0721) - Load Source in #5094/5294

#0721 Specifies that i5/OS load source disk drive is placed in a #5094 or #5294 I/O Expansion Unit.

- Attributes provided: External load source placement capability
- Attributes required: DASD Slot 1 open in #5094/#5294 tower
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0722) - #1787 Load Source Specify

This specify code indicates that a #1787 Disk Unit is being used as the Load Source.

- Attributes provided: Load source specified
- Attributes required: #1787
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: N/A
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#0724) - #1996 Load Source Specify

(No Longer Available as of August 31, 2012)

This specify code indicates that a #1996 SSD is being used as the Load Source.

- Attributes provided: None
- Attributes required: #1996
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - IBM i 7.1 or later
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#0725) - Specify Load Source in #5786

#0725 Specifies that load source disk drive is placed in a #5786 Disk Enclosure.

- Attributes provided: External load source placement specify
- Attributes required: DASD Slot 1 open in #5786 Disk Enclosure
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 0)
- OS level required: N/A
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#0726) - Load Source 5802/3/77

#0726 Specifies that load source HDD is placed in a #5802/#5803 or SSD (#2055) placed in #5802/#5877 I/O expansion unit.

- Attributes provided: External load source placement capability
- Attributes required: Available SAS drive bay in #5802/#5803 or a SSD (#2055) in #5802/#5877 I/O expansion unit.
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#0727) - Specify #5886 Load Source placement

#0727 Specifies that Load/Source DASD are placed in an EXP 12S SAS DASD drawer.

- Attributes provided: External load source placement specify
- Attributes required: DASD Slot 1 open in drawer
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: N/A
- Initial Order/MES/Both/Supported: Both
- CSU: Yes

(#0728) - Specify #5887 Load Source placement

(No longer available as of December 31, 2020)

#0728 Specifies that Load/Source DASD are placed in an EXP24S SFF Gen2-bay Drawer.

- Attributes provided: External load source placement specify
- Attributes required: DASD Slot 1 open in drawer
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#0830) - #4319 Load Source Specify

This specify code indicates that a #4319 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0834) - #4326 Load Source Specify

This specify code indicates that a #4326 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#0835) - #4327 Load Source Specify

This specify code indicates that a #4327 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#0836) - #4328 Load Source Specify

This specify code indicates that a #4328 Disk Unit is being used as the Load Source.

- Attributes provided: Load source disk identify
- Attributes required: #4328 Disk
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#0837) - SAN Load Source Specify

Indicates that a SAN drive is being used as the Load Source for the operating system.

- Attributes provided: SAN load source placement specify
- Attributes required: Fibre Channel adapter or Fibre Channel over Ethernet Adapter
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: N/A
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0838) - #3676 Load Source Specify

Indicates that a #3676 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Attributes required: feature #3676
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#0839) - #3677 Load Source Specify

Indicates that a #3677 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Attributes required: feature #3677
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0840) - #3678 Load Source Specify

Indicates that a #3678 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Attributes required: feature #3678
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0841) - #4329 Load Source Specify

Indicates that a #4329 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#0844) - #3658 Load Source Specify

Indicates that a #3658 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Attributes required: feature #3658
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0851) - #1884 Load Source Specify

(No Longer Available as of April 29, 2011)

This specify code indicates that a #1884 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Attributes required: Feature #1884
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0853) - #1888 Load Source Specify

This specify code indicates that a #1888 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Attributes required: #1888
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0854) - #1909 Load Source Specify

(No Longer Available as of July 29, 2011)

This specify code indicates that a #1909 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Attributes required: Feature #1909
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0855) - #3587 Load Source Specify

(No Longer Available as of July 29, 2011)

- Attributes provided: None
- Attributes required: Feature #3587
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#0856) - #1911 Load Source Specify

- Attributes provided: None
- Attributes required: Feature #1911
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - IBM i 6.1 with machine code 6.1.1 or later.
 - No AIX support
 - No SuSE support
 - No Red Hat Enterprise Linux support
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0857) - #1916 Load Source Specify

The specify code indicates that a #1916 571GB SAS SFF disk drive is being used as the Load Source.

- Attributes required: #1916
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#0870) - #1879 Load Source Specify

This specify code indicates that a #1879 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Attributes required: Feature #1879
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - Refer to Software Requirements for specific levels of IBM i support.
 - IBM i - supported
 - AIX - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0871) - #1947 Load Source Specify

This specify code indicates that a #1947 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Attributes required: Feature #1947
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#0872) - #1948 Load Source Specify

This specify code indicates that a #1948 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Attributes required: Feature #1948
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - Refer to Software Requirements for specific levels of IBM i support.
 - IBM i - supported
 - AIX - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0874) - #1956 Load Source Specify

This specify code indicates that a #1956 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Attributes required: Feature #1956
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#0875) - #1962 Load Source Specify

This specify code indicates that a #1962 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Attributes required: Feature #1962
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#0876) - #1794 Load Source Specify

This specify code indicates that a #1794 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Attributes required: Feature #1794
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#0880) - #1738 Load Source Specify (856GB SFF-2 disk)

(No Longer Available as of January 20, 2017)

This specify code indicates that a #1738 Disk Unit is being used as the Load Source.

- Attributes provided: None
- Attributes required: Feature #1738
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#0893) - #ES0B Load Source Specify

This specify code indicates that a #ES0B Solid State Drive is being used as the Load Source.

- Attributes provided: Feature ES0B
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - Linux - not supported
 - IBM i 7.1, or later
 - IBM i 6.1 with 6.1.1 machine code, or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0894) - #ES0D Load Source Specify

This specify code indicates that a #ES0D Solid State Drive is being used as the Load Source.

- Attributes provided: Feature ES0D
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - Linux - not supported
 - IBM i 7.1, or later
 - IBM i 6.1 with 6.1.1 machine code, or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#0907) - #ESD0 Load Source Specify (1.1TB 10k SFF-1)

Indicates that a #ESD0 (1.1 TB 10k rpm SFF-1 disk drive) is being used as the Load Source.

- Attributes provided: None
- Attributes required: ESD0
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 0)
- OS level required:
 - IBM i 6.1 with machine code 6.1.1, or later
 - IBM i 7.1, or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#0911) - #ESD2 Load Source Specify (1.1TB 10k SFF-2)

Indicates that a #ESD2 (1.1 TB 10k rpm SFF-2 disk drive) is being used as the Load Source.

- Attributes provided: None
- Attributes required: ESD2
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 0)
- OS level required:
 - IBM i 6.1 with machine code 6.1.1, or later
 - IBM i 7.1, or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#0983) - US TAA Compliance Indicator

This feature indicates that the product was assembled in a manufacturing plant in the USA or in a country approved under the US Trade Agreement Act.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: N/A
- Return parts MES: No

(#1025) - Modem Cable - US/Canada and General Use

Modem cable, use with #2893, 6808 and 6833 or similar modem adapters. Maximum of two per adapter. Select this cable for use with your modem if there is not another cable feature that is identified as specific to your country.

- Minimum required: 0
- Maximum allowed: 480 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1104) - USB External Docking Station for Removable Disk Drive

(No Longer Available as of December 28, 2012)

USB external Docking Station accommodates a removable RDX disk drive/cartridge. The disks are in a protective rugged enclosure that plug into the docking station. Docking station holds one removable rugged disk cartridge at a time. The rugged removable disk cartridge and docking station backs up similar to tape drive. This can be an excellent alternative to DAT72, DAT160, 8mm, and VXA-2 and VXA-320 tapes.

Highlights

- USB 2.0
- RDX docking station
- Suitable for backup and restore as an alternative to using tape drives
- Attributes provided: USB External Docking Station, 3M USB cable, and 1.8M power cord. Universal Adapter 100-240 VAC, 50-60Hz input providing 15W DC output to the docking station.
- Attributes required: One USB port and at least one RDX disk cartridge such as #1106, #1107 or #EU01.
- Minimum required: 0
- Maximum allowed: 4 (Initial order maximum: 4)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: VIOS - Not Supported

(#1106) - USB 160 GB Removable Disk Drive

(No Longer Available as of October 5, 2012)

Provides an RDX disk drive in a rugged cartridge to be used in a #1103 or #1104 docking station. 160 GB is uncompressed. With typical 2X compression, capacity would be 320 GB. Compression/decompression is provided by the operating system, not the drive itself. Feature 1106 is not entitled under the IBM Maintenance Agreement, if one is purchased.

- Attributes provided: 160 GB RDX rugged disk/cartridge
- Attributes required: One #1103 or #1104
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required:
 - See RDX Docking Station
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1107) - USB 500 GB Removable Disk Drive

Provides an RDX disk drive in a rugged cartridge to be used in a #1103 or #1104 docking station. 500 GB is uncompressed. With typical 2X compression, capacity would be 1000 GB. Compression/decompression is provided by the operating system, not the drive itself. Feature 1107 is not entitled under the IBM Maintenance Agreement, if one is purchased.

- Attributes provided: 500 GB RDX rugged disk/cartridge
- Attributes required: One #1103 or #1104
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required:
 - See RDX Docking Station
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1111) - 3m, Blue Cat5e Cable

This 3m Cat5e cable is used with ports/transceivers that have RJ-45 connectors.

- Attributes provided: 3m Cat5e Ethernet Cable
- Attributes required: RJ45 ports/transceivers.
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#1112) - 10m, Blue Cat5e Cable

This 10m Cat5e cable is used with ports/transceivers that have RJ-45 connectors..

- Attributes provided: 10m Cat5e Ethernet Cable
- Attributes required: RJ45 ports/transceivers.
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#1113) - 25m, Blue Cat5e Cable

This 25m Cat5e cable is used with ports/transceivers that have RJ-45 connectors.

- Attributes provided: 25m Cat5e Ethernet Cable
- Attributes required: RJ45 ports/transceivers.
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#1115) - CAT5E Ethernet Cable, 3M GREEN

This feature code is used for an integrated solution offering and requires feature codes #1114, #0710, or #0712.

- Minimum required: 0
- Maximum allowed: No Maximum (Initial order maximum: 9999)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1116) - CAT5E Ethernet Cable, 10M GREEN

This feature code is used for an integrated solution offering and requires feature codes #1114, #0710, or #0712.

- Minimum required: 0
- Maximum allowed: No Maximum (Initial order maximum: 9999)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1119) - CAT5E Ethernet Cable, 10M YELLOW

This feature code is used for an integrated solution offering and requires feature codes #1114, #0710, or #0712.

- Minimum required: 0
- Maximum allowed: No Maximum (Initial order maximum: 9999)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1120) - Decline Electronic Service Agent Install Indicator

(No Longer Available as of August 31, 2012)

Electronic Service Agent is a basic component of the Power Systems server and is an important tool in maintaining the high availability expected from your IBM system and the service response time you expect from your IBM service team. You should select this feature only if you do not intend to have the IBM SSR install ESA at the time your system is being installed. Before selecting this feature please discuss this decision with your IBM Account Team or IBM Business Partner.

Electronic Service Agent installation by an IBM SSR is available to you for no additional charge during initial server installation only.

- Attributes provided: Documents Customers intention to not allow the IBM SSR to install Electronic Service Agent during system installation
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#1121) - CAT5E Ethernet Cable, 25M YELLOW

(No longer available as of April 19, 2019)

This feature code is used for an integrated solution offering and requires feature codes #1114, #0710, or #0712.

- Minimum required: 0
- Maximum allowed: No Maximum (Initial order maximum: 9999)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1140) - Custom Service Specify, Rochester Minn, USA

Having #1140 on the order, will cause the order to be routed to Rochester and the machine to be internally routed to the CSC build area in building 114 (Rochester).

- Attributes provided: Customization
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1311) - System Unique Identifier

After 255 scratch installs, the system ID counter wraps and a new system ID must be created. Feature #1311 can be ordered as an MES to regenerate a customer's system ID.

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#1406) - 200V 16A 4.3m (14-Ft) TL Line Cord

(No Longer Available as of December 1, 2007)

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1413) - 125V 4.3m (14-Ft) Line Cord

(No Longer Available as of April 15, 2005)

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1414) - 200V 1.8m (6-Ft) Locking Line Cord

(No Longer Available as of December 1, 2007)

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1415) - 200V 1.8m (6-Ft) Watertight Line Cord

(No Longer Available as of December 1, 2007)

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1416) - 200V 4.3m (14-Ft) Locking Line Cord

(No Longer Available as of January 15, 2003)

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1417) - 200V 4.3m (14-Ft) Watertight Line Cord

(No Longer Available as of January 15, 2003)

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1418) - 4.3m 200V/16A Power Cord S. Africa

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1419) - 4.3m 200V/16A Power Cord Israel

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1420) - 4.3m 200V/16A Power Cord EU/Asia

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1421) - 4.3m 200V/16A Power Cord CH/DK

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1424) - 200V 1.8m (6-Ft) Locking Line Cord

(No Longer Available as of December 15, 2002).

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1425) - 200V 1.8m (6-Ft) Watertight Line Cord

(No Longer Available as of December 15, 2002).

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1426) - 200V 4.3m (14-Ft) Locking Line Cord

(No Longer Available as of January 15, 2005)

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1427) - 200V 4.3m (14-Ft) Watertight Line Cord

(No Longer Available as of January 15, 2005)

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1439) - 4.3m 200V/10A Power Cord EU/Asia

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1440) - 4.3m 200V/10A Power Cord Denmark

(No Longer Available as of December 1, 2007)

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1441) - 4.3m 200V/10A Power Cord S. Africa

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1442) - 4.3m 200V/10A Power Cord Swiss

(No Longer Available as of December 1, 2007)

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1443) - 4.3m 200V/10A Power Cord UK

(No Longer Available as of December 1, 2007)

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1445) - 4.3m 200V/10A Power Cord Israel

(No Longer Available as of December 1, 2007)

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1449) - 4.3m 200V/32A Power Cord EU 1-PH

(No Longer Available as of January 15, 2005)

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1450) - 4.3m 200V/16A Power Cord EU 2-PH

(No Longer Available as of October 15, 2004)

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1451) - 200V (6-Ft) 1.8m Line Cord

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1452) - 200V (14-Ft) 4.3m Line Cord

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1453) - 200V (6-Ft) 1.8m Locking Line Cord

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1454) - 200V 12A (14-Ft) 4.3m TL Line Cord

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1455) - 200V (6-Ft) 1.8m Watertight Line Cord

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1456) - 200V (14-Ft) 4.3m Watertight Line Cord

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1457) - 200V (6-Ft) 1.8m Upper Line Cord

(No Longer Available as of December 1, 2007)

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1458) - 200V (6-Ft) 1.8m Upper Locking Cord

(No Longer Available as of December 1, 2007)

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1459) - 200V (6-Ft) 1.8m Upper Locking Cord

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1460) - 3m Copper RIO Cable

This feature provides a 3m RIO cable for use in connecting a tower/CEC unit with a RIO port to a tower/CEC unit with a RIO port.

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#1461) - 6m Copper RIO Cable

This feature provides a 6m RIO cable for use in connecting a tower/CEC unit with a RIO port to a tower/CEC unit with a RIO port.

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#1462) - 15m RIO Cable

This feature provides a 15m RIO cable for use in connecting a tower/CEC unit with an RIO port to a tower/CEC unit with an RIO port.

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#1466) - 30m SPCN Cable

This feature provides a 30m SPCN cable for use in daisy chain connecting a tower/CEC unit to a tower unit as part of the System Power Control Network.

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 74 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1474) - 6m RIO to RIO-2 Cable

This feature provides a 6m RIO to RIO-2 Cable for use in connecting a tower/CEC unit with an RIO port to a tower/CEC unit with an RIO-2 port.

- Attributes provided: One RIO to RIO-2 cable
- Attributes required: One RIO port and one RIO-2 port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#1475) - 10m RIO to RIO-2 Cable

This feature provides a 10m RIO to RIO-2 Cable for use in connecting a tower/CEC unit with an RIO port to a tower/CEC unit with an RIO-2 port.

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#1476) - 4.3m 200V/12A Pwr Cd UK

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1477) - 4.3m 200V/16A Pwr Cd

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1485) - Remote I/O Cable, 15M

This 15-meter RIO-2 cable is available to connect the processor complex and the I/O drawers. It can also be utilized to connect I/O drawers mounted in separate racks.

- Attributes provided: Interconnection of CEC and I/O drawers
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#1487) - 3m RIO to RIO-2 Cable

A 3m RIO to RIO-2 Cable to connect a tower/CEC unit with a RIO port to a tower/CEC unit with an RIO-2 port.

- Attributes provided: One RIO to RIO-2 cable
- Attributes required: One RIO port and one RIO-2 port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#1700) - IPCS Keyboard/Mouse for NT

This feature provides a keyboard and mouse for use on the IXS which is required for running the Windows operating system. Note some IXS can support USB keyboards, the keyboard provided with this feature is a standard attached keyboard, not a USB attached keyboard.

- Attributes provided: Keyboard/Mouse for IXS-standard attach
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#1738) - 856GB 10k RPM SAS SFF-2 Disk Drive (IBM i)

(No Longer Available as of January 20, 2017)

856GB SFF 10k rpm SAS drive in gen 2 SFF carrier. Supported in SFF SAS bays such as provided in #5887 EXP24S Gen2 I/O drawer. Disk is formatted for 528 byte sectors.

The drive can be reformatted to 512 byte sectors and used by AIX/ Linux/VIOS

Limitation: can not be used in #5802/5803 I/O drawers or in CEC bays due to physical difference in Gen1 and Gen2 carriers.

- Attributes provided: 856GB of Disk Storage mounted in a Gen2 carrier
- Attributes required: one SFF SAS disk drive bay
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 250)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels.
 - AIX - no supported
 - IBM i 7.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1752) - 900GB 10k RPM SAS SFF-2 Disk Drive (AIX/Linux)

900GB SFF 10k rpm SAS drive in Gen-2 carrier. Supported in SFF SAS bays such as provided in #5887 EXP24S Gen2 I/O drawer. Disk is formatted for 512 byte

The drive can be reformatted to 528 byte sectors and then used by IBM i/AIX/Linux/VIOS

Limitation: can not be used in #5802/5803 I/O drawers or in CEC SFF bays due to physical difference in Gen1 and Gen2 carriers.

- Attributes provided: 900GB of Disk Storage mounted in a Gen2 carrier
- Attributes required: one SFF (SFF-2) SAS GEN2 drive bay
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 250)
- OS level required:
 - AIX - supported
 - IBM i - not supported
 - SUSE Linux Enterprise Server 11 Service Pack 1, or later, with current maintenance updates available from SUSE to enable all planned functionality
 - SUSE Linux Enterprise Server 10 Service Pack 4, or later, with current maintenance updates available from SUSE to enable all planned functionality
 - Red Hat Enterprise Linux 6.1 for POWER, or later
 - Red Hat Enterprise Linux 5.7 for POWER, or later

Users should also update their systems with the latest Linux for Power service and productivity tools available at:

http://www.ibm.com/support/customer/sas/f/lopdiag_s/home.html

- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: VIOS support requires VIOS 2.2.1.0, or later.

(#1775) - 177GB SFF-1 SSD w/ eMLC (AIX/Linux)

(No Longer Available as of August 23, 2013)

The 177GB SFF SAS Solid State Drive (SSD) provides 177 GB of very high performance storage, much faster than spinning disk drives with their delays due to positioning the disk arm and waiting for the spinning disk to rotate under the arm.

The drive is formatted to 528 byte sectors providing 177 GB and can be used by AIX, Linux (#1775) and IBM i (#1787). #1775 and #1787 are identical drives, but have different feature codes to help the IBM configuration tools understand how the SSD is used. The drive is supported in SFF SAS bays in the #5802/#5803 I/O drawers or system unit SAS bays. CCIN is 58B3.

Limitation: can not be used in #5887 EXP24S Gen2 I/O drawer due to physical difference in Gen1 and Gen2 carriers.

- Attributes provided: 177GB SFF-1 SSD w/ eMLC (AIX/Linux)
- Attributes required: One SFF-1 SAS bay
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 312)
- OS level required:
 - AIX Version 7.1 with Service Pack 3, or later
 - AIX Version 6.1 with the 6100-06 Technology Level and Service Pack 5, or later
 - AIX Version 6.1 with the 6100-05 Technology Level and Service Pack 6, or later
 - AIX Version 6.1 with the 6100-04 Technology Level and Service Pack 10, or later
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 4, or later
 - AIX Version 5.3 with the 5300-11 Technology Level and Service Pack 7, or later
 - IBM i - not supported (see VIOS)
 - SUSE Linux Enterprise 10 Service Pack 3, or later
 - SUSE Linux Enterprise 11 Service Pack 1, or later
 - Red Hat Enterprise Linux 5.6 for POWER, or later
 - Red Hat Enterprise Linux 6 for POWER, or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: VIOS support requires VIOS 2.2.0.12-FP24 SP02, or later

(#1787) - 177GB SFF-1 SSD w/ eMLC (IBM i)

(No Longer Available as of August 23, 2013)

The 177GB SFF SAS Solid State Drive (SSD) provides 177 GB of very high performance storage, much faster than spinning disk drives with their delays due to positioning the disk arm and waiting for the spinning disk to rotate under the arm.

The drive is formatted to 528 byte sectors providing 177 GB and can be used by AIX, Linux (#1775) and IBM i (#1787). #1775 and #1787 are identical drives, but have different feature codes to help the IBM configuration tools understand how the SSD is used. The drive is supported in SFF SAS bays in the #5802/#5803 I/O drawers or system unit SAS bays. CCIN is 58B3.

Limitation: can not be used in #5887 EXP24S Gen2 I/O drawer due to physical difference in Gen1 and Gen2 carriers.

- Attributes provided: 177GB SFF-1 SSD w/ eMLC (IBM i)
- Attributes required: One SFF-1 SAS bay
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 312)
- OS level required:
 - AIX - not supported
 - IBM i 6.1 with machine code 6.1.1, or later
 - IBM i 7.1 or later
 - SUSE - not supported
 - Red Hat Enterprise Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1790) - 600GB 10K RPM SAS SFF Disk Drive (AIX/Linux)

(No Longer Available as of August 31, 2017)

600GB SFF 10k rpm SAS drive in gen-1 SFF carrier. Supported in SFF SAS bays such as provided in most POWER7 system units or the #5802/5803 I/O drawers. Disk is formatted for 512 byte sectors.

Limitation: can not be used in #5887 EXP24S Gen2 I/O drawer due to physical difference in Gen1 and Gen2 carriers.

- Attributes provided: 600GB of disk storage mounted in a Gen-1 carrier.
- Attributes required: One SFF SAS disk drive bay slot
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 312)
- OS level required:
 - AIX 5.3 with the 5300-11 Technology Level, or later
 - AIX 5.3 with the 5300-10 Technology Level and Service Pack 2, or later
 - AIX 5.3 with the 5300-09 Technology Level and Service Pack 5, or later
 - AIX 5.3 with the 5300-08 Technology Level and Service Pack 8, or later
 - AIX 6.1 with the 6100-04 Technology Level, or later
 - AIX 6.1 with the 6100-03 Technology Level and Service Pack 3, or later
 - AIX 6.1 with the 6100-02 Technology Level and Service Pack 6, or later
 - AIX 6.1 with the 6100-01 Technology Level and Service Pack 7, or later
 - IBM i - not supported (see VIOS)
 - SUSE Linux Enterprise 10 Service Pack 3, or later
 - SUSE Linux Enterprise 11 Service Pack 1, or later
 - Red Hat Enterprise Linux 5.6 for POWER, or later
 - Red Hat Enterprise Linux 6 for POWER, or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: VIOS support requires VIOS 2.2.0.12-FP24 SP02 or later

(#1793) - 177GB SFF-2 SSD w/ eMLC (AIX/Linux)

(No Longer Available as of August 23, 2013)

The 177GB SFF SAS Solid State Drive (SSD) provides 177 GB of very high performance storage, much faster than spinning disk drives with their delays due to positioning the disk arm and waiting for the spinning disk to rotate under the arm.

The drive is formatted to 528 byte sectors providing 177 GB and can be used by AIX, Linux (#1793) and IBM i (#1794). #1793 and #1794 are identical drives, but have different feature codes to help the IBM configuration tools understand how the SSD is used. The drive is supported in SFF-2 or gen2 SAS bays such as provided in the #5887 EXP24S I/O drawer. CCIN is 58B4.

Limitation: can not be used in Gen1 Bays such as the #5802/5803 12X PCIe I/O drawer due to physical difference in Gen1 and Gen2 carriers.

- Attributes provided: 177 GB of formatted drive storage mounted in a SFF Gen2 carrier
- Attributes required: One Gen2 SFF SAS drive bay
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 250)
- OS level required:
 - AIX Version 7.1 with Service Pack 3, or later
 - AIX Version 6.1 with the 6100-06 Technology Level and Service Pack 5, or later
 - AIX Version 6.1 with the 6100-05 Technology Level and Service Pack 6, or later
 - AIX Version 6.1 with the 6100-04 Technology Level and Service Pack 10, or later
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 4, or later
 - AIX Version 5.3 with the 5300-11 Technology Level and Service Pack 7, or later
 - IBM i - not supported (see VIOS)
 - SUSE Linux Enterprise 10 Service Pack 3, or later
 - SUSE Linux Enterprise 11 Service Pack 1, or later
 - Red Hat Enterprise Linux 5.6 for POWER, or later
 - Red Hat Enterprise Linux 6 for POWER, or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: VIOS support requires VIOS 2.2.0.12-FP24 SP02, or later

(#1794) - 177GB SFF-2 SSD w/ eMLC (IBM i)

(No Longer Available as of August 23, 2013)

The 177GB SFF SAS Solid State Drive (SSD) provides 177 GB of very high performance storage, much faster than spinning disk drives with their delays due to positioning the disk arm and waiting for the spinning disk to rotate under the arm.

The drive is formatted to 528 byte sectors providing 177 GB and can be used by AIX, Linux (#1793) and IBM i (#1794). #1793 and #1794 are identical drives, but have different feature codes to help the IBM configuration tools understand how the SSD is used. The drive is supported in SFF-2 or gen2 SAS bays such as provided in the #5887 EXP24S I/O drawer. CCIN is 58B4.

Limitation: can not be used in Gen1 Bays such as the #5802/5803 12X PCIe I/O drawer due to physical difference in Gen1 and Gen2 carriers.

- Attributes provided: 177 GB of formatted drive storage mounted in a SFF Gen2 carrier
- Attributes required: One Gen2 SFF SAS drive bay
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 250)
- OS level required:
 - AIX - not supported
 - IBM i 6.1 with machine code 6.1.1, or later
 - IBM i 7.1, or later
 - SUSE - not supported
 - Red Hat Enterprise Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: VIOS support requires VIOS 2.2.0.12-FP24 SP02, or later

(#1800) - GX Dual Port- RIO-2 Attach

This feature provides two RIO-2 remote I/O ports for attaching supported or available RIO-2 interface I/O drawers to the system in a single loop.

- Attributes provided: Two RIO-2 remote I/O ports
- Attributes required: available GX slot
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#1802) - GX Dual Port- 12X Channel Attach

GX Dual-port -12X Channel Adapter, provides two 12X connections for 12X Channel applications. This adapter allows the attachment of I/O Drawers designed for the 12X Channel. The adapter plugs into a GX bus slot in a system enclosure. The 12X Channel is connected in a loop and uses both connectors on the adapter. Up to four I/O Drawers can be attached in a single loop. This adapter must be used with the 12X cables.

Connection to supported InfiniBand switches is accomplished by using the 12x to 4x Channel Conversion Cables, #1828, #1841 or #1842.

- Attributes provided: Two 12X Channel remote I/O ports
- Attributes required: available GX slot
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A

(#1803) - Integrated, 4 Port- 1Gb Virtual Ethernet, I/O ports

(No Longer Available as of April 25, 2014)

Integrated Virtual Ethernet (IVE) or Host Ethernet Adapter (HEA) provides Ethernet connectors for a processor enclosure and does not require a PCI slot. The #1803 provides four Ethernet connections: 4 x 1Gb (RJ-45). It can be virtualized into the system LPARs. All of the connectors are on the rear bulkhead of the processor enclosure. Only one HEA card can be placed in an individual processor enclosure, and one HEA adapter is required in each processor enclosure. On a multi-enclosure system, the HEA features can differ. The RJ-45 ports support up to 100m cabling distance.

- Attributes provided: HEA Integrated I/O Connections
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 4 (Initial order maximum: 4)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: Maximum of one per CEC enclosure.
Note: Not available in Haiti.

(#1804) - Integrated, 4 Port (2X1Gb and 2X10Gb SFP+ Optical-SR Ports)

(No Longer Available as of April 25, 2014)

Integrated Virtual Ethernet (IVE) or Host Ethernet Adapter (HEA) provides Ethernet connectors for a processor enclosure and does not require a PCI slot. The #1804 provides four Ethernet connections: 2 x 1Gb (RJ-45) and 2 x 10 Gb (Small Form-factor Pluggable + (SFP+) SR optical). It can be virtualized into the system LPARs. All of the connectors are on the rear bulkhead of the processor enclosure. Only one HEA card can be placed in an individual processor enclosure, and one HEA adapter is required in each processor enclosure. On a multi-enclosure system, the HEA features can differ. The RJ-45 ports support up to 100m cabling distance. The optical ports only support the 850 Nm optic cable (multi mode cable) and support up to 300m cabling distances.

- Attributes provided: HEA Integrated I/O Connections
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 4 (Initial order maximum: 4)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: Maximum of one per CEC enclosure. Not available in Haiti.

(#1808) - GX++ 12X DDR Adapter, Dual-port

(No Longer Available as of August 31, 2017)

The #1808, GX++ 12X DDR Adapter, enables the attachment of a 12X loop which runs at either SDR or DDR speed depending upon the 12X I/ O drawers attached. This adapter plugs into the system backplane (GX++ slot). There are two GX++ slots in each CEC enclosure. By attaching a 12X to 4X converter cable, an IB switch can be attached to an InfiniBand (tm) or IB (tm) switch.

- Attributes required: Available GX++ slot position
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: No
- Return parts MES: No

(#1813) Integrated, 4 Port (2x1Gb and 2x10Gb SFP+ Copper twinax ports)

(No Longer Available as of April 25, 2014)

Integrated Virtual Ethernet (IVE) or Host Ethernet Adapter (HEA) provides Ethernet connectors for a processor enclosure and does not require a PCI slot. The #1813 provides four Ethernet connections: 2 x 1Gb (RJ-45) and 2 x 10 Gb (Small Form-factor Pluggable + (SFP+) active copper twinax). It can be virtualized into the system LPARs. All of the connectors are on the rear bulkhead of the processor enclosure. Only one HEA card can be placed in an individual processor enclosure, and one HEA adapter is required in each processor enclosure. On a multi-enclosure system, the HEA features can differ. The copper twinax ports support up to 5m cabling distances. The RJ-45 ports support up to 100m cabling distance.

- Attributes provided: HEA Integrated I/O Connections
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 4 (Initial order maximum: 4)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
 Note: Maximum of one per CEC enclosure.
 Note: Not available in Haiti.

(#1815) - SAS Cable for triple split DASD backplane

(No longer available as of April 19, 2019)

In the triple split DASD backplane environment the internal SAS DASD are split into three 2-disk arrays. The SAS cable (#1815), an external SAS adapter (#5901), and a SAS cable (#3679) are required per CEC enclosure.

- Attributes provided: SAS Cable
- Attributes required: an external SAS adapter and a SAS cable (#3679)
- Minimum required: 0
- Maximum allowed: 4 (Initial order maximum: 4)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
 Note: #1815 and #5662 cannot be installed in the same drawer.

(#1817) - Quantity 150 of #1962

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #1962 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #1962
- Attributes required: see feature #1962
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - AIX - not supported
 - IBM i 7.1, or later
 - IBM i 6.1, with 6.1.1 machine code, or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1818) - Quantity 150 of #1964

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #1964 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #1964
- Attributes required: see feature #1964
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - AIX 5.3 with the 5300-11 Technology Level, or later
 - AIX 5.3 with the 5300-10 Technology Level and Service Pack 2, or later
 - AIX 5.3 with the 5300-09 Technology Level and Service Pack 5, or later
 - AIX 5.3 with the 5300-08 Technology Level and Service Pack 8, or later
 - AIX 6.1 with the 6100-04 Technology Level, or later
 - AIX 6.1 with the 6100-03 Technology Level and Service Pack 3, or later
 - AIX 6.1 with the 6100-02 Technology Level and Service Pack 6, or later
 - AIX 6.1 with the 6100-01 Technology Level and Service Pack 7, or later
 - IBM i - not supported (see VIOS)
 - SUSE Linux Enterprise Server 10 Service Pack 1 or later
 - SUSE Linux Enterprise Server 11 or later
 - Red Hat Enterprise Linux 4.6 or later
 - Red Hat Enterprise Linux 5.1 or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: VIOS support requires VIOS 2.2.0.12-FP24 SP02, or later

(#1819) - SAS Cable Assembly for SAS Port

(No longer available as of April 19, 2019)

The SAS Cable Assembly (#1819) is required to connect the imbedded SAS controllers in the system unit to the SAS port on the rear of the system unit. The cable assembly enables the SAS port to support a SAS drive drawer (#5886 EXP12S) to be attached. The SAS Cable Assembly does not use a PCI slot and its cabling is not visible outside of the system unit. A 175MB Cache RAID - Dual IOA Enablement Card (#5662) is a prerequisite. A separate cable attaching the disk drawer to the SAS port is also required.

- Attributes provided: SAS Cable assembly
- Attributes required: A RAID battery card (#5662), an external drive drawer (#5886 or #5887), and drawer cabling
- Minimum required: 0
- Maximum allowed: 4 (Initial order maximum: 4)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: MES during model conversion only. When ordering #1819, you must also order #5662. This applies to MES orders of #1819 unless #5662 is already present in the system. Feature #1819 must not be installed in a drawer unless #5662 is also installed.

(#1827) - System port/UPS Conversion Cable

This cable has 9 pin D-shell receptacle connectors on both ends. Its purpose is to convert an integrated system (serial) port to a UPS attach port. This cable is 0.14m (5.5 inches) long.

- Attributes provided: System (serial) port conversion for UPS attachment
- Attributes required: Integrated CEC system (serial) port.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#1828) - 1.5 Meter 12X to 4X Channel Conversion Cable

(No longer available as of April 19, 2019)

This cable is a 12X channel to 4X channel converter. It supports attaching a 4X Infiniband switch to a 12X channel adapter. It is a 1.5 meter long copper cable. This cable has one 4X channel connector and one 12X channel connector.

- Attributes provided: 12X channel to 4X channel conversion cable
- Attributes required: 12X channel adapter
- Minimum required: 0
- Maximum allowed: 16 (Initial order maximum: 16)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1829) - 0.6 Meter 12X Cable

When used with a 19-inch rack mount I/O drawer, this 0.6 Meter cable is used in a 12X channel external I/O Drawer attachment loop between two 12X channel I/O drawers in the same loop.

When used with a 24-inch rack mount I/O drawer, this 0.6 Meter cable is used as a jumper between the two halves of the I/O Drawer when both halves are included in the same 12X loop.

- Attributes provided: 0.6 Meter 12X cable
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 24 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No
Note: Substitute appropriate cable length SDR/DDR feature 1861, 1862, 1864, or 1865 after October 30, 2009)

(#1830) - 1.5 Meter 12X cable

This 1.5 Meter cable is used to attach a 12X channel I/O Drawer to a 12X channel adapter in the Host system or can be used between two I/O drawers in a 12X channel loop.

Select the 12X cable length, from those offered that best meets your cabling needs. This cable can be attached to I/O Drawer adapters with or without repeaters.

- Attributes provided: 1.5 Meter 12X cable
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 24 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No
Note: Substitute appropriate cable length SDR/DDR feature 1861, 1862, 1864, or 1865 after October 30, 2009)

(#1834) - 8.0 Meter 12X Cable

This 8 Meter cable is used to attach a 12X channel I/O Drawer to a 12X channel adapter in the Host system or can be used between two I/O drawers in a 12X channel loop.

Select the 12X cable length from those offered that best meets your cabling needs and the cable length restrictions for your application.

- Attributes provided: 8.0 Meter 12X Cable
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 40 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No
Note: Substitute appropriate cable length SDR/DDR feature 1861, 1862, 1864, or 1865 after October 30, 2009)

(#1840) - 3.0 Meter 12X Cable

This 3 Meter cable is used to attach a 12X channel I/O Drawer to a 12X channel adapter in the Host system or can be used between two I/O drawers in a 12X channel loop.

Select the 12X cable length, from those offered that best meets your cabling needs.

- Attributes provided: 3.0 Meter 12x Cable
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 40 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No
Note: Substitute appropriate cable length SDR/DDR feature 1861, 1862, 1864, or 1865 after October 30, 2009)

(#1841) - 3 Meter 12X to 4X Channel Conversion Cable

(No longer available as of April 19, 2019) This cable is a 12X channel to 4X channel converter. It supports attaching a 4X Infiniband switch to a 12X channel adapter. It is a 3 meter long copper cable. This cable has one 4X channel connector and one 12X channel connector.

- Attributes provided: 12X channel to 4X channel conversion cable
- Attributes required: 12X channel adapter
- Minimum required: 0
- Maximum allowed: 16 (Initial order maximum: 16)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1842) - 10 Meter 12X to 4X Channel Conversion Cable

This cable is a 12X channel to 4X channel converter. It supports attaching a 4X Infiniband switch to a 12X channel adapter. It is a 10 meter long copper cable. This cable has one 4X channel connector and one 12X channel connector.

- Attributes provided: 12X channel to 4X channel conversion cable
- Attributes required: 12X channel adapter
- Minimum required: 0
- Maximum allowed: 16 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No
Note: 4 max. in each CEC enclosure

(#1844) - Quantity 150 of #1956

(No Longer Available as of July 8, 2016)

This feature ships a quantity of 150 #1956 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #1956
- Attributes required: see feature #1956
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - AIX - not supported
 - IBM i 7.1, or later
 - IBM i 6.1, with 6.1.1 machine code, or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1845) - Operator Panel

The system Operator Panel is used one per system for both single CEC enclosure and multi CEC enclosure configurations.

- Attributes provided: Operator Panel
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#1846) - Operator Panel

This feature provides an operator panel that controls single-drawer or multi-drawer systems.

- Attributes provided: Operator panel
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#1853) - Operator Panel

The system Operator Panel is used one per system for both single CEC enclosure and multi CEC enclosure configurations.

- Attributes provided: Operator Panel
- Attributes required: None
- Minimum required: 1
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1854) - 10 Meter 12X to 4X Enhanced Channel Conversion Cable

(No longer available as of April 19, 2019)

This cable is an enhanced 12X channel to 4X channel converter. It supports attaching a 4X Infiniband switch to a 12X channel adapter. It is a 10 meter long copper cable. This cable has one 4X channel connector and one 12X channel connector.

- Attributes provided: 12X channel to 4X channel conversion cable
- Attributes required: 12X channel adapter
- Minimum required: 0
- Maximum allowed: 16 (Initial order maximum: 16)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1861) - 0.6 Meter 12X DDR Cable

(No longer available as of April 19, 2019)

When used with a 24-inch rack mount I/O drawer, this 0.6 Meter DDR cable is used as a jumper between the two halves of the I/O Drawer when both halves are included in the same 12X loop.

- Attributes provided: 0.6 Meter 12X DDR cable
 - Attributes required: none
 - Minimum required: 0
 - Maximum allowed: 999 (Initial order maximum: 250)
 - OS level required: n/a
 - Initial Order/MES/Both/Supported: Both
 - CSU: Yes
 - Return parts MES: No
- Note: Use with #5796, Do not use for looping #5802

(#1862) - 1.5 Meter 12X DDR Cable

(No longer available as of April 19, 2019)

This 1.5 Meter DDR cable is used to attach a 12X channel I/O Drawer to a 12X channel adapter in the Host system or can be used between two I/O drawers in a 12X channel loop.

- Attributes provided: 1.5 Meter 12X DDR cable
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1864) - 8.0 Meter 12X DDR Cable

(No longer available as of April 19, 2019)

This 8 Meter DDR cable is used to attach a 12X channel I/O Drawer to a 12X channel adapter in the Host system or can be used between two I/O drawers in a 12X channel loop.

- Attributes provided: 8 Meter 12X DDR Cable
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1865) - 3.0 Meter 12X DDR Cable

This 3 Meter DDR cable is used to attach a 12X channel I/O Drawer to a 12X channel adapter in the Host system or can be used between two I/O drawers in a 12X channel loop.

Select the 12X DDR cable length from those offered that best meets your cabling needs and the cable length restrictions for your application.

- Attributes provided: 3 Meter 12X DDR Cable
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1866) - Quantity 150 of #1917

(No Longer Available as of July 8, 2016)

This feature ships a quantity of 150 #1917 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #1917
- Attributes required: see feature #1917
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - AIX 5.3 with the 5300-11 Technology Level, or later
 - AIX 5.3 with the 5300-10 Technology Level and Service Pack 2, or later
 - AIX 5.3 with the 5300-09 Technology Level and Service Pack 5, or later
 - AIX 5.3 with the 5300-08 Technology Level and Service Pack 8, or later
 - AIX 6.1 with the 6100-04 Technology Level, or later
 - AIX 6.1 with the 6100-03 Technology Level and Service Pack 3, or later
 - AIX 6.1 with the 6100-02 Technology Level and Service Pack 6, or later
 - AIX 6.1 with the 6100-01 Technology Level and Service Pack 7, or later
 - IBM i - not supported (see VIOS)
 - SUSE Linux Enterprise Server 10 Service Pack 1 or later
 - SUSE Linux Enterprise Server 11 or later
 - Red Hat Enterprise Linux 4.6 or later
 - Red Hat Enterprise Linux 5.1 or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: VIOS 2.2, or later

(#1868) - Quantity 150 of #1947

(No Longer Available as of July 8, 2016)

This feature ships a quantity of 150 #1947 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #1947
- Attributes required: see feature #1947
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - AIX - not supported
 - IBM i 6.1 with Machine Code 6.1.1
 - IBM i 7.1 or later
 - Linux not - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1869) - Quantity 150 of #1925

(No Longer Available as of July 8, 2016)

This feature ships a quantity of 150 #1925 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #1925
- Attributes required: see feature #1925
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - AIX 5.3 with the 5300-11 Technology Level, or later
 - AIX 5.3 with the 5300-10 Technology Level and Service Pack 2, or later
 - AIX 5.3 with the 5300-09 Technology Level and Service Pack 5, or later
 - AIX 5.3 with the 5300-08 Technology Level and Service Pack 8, or later
 - AIX 6.1 with the 6100-04 Technology Level, or later
 - AIX 6.1 with the 6100-03 Technology Level and Service Pack 3, or later
 - AIX 6.1 with the 6100-02 Technology Level and Service Pack 6, or later
 - AIX 6.1 with the 6100-01 Technology Level and Service Pack 7, or later
 - IBM i - not supported (see VIOS)
 - SUSE Linux Enterprise 10 Service Pack 3, or later
 - SUSE Linux Enterprise 11 Service Pack 1, or later
 - Red Hat Enterprise Linux 5.6 for POWER, or later
 - Red Hat Enterprise Linux 6 for POWER, or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: VIOS support requires VIOS 2.2.0.12-FP24 SP02, or later

(#1879) - 283GB 15K RPM SAS SFF Disk Drive (IBM i)

(No Longer Available as of August 31, 2017)

283 GB SFF 15k RPM SAS disk drive mounted in a Gen-1 carrier and supported in SFF SAS bay such as provided in the #5802/5803 I/O drawer or POWER7 system unit. Disk is formatted for 528 sectors as shipped from IBM Manufacturing. CCIN is 19A1.

Limitations: physical difference in Gen1 and Gen2 carriers prevent usage in SFF-2 bays such as used in the #5887 EXP24S I/O drawer.

- Attributes provided: 283GB of SFF (2.5-inch) SAS disk storage mounted in Gen-1 carrier.
- Attributes required: one SFF-1 drive bay
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 250)
- OS level required:
 - Refer to Software Requirements for specific levels of IBM i support.
 - IBM i - supported
 - AIX - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1880) - 300GB 15K RPM SAS SFF Disk Drive (AIX/Linux)

(No Longer Available as of August 31, 2017)

300 GB SFF 15k RPM SAS disk drive mounted in a Gen-1 carrier and supported in SFF SAS bay such as used in the #5802/5803 I/O drawer or POWER7 system unit. Disk is formatted for 512 sectors as shipped from IBM Manufacturing. CCIN is 19A1.

Limitations: physical difference in Gen1 and Gen2 carriers prevent usage in SFF-2 bays such as used in the #5887 EXP24S I/O drawer.

- Attributes provided: 300GB of SFF (2.5-inch) SAS disk storage mounted in Gen-1 carrier.
- Attributes required: one SFF-1 drive bay
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 250)
- OS level required:
 - Refer to Software Requirements for specific levels of O/S support.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1882) - 146.8GB 10K RPM SAS SFF Disk Drive

(No Longer Available as of November 26, 2010)

146.8GB SFF SAS disk, in a carrier capable of providing Hot Swap support. Provides 146.8GB of storage capacity. Supports the industry standard SAS interface. Can be used only in a system designed to support the SAS SFF disk drive in a carrier.

Characteristics:

- Form Factor: SSF SAS compliant (2.5" x 15mm form factor)
- Cable included: None
- External Interface: standard SAS Dual Port
- Rotational Speed: 10,000 RPM
- Interface Speed: 3Gbs (300 MBs)
- Format: 512 Bytes/sector default, 528 Bytes/sector possible with reformat.
- Attributes provided: 146.8GB of Disk Storage mounted in a carrier
- Attributes required: one SFF SAS disk drive bay slot
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 250)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1883) - 73.4 GB 15K RPM SAS SFF Disk Drive

(No Longer Available as of April 29, 2011)

73.4 GB SFF SAS disk, in a carrier capable of providing Hot Swap support. Provides 73.4 GB of storage capacity. Supports the industry standard SAS interface. Can be used only in a system designed to support the SAS SFF disk drive in a carrier.

Characteristics:

- Form Factor: SFF SAS compliant (2.5" x 15mm form factor)
- Cable included: None
- External Interface: standard SAS Dual Port
- Rotational Speed: 15,000 RPM
- Interface Speed: 3Gbs (300 MBs)
- Format: 512 Bytes/sector
- Attributes provided: 73.4 GB of disk storage mounted in a carrier.
- Attributes required: One SFF SAS disk drive bay slot
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 250)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1884) - 69.7 GB 15K RPM SAS SFF Disk Drive

(No Longer Available as of April 29, 2011)

69.7 GB SFF SAS disk, in a carrier capable of providing Hot Swap support. Provides 69.7 GB of storage capacity. Supports the industry standard SAS interface. Can be used only in a system designed to support the SAS SFF disk drive in a carrier.

Characteristics:

- Form Factor: SFF SAS compliant (2.5" x 15mm form factor)
- Cable included: None
- External Interface: standard SAS Dual Port
- Rotational Speed: 15,000 RPM
- Interface Speed: 3Gbs (300 MBs)
- Format: 528 Bytes/sector
- Attributes provided: 69.7 GB of disk storage mounted in a carrier.
- Attributes required: One SFF SAS disk drive bay slot
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 250)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1885) 300GB 10K RPM SFF SAS Disk Drive (AIX/Linux)

(No Longer Available as of July 8, 2016)

300GB SFF SAS disk, in a carrier capable of providing Hot Swap support. The disk supports the industry standard SAS interface. Systems that accept SAS SFF disk drive in a carrier accommodate this SAS disk.

Characteristics:

- Form Factor: SSF SAS compliant (2.5" x 15mm form factor)
- Cable included: None
- External Interface: standard SAS Dual Port
- Rotational Speed: 10,000 RPM
- Interface Speed: 3Gbs (300 MBs)
- Format: 512 Bytes/sector default, 528 Bytes/sector possible with reformat.
- Attributes provided: 300GB of Disk Storage mounted in a carrier
- Attributes required: one SFF SAS disk drive bay slot
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 250)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1886) 146GB 15K RPM SFF SAS Disk Drive (AIX/Linux)

(No Longer Available as of July 8, 2016)

146.8 GB SFF SAS disk, in a carrier capable of providing Hot Swap support. Provides 146.8 GB of storage capacity. Supports the industry standard SAS interface. Can be used only in a system designed to support the SAS SFF disk drive in a carrier.

Characteristics:

- Form Factor: SFF SAS compliant (2.5" x 15mm form factor)
- Cable included: None
- External Interface: standard SAS Dual Port
- Rotational Speed: 15,000 RPM
- Interface Speed: 3Gbs (300 MBs)
- Format: 512 Bytes/sector
- Attributes provided: 146.8 GB of disk storage mounted in a carrier.
- Attributes required: One SFF SAS disk drive bay slot
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 250)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1887) - Quantity 150 of #1793

(No Longer Available as of August 23, 2013)

This feature ships a quantity of 150 #1793 177GB SFF-2 SSD w/ eMLC (AIX/Linux) units. The configurator may either generate this feature or allow users to select this feature as they would any other single SSD unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #1793
- Attributes required: see feature #1793
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX 5.3 with the 5300-11 Technology Level, or later
 - AIX 5.3 with the 5300-10 Technology Level and Service Pack 2, or later
 - AIX 5.3 with the 5300-09 Technology Level and Service Pack 5, or later
 - AIX 5.3 with the 5300-08 Technology Level and Service Pack 8, or later
 - AIX 6.1 with the 6100-04 Technology Level, or later
 - AIX 6.1 with the 6100-03 Technology Level and Service Pack 3, or later
 - AIX 6.1 with the 6100-02 Technology Level and Service Pack 6, or later
 - AIX 6.1 with the 6100-01 Technology Level and Service Pack 7, or later
 - IBM i - not supported (see VIOS)
 - SUSE Linux Enterprise Server 10 Service Pack 1 or later
 - SUSE Linux Enterprise Server 11 or later
 - Red Hat Enterprise Linux 4.6 or later
 - Red Hat Enterprise Linux 5.1 or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: VIOS support requires VIOS 2.2.0.12-FP24 SP02 or later

(#1888) 139GB 15K RPM SFF SAS Disk Drive (IBM i)

(No Longer Available as of July 8, 2016)

139 GB SFF SAS disk, in a carrier capable of providing Hot Swap support. Provides 139 GB of storage capacity. Supports the industry standard SAS interface. Can be used only in a system designed to support the SAS SFF disk drive in a carrier.

Characteristics:

- Form Factor: SFF SAS compliant (2.5" x 15mm form factor)
- Cable included: None
- External Interface: standard SAS Dual Port
- Rotational Speed: 15,000 RPM
- Interface Speed: 3Gbs (300 MBs)
- Format: 528 Bytes/sector
- Attributes provided: 139 GB of disk storage mounted in a carrier.
- Attributes required: One SFF SAS disk drive bay slot
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 250)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1890) - 69GB SFF SAS Solid State Drive

(No Longer Available as of July 29, 2011)

The 69GB SFF SAS Solid State Drive (SSD) provides 69.7 GB of very high performance storage, much faster than spinning disk drives with their delays due to positioning the disk arm and waiting for the spinning disk to rotate under the arm. SSD also provide lower power utilization than spinning or hard disk drives (HDD). The drive is formatted to 69.7 GB and can be used by AIX, Linux (#1890) and IBM i (#1909). Both are identical drives, but have different feature codes to help the IBM configuration tools understand how the SSD is used.

- Connector - standard SAS dual port
- 3Gb/sec SAS device (300 MB/sec)
- 528 bytes sectors Power System
- Attributes provided: 69.7 GB of formatted drive storage mounted in a SFF carrier
- Attributes required: One SFF SAS drive bay in the 8203-E4A or 8204-E8A CEC or available SFF SAS bay in 12X I/O Drawer PCIe, SFF disk. SAS Disk and SSD on same backplane is not supported.
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 250)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1891) - Quantity 150 of #1883

(No Longer Available as of April 29, 2011)

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1899) - Quantity 150 of #1882

(No Longer Available as of November 26, 2010)

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1909) - 69GB SFF SAS Solid State Drive

(No Longer Available as of July 29, 2011)

The 69GB SFF SAS Solid State Drive (SSD) provides 69.7 GB of very high performance storage, much faster than spinning disk drives with their delays due to positioning the disk arm and waiting for the spinning disk to rotate under the arm. SSD also provide lower power utilization than spinning or hard disk drives (HDD). The drive is formatted to 69.7 GB and can be used by AIX, Linux (#1890) and IBM i (#1909). Both are identical drives, but have different feature codes to help the IBM configuration tools understand how the SSD is used.

- Connector - standard SAS dual port
- 3Gb/sec SAS device (300 MB/sec)
- 528 bytes sectors Power System
- Attributes provided: 69.7 GB of formatted drive storage mounted in a SFF carrier
- Attributes required: One SFF SAS drive bay in the 8203-E4A or 8204-E8A CEC or available SFF SAS bay in 12X I/O Drawer PCIe, SFF disk. SAS Disk and SSD on same backplane is not supported.
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 250)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1911) - 283GB 10K RPM SFF SAS Disk Drive (IBM i)

(No Longer Available as of July 8, 2016)

283 GB SFF SAS disk in a carrier capable of providing Hot Swap support. Provides 283 GB of storage capacity. Supports the industry standard SAS interface. Can be used only in a system designed to support the SAS SFF disk drive in a carrier.

- Attributes provided: 283 GB of disk storage mounted in a carrier
- Attributes required: One SFF SAS disk drive bay slot
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 250)
- OS level required:
 - IBM i 6.1 with machine code 6.1.1 or later.
 - AIX - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1912) - PCI-X DDR Dual Channel Ultra320 SCSI Adapter

The PCI-X DDR Dual Channel Ultra320 SCSI Adapter (#1912) is a 64-bit 3.3-volt adapter and is an excellent solution for high-performance SCSI applications. The PCI-X Dual Channel Ultra320 SCSI Adapter provides two SCSI channels (busses), each capable of running 320 MBps (max.). Each SCSI bus can only support external attach SCSI devices.

In order to achieve an Ultra320 SCSI bus data rate of up to 320 MB per second and maintain a reasonable drive distance, the adapter utilizes Low Voltage Differential (LVD) drivers and receivers. To utilize the 320 MB per second performance, all attaching devices should also be Ultra320 LVD devices; however, if Ultra2, Ultra3, or Ultra320 devices coexist on the same bus, each device will operate at its rated speed. For lower speed single-ended (SE) devices, the SCSI bus will switch to single-ended (SE) performance and interface to all devices on that SCSI bus at the lower SE bus data rate of the device.

Two VHDCI 68-pin connectors are mounted on the adapter's end bracket allowing attachment of various LVD and SE external subsystems. A 0.3-meter converter cable, VHDCI to P, Mini-68 pin to 68-pin, (#2118) can be used with older external SE devices or subsystems to allow connection to the VHDCI connector on the PCI-X DDR Dual Channel Ultra320 SCSI Adapter.

Two external ports provide connectivity to numerous other SCSI external subsystems. Check the external subsystem sales/web pages for verification of connectivity support with this adapter.

The PCI-X Dual Channel Ultra320 SCSI Adapter (#1912) is a native boot adapter. The adapter also supports target mode.

Limitations:

- The two external ports do not support the connection to the IBM 7131-105 IBM Multi-Storage Tower Model 105.
- The Dual Channel Ultra320 SCSI nonRAID Adapter has ports that are capable at running at ultra320 SCSI speeds (up to 320 MBytes/s).
- Attributes provided: Attachment of external SCSI devices only on Power7 Servers.
- Attributes required: One available 3.3 volt PCI or PCI-X slot or PCI-X 2.0 DDR slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#1916) - 571GB 10k RPM SAS SFF Disk Drive (IBM i)

(No Longer Available as of August 31, 2017)

571GB SFF 10k rpm SAS drive in Gen1 SFF carrier. Supported in SFF SAS bays such as provided in most POWER7 system units or the #5802/ 5803 I/O drawers. Disk is formatted for 528 byte sectors.

Limitation: can not be used in #5887 EXP24S Gen2 I/O drawer due to physical difference in Gen1 and Gen2 carriers.

- Attributes provided: 571GB of Disk Storage mounted Gen-1 carrier
- Attributes required: one SFF SAS disk drive bay slot
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 312)
- OS level required:
 - AIX - not supported
 - IBM i 6.1 with Machine Code 6.1.1
 - IBM i 7.1, or later
 - SUSE Linux not - supported
 - Red Hat Linux not - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1917) - 146GB 15k RPM SAS SFF-2 Disk Drive (AIX/Linux)

(No Longer Available as of July 8, 2016)

146GB SFF 15k RPM SAS SFF-2 Disk Drive (AIX/Linux) mounted in Gen-2 carrier and supported in SFF SAS bays such as provided in #5887 EXP24S Gen2 I/O drawer. Disk is formatted for 512 byte sectors.

Limitation: can not be used in #5802/5803 I/O drawers due to physical difference in Gen1 and Gen2 carriers.

- Attributes provided: 146GB of Disk Storage mounted in a Gen-2 carrier
- Attributes required: One SFF SAS disk drive bay slot
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 250)
- OS level required:
 - AIX 5.3 with the 5300-11 Technology Level, or later
 - AIX 5.3 with the 5300-10 Technology Level and Service Pack 2, or later
 - AIX 5.3 with the 5300-09 Technology Level and Service Pack 5, or later
 - AIX 5.3 with the 5300-08 Technology Level and Service Pack 8, or later
 - AIX 6.1 with the 6100-04 Technology Level, or later
 - AIX 6.1 with the 6100-03 Technology Level and Service Pack 3, or later
 - AIX 6.1 with the 6100-02 Technology Level and Service Pack 6, or later
 - AIX 6.1 with the 6100-01 Technology Level and Service Pack 7, or later
 - IBM i - not supported (see VIOS)
 - SUSE Linux Enterprise Server 10 Service Pack 1 or later
 - SUSE Linux Enterprise 10 Service Pack 3, or later
 - SUSE Linux Enterprise 11 Service Pack 1, or later
 - Red Hat Enterprise Linux 5.6 for POWER, or later
 - Red Hat Enterprise Linux 6 for POWER, or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: VIOS support requires VIOS 2.2.0.12-FP24 SP02, or later

(#1925) - 300GB 10k RPM SAS SFF-2 Disk Drive (AIX/Linux)

(No Longer Available as of July 8, 2016)

300GB SFF 15k RPM SAS SFF-2 Disk Drive (AIX/Linux). Supported in SFF SAS bays such as provided in #5887 EXP24S Gen2 I/O drawer. Disk is formatted for 512 byte sectors.

Limitation: can not be used in #5802/5803 I/O drawers or in CEC due to physical difference in Gen1 and Gen2 carriers.

- Attributes provided: 300GB SFF disk drive mounted in a carrier
- Attributes required: One SFF Gen-2 bay
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 250)
- OS level required:
 - AIX 5.3 with the 5300-11 Technology Level, or later
 - AIX 5.3 with the 5300-10 Technology Level and Service Pack 2, or later
 - AIX 5.3 with the 5300-09 Technology Level and Service Pack 5, or later
 - AIX 5.3 with the 5300-08 Technology Level and Service Pack 8, or later
 - AIX 6.1 with the 6100-04 Technology Level, or later
 - AIX 6.1 with the 6100-03 Technology Level and Service Pack 3, or later
 - AIX 6.1 with the 6100-02 Technology Level and Service Pack 6, or later
 - AIX 6.1 with the 6100-01 Technology Level and Service Pack 7, or later
 - IBM i - not supported (see VIOS)
 - SUSE Linux Enterprise 10 Service Pack 3, or later
 - SUSE Linux Enterprise 11 Service Pack 1, or later
 - Red Hat Enterprise Linux 5.6 for POWER, or later
 - Red Hat Enterprise Linux 6 for POWER, or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: VIOS support requires VIOS 2.2.0.12-FP24 SP02, or later

(#1926) - Quantity 150 of #1879

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #1879 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #1879
- Attributes required: see feature #1879
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required:
 - Refer to Software Requirements for specific levels of IBM i support.
 - IBM i - supported
 - AIX - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1927) - Quantity 150 of #1948

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #1948 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #1948
- Attributes required: see feature #1948
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - Refer to Software Requirements for specific levels of IBM i support.
 - IBM i - supported
 - AIX - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1928) - Quantity 150 of #1880

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #1880 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #1880
- Attributes required: see feature #1880
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required:
 - AIX Version 7.1 with the 7100-01 Technology Level, or later
 - AIX Version 7.1, or later
 - AIX Version 6.1 with the 6100-07 Technology Level, or later
 - AIX Version 6.1 with the 6100-06 Technology Level, or later
 - AIX Version 6.1 with the 6100-05 Technology Level and SP 3, or later
 - AIX Version 6.1 with the 6100-04 Technology Level and SP 7, or later
 - AIX Version 6.1 with the 6100-03 Technology Level and SP 7, or later
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 1, or later
 - AIX Version 5.3 with the 5300-11 Technology Level and Service Pack 5, or later
 - AIX Version 5.3 with the 5300-10 Technology Level and Service Pack 5, or later
 - IBM i - not supported
 - Red Hat Enterprise Linux Version 6 for Power, or later
 - Red Hat Enterprise Linux Version 5.5 for Power, or later
 - SUSE Linux Enterprise Server 11 or later
 - SUSE Linux Enterprise Server 10 Service Pack 3 or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1929) - Quantity 150 of #1953

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #1953 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #1953
- Attributes required: see feature #1953
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - AIX Version 7.1, with the 7100-01 Technology level or later
 - AIX Version 7.1, or later
 - AIX Version 6.1, with the 6100-07 Technology Level, or later
 - AIX Version 6.1 with the 6100-06 Technology Level, or later
 - AIX Version 6.1 with the 6100-05 Technology Level and SP 3, or later
 - AIX Version 6.1 with the 6100-04 Technology Level and SP 7, or later
 - AIX Version 6.1 with the 6100-03 Technology Level and SP 7, or later
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 1, or later
 - AIX Version 5.3 with the 5300-11 Technology Level and Service Pack 5, or later
 - AIX Version 5.3 with the 5300-10 Technology Level and Service Pack 5, or later
 - IBM i - not supported
 - Red Hat Enterprise Linux Version 6 for Power, or later
 - Red Hat Enterprise Linux Version 5.5 for Power, or later
 - SUSE Linux Enterprise Server 11 or later
 - SUSE Linux Enterprise Server 10 Service Pack 3 or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1947) - 139GB 15k RPM SAS SFF-2 Disk Drive (IBM i)

(No Longer Available as of July 8, 2016)

139GB SFF 15k RPM SAS SFF-2 Disk Drive (IBM i) Supported in SFF SAS bays such as provided in #5887 EXP24S Gen2 I/O drawer. Disk is formatted for 528 byte sectors.

Limitation: can not be used in #5802/5803 I/O drawers or in CEC due to physical difference in Gen1 and Gen2 carriers.

- Attributes provided: 139GB SAS disk drive
- Attributes required: One disk bay
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 250)
- OS level required:
 - AIX - not supported
 - IBM i 6.1 with Machine Code 6.1.1
 - IBM i 7.1, or later
 - Linux not - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1948) - 283GB 15k RPM SAS SFF-2 Disk Drive (IBM i)

(No Longer Available as of August 31, 2017)

283 GB SFF 15k RPM SAS disk drive mounted in a Gen-2 carrier and supported in SFF SAS bay such as provided in the #5887 EXP24S I/O drawer. Disk is formatted for 528 sectors as shipped from IBM Manufacturing. CCIN is 19B1.

Limitations: physical difference in Gen1 and Gen2 carriers prevent usage in SFF-1 bays such as used in the #5802/5803 I/O drawer.

- Attributes provided: 283GB of SFF (2.5-inch) SAS disk storage mounted in Gen-2 carrier.
- Attributes required: one SFF-2 drive bay
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 250)
- OS level required:
 - Refer to Software Requirements for specific levels of IBM i support.
 - IBM i - supported
 - AIX - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
- Note:
 - Max of 24 in each #5887

(#1953) - 300GB 15k RPM SAS SFF-2 Disk Drive (AIX/Linux)

(No Longer Available as of August 31, 2017)

300 GB SFF 15k RPM SAS disk drive mounted in a Gen-2 carrier and supported in SFF SAS bay such as used in the #5887 EXP24S I/O drawer. Disk is formatted for 512 sectors as shipped from IBM Manufacturing. CCIN is 19B1.

Limitations: physical difference in Gen1 and Gen2 carriers prevent usage in SFF-1 bays such as used in the #5802/5803 I/O drawer

- Attributes provided: 300GB of SFF (2.5-inch) SAS disk storage mounted in Gen-2 carrier.
 - Attributes required: one SFF-2 drive bay
 - Minimum required: 0
 - Maximum allowed: 1344 (Initial order maximum: 250)
 - OS level required:
 - AIX Version 7.1, with the 7100-01 Technology level or later
 - AIX Version 7.1, or later
 - AIX Version 6.1, with the 6100-07 Technology Level, or later
 - AIX Version 6.1 with the 6100-06 Technology Level, or later
 - AIX Version 6.1 with the 6100-05 Technology Level and SP 3, or later
 - AIX Version 6.1 with the 6100-04 Technology Level and SP 7, or later
 - AIX Version 6.1 with the 6100-03 Technology Level and SP 7, or later
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 1, or later
 - AIX Version 5.3 with the 5300-11 Technology Level and Service Pack 5, or later
 - AIX Version 5.3 with the 5300-10 Technology Level and Service Pack 5, or later
 - IBM i - not supported
 - Red Hat Enterprise Linux Version 6 for Power, or later
 - Red Hat Enterprise Linux Version 5.5 for Power, or later
 - SUSE Linux Enterprise Server 11 or later
 - SUSE Linux Enterprise Server 10 Service Pack 3 or later
 - Initial Order/MES/Both/Supported: Both
 - CSU: Yes
 - Return parts MES: No
- Note:
- supported in #5887

(#1956) - 283GB 10k RPM SAS SFF-2 Disk Drive (IBM i)

(No Longer Available as of July 8, 2016)

293GB SFF 15k RPM SAS SFF-2 Disk Drive (AIX/Linux. Supported in SFF SAS bays such as provided in #5887 EXP24S Gen2 I/O drawer. Disk is formatted for 528 byte sectors.

Limitation: can not be used in #5802/5803 I/O drawers or CEC due to physical difference in Gen1 and Gen2 carriers.

- Attributes provided: 283GB SAS disk drive
- Attributes required: one drive bay
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 250)
- OS level required:
 - AIX - not supported
 - IBM i 6.1 with Machine Code 6.1.1
 - IBM i 7.1, or later
 - SUSE Linux not - supported
 - Red Hat Linux not - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1958) - Quantity 150 of #1794

(No Longer Available as of August 23, 2013)

This feature ships a quantity of 150 #1794 177GB SSF-2 SSD w/ eMLC (IBM i) units. The configurator may either generate this feature or allow users to select this feature as they would any other single SSD unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #1794
- Attributes required: see feature #1794
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - AIX - not supported
 - IBM i 6.1 with machine code 6.1.1, or later
 - IBMi 7.1, or later
 - SUSE - not supported
 - Red Hat Enterprise Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1962) - 571GB 10k RPM SAS SFF-2 Disk Drive (IBM i)

(No Longer Available as of August 31, 2017)

571GB SFF 10k rpm SAS drive in gen 1 SFF carrier. Supported in SFF SAS bays such as provided in #5887 EXP24S Gen2 I/O drawer. Disk is formatted for 528 byte sectors.

Limitation: can not be used in #5802/5803 I/O drawers or in CEC bays due to physical difference in Gen1 and Gen2 carriers.

- Attributes provided: 571GB of Disk Storage mounted in a Gen2 carrier
- Attributes required: one SFF SAS disk drive bay
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 250)
- OS level required:
 - AIX - not supported
 - IBM i 6.1 with machine code 6.1.1
 - IBM i 7.1, or later
 - SUSE Linux not - supported
 - Red Hat Linux not - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#1964) - 600GB 10k RPM SAS SFF-2 Disk Drive (AIX/Linux)

(No Longer Available as of August 31, 2017)

600GB SFF 10k rpm SAS drive in Gen-2 carrier. Supported in SFF SAS bays such as provided in #5887 EXP24S Gen2 I/O drawer. Disk is formatted for 512 byte sectors.

Limitation: can not be used in #5802/5803 I/O drawers or in CEC SFF bays due to physical difference in Gen1 and Gen2 carriers.

- Attributes provided: 600GB of Disk Storage mounted in a Gen2 carrier
- Attributes required: one SFF (SFF-2) SAS GEN2 drive bay
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 250)
- OS level required:
 - AIX 5.3 with the 5300-11 Technology Level, or later
 - AIX 5.3 with the 5300-10 Technology Level and Service Pack 2, or later
 - AIX 5.3 with the 5300-09 Technology Level and Service Pack 5, or later
 - AIX 5.3 with the 5300-08 Technology Level and Service Pack 8, or later
 - AIX 6.1 with the 6100-04 Technology Level, or later
 - AIX 6.1 with the 6100-03 Technology Level and Service Pack 3, or later
 - AIX 6.1 with the 6100-02 Technology Level and Service Pack 6, or later
 - AIX 6.1 with the 6100-01 Technology Level and Service Pack 7, or later
 - IBM i - not supported (see VIOS)
 - SUSE Linux Enterprise 10 Service Pack 3, or later
 - SUSE Linux Enterprise 11 Service Pack 1, or later
 - Red Hat Enterprise Linux 5.6 for POWER, or later
 - Red Hat Enterprise Linux 6 for POWER, or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: VIOS support requires VIOS 2.2.0.12-FP24 SP02, or later

(#1995) - 177GB SSD Module with eMLC (AIX/Linux)

(No Longer Available as of August 23, 2013)

The Solid State Drive (SSD) Module is a compact storage device about the size of a fat credit card which is placed in a socket of the #2053, #2054 or #2055 PCIe RAID & SAS Adapter. It is shipped from IBM with RAID formatting to provide 177 GB capacity for AIX/IBM i/Linux. Reformatted as JBOD under AIX/Linux provides 200 GB capacity but drops the extra protection RAID formatting provides.

Feature #1995 and #1996 are physically identical with CCIN = 58B2, but two features are used to allow IBM configurator tools to understand usage by either AIX/Linux or IBM i. #1995 indicates AIX/ Linux usage.

The #1995/1996 uses Enterprise Multi-Level Cell (eMLC) technology, to provide extremely reliable, cost effective, dense SSD storage. The 1.8" SSD module contains a NAND flash controller that provides a 3Gbit/sec SATA interface. Parallel access to 16 flash sites allows overlapped, multi-block access to complete data transfer requests rapidly. An embedded super capacitor ensures data integrity during power fail scenarios.

- Attributes provided: 177GB (RAID) or 200GB(JBOD) formatted SSD Module
- Attributes required: Available socket on the following controllers #2053, #2054 or #2055 PCIe RAID & SAS Adapter. Limit is 1, 2, 3 or 4 on each controller.
- Minimum required: 0
- Maximum allowed: 320 (Initial order maximum: 320)
- OS level required:
 - AIX Version 7.1
 - AIX Version 6.1 with the 6100-06 Technology Level
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 2, or later (available 9/30/2010)
 - AIX Version 5.3 with the 5300-11 Technology Level and Service Pack 5, or later (available 9/30/2010)
 - AIX Version 5.3 with the 5300-10 Technology Level and Service Pack 5, or later (available 9/30/2010)
 - IBM i not supported use #1996
 - SuSE Linux Enterprise Server Version 10, Service Pack 3 or later
 - SuSE Linux Enterprise Server Version 11, Service Pack 1 or later
 - Red Hat Enterprise Linux Version 5.5 or later
- Initial Order/MES/Both/Supported: Both
- CSU: No
- Return parts MES: No
Note:
 - Requires available socket on #2054 or #2055
 - Max 4 per PCIe RAID & SSD SAS Adapter
 - Minimum of 1, 2 or 4 is required
 - Supports VIOS attachment version 2.2 or later

(#1996) - 177GB SSD Module with eMLC (IBM i)

(No Longer Available as of October 5, 2012)

The Solid State Drive (SSD) Module is a compact storage device about the size of a fat credit card which is placed in a socket of the #2053, #2054 or #2055 PCIe RAID & SAS Adapter. It is shipped from IBM with RAID formatting to provide 177 GB capacity for AIX/IBM i/Linux. Reformatted as JBOD under AIX/Linux provides 200 GB capacity but drops the extra protection RAID formatting provides.

Feature #1995 and #1996 are physically identical with CCIN = 58B2, but two features are used to allow IBM configurator tools to understand usage by either AIX/Linux or IBM i. #1995 indicates AIX/ Linux usage.

The #1995/1996 uses Enterprise Multi-Level Cell (eMLC) technology, to provide extremely reliable, cost effective, dense SSD storage. The 1.8" SSD module contains a NAND flash controller that provides a 3Gbit/sec SATA interface. Parallel access to 16 flash sites allows overlapped, multi-block access to complete data transfer requests rapidly. An embedded super capacitor ensures data integrity during power fail scenarios.

- Attributes provided: 177GB formatted SSD Module
- Attributes required: Available socket on the following controllers #2053, #2054 or #2055 PCIe RAID & SAS Adapter. Limit is 1, 2, 3 or 4 on each controller.
- Minimum required: 0
- Maximum allowed: 320 (Initial order maximum: 320)
- OS level required:
 - IBM i 7.1. or later
 - IBM i 6.1.1 or later
 - AIX not supported use #1995
 - SuSE Linux Enterprise Server Version not supported use #1995
 - Red Hat Enterprise Linux not supported use #1995
- Initial Order/MES/Both/Supported: Both
- CSU: No
- Return parts MES: No
Note:
 - Requires available socket on #2055
 - Max 4 per PCIe RAID & SSD SAS Adapter
 - Minimum of 1, 2 or 4 is required
 - Supports VIOS attachment version 2.2 or later

(#2055) - PCIe RAID & SSD SAS Adapter 3Gb w/ Blind Swap Cassette

(No Longer Available as of May 13, 2016)

PCIe RAID & SSD SAS Adapter 3GB is a double-wide, short, PCIe-8x, Solid State Drive (SSD) module controller. Each adapter has four slots and each slot can hold a SSD feature modules. Two feature SDD modules are available. #1995 for AIX/Linux and #1996 for IBM i Initial orders require a minimum of 1 SSD feature module and can be increased to 2 or 4 modules. 3 SSD modules on one adapter is not supported. SSD modules must be either all #1995 or all #1996. There are no external ports and no cables of any type attach/connect to PCIe RAID & SSD SAS Adapter.

The PCIe adapter provides RAID 0, 5 or 6 is for AIX and Linux for SSD modules on the PCIe adapter. It provides RAID 5 or 6 for IBM i. Mirroring is supported on all OS types. If RAID 0 is used, the modules must be mirrored. The PCIe RAID & SSD SAS Adapter does not provide write cache.

SSD modules can not be added/removed/replaced until the PCIe adapter is removed from the PCIe slot.

Though the electronics are identical and there is one CCIN (57CD), there are three feature codes for the adapter: #2053 Low Profile non- cassette for use in CECs with low profile slots, #2054 non-cassette with tail stock for a full regular height PCIe slot, and #2055 with Blind Swap Cassette for use in #5802 or #5877 PCIe I/ O drawers. There are also #4367 and #4377 which are packages shipping five PCIe adapters and twenty SSD modules.

- Attributes provided: PCIe RAID & SSD SAS Adapter 3Gb with 4 SSD slots
- Attributes required: Two adjacent PCIe slots, each #2053 requires 1, 2 or 4 SSD #1995 or #1996
- Minimum required: 0
- Maximum allowed: 80 (Initial order maximum: 80)
- OS level required:
 - AIX Version 7.1
 - AIX Version 6.1 with the 6100-06 Technology Level
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 2, or later (planned availability: Sept 30, 2010)
 - AIX Version 5.3 with the 5300-11 Technology Level and Service Pack 5, or later (planned availability: Sept 30, 2010)
 - AIX Version 5.3 with the 5300-10 Technology Level and Service Pack 5, or later (planned availability: Sept 30, 2010)
 - IBM i 7.1 or later
 - SuSE Linux Enterprise Server Version 10, Service Pack 3 or later
 - SuSE Linux Enterprise Server Version 11, Service Pack 1 or later
 - Red Hat Enterprise Linux Version 5.5 or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: Assignment of adapter to the VIOS requires VIOS 2.2 or later.

(#2114) - PCI SCSI Adapter 16-Bit Differential External Y Cable

- Attributes provided: Attachment of multiple hosts to the PCI SCSI-2 differential adapter
- Attributes required: 1 external SCSI-2 Fast/Wide Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#2118) - Converter Cable, VHDCI to P, Mini-68 pin to 68 pin, 0.3M

0.3M 16-bit SCSI cable used to convert from a Mini-68 pin VHDCI connector to a 68-pin P style connector. Cable has male Mini-68 pin VHDCI connector on one end and a female 68 pin P style connector on the other. Length = 0.3 meters.

- Attributes provided: Attachment of supported external sub-system to integrated SCSI port or SCSI adapter with VHDCI Mini-68 pin connector.
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#2124) - Ultra 320 SCSI Cable 1 Meter

Ultra 320 SCSI Cable 1 Meter for I/O drawer attachment.

- Attributes provided: Interface to Ultra 320 SCSI Repeater Card
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#2125) - Ultra 320 SCSI Cable 3 Meter

Ultra 320 SCSI Cable 3 Meter for I/O Drawer attachment.

- Attributes provided: Attachment to Ultra 320 SCSI Repeter Card
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#2126) - Ultra 320 SCSI Cable 5 Meter

Ultra 320 SCSI Cable 5 meter for attachment to I/O drawer.

- Attributes provided: Attachment to Ultra 320 SCSI Repeater Card
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#2127) - Ultra 320 SCSI Cable 10 Meter

Ultra 320 SCSI Cable 10 meters for attachment to I/O drawer.

- Attributes provided: Attachment to Ultra 320 SCSI Repeater Card
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#2128) - Ultra 320 SCSI Cable 20 Meter

Ultra 320 SCSI Cable 20 meters for attachment to I/O drawer.

- Attributes provided: Attachment to Ultra 320 SCSI Repeater Card
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#2138) - 0.55 Meter Ultra 320 SCSI Cable

Ultra 320 SCSI Cable 0.55 Meter for I/O Drawer attachment.

- Attributes provided: Attachment to Ultra 320 SCSI Repeater Card
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 229 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#2145) - Primary OS - IBM i

Indicates clients intend to use the IBM i operating system on the primary system partition. This feature is used as a Manufacturing Routing indicator and does not deliver parts, software or services.

- Attributes provided: None
 - Attributes required: Indicates clients intend to use the IBM i operating system on the primary system partition.
 - Minimum required: 0
 - Maximum allowed: 999 (Initial order maximum: 1)
 - OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
 - Initial Order/MES/Both/Supported: Both
 - CSU: Yes
 - Return parts MES: No
- Note: Only one of features 2145, 2146 or 2147 may exist on a system Configuration report.

(#2146) - Primary OS - AIX

Indicates clients intend to use the AIX operating system on the primary system partition. This feature is used as a Manufacturing Routing indicator and does not deliver parts, software or services.

- Attributes provided: None
- Attributes required: Indicates clients intend to use the AIX operating system on the primary system partition.
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 1)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX.
 - AIX - supported
 - IBM i - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: Only one of features 2145, 2146 or 2147 may exist on a system Configuration report.

(#2147) - Primary OS - Linux

Indicates clients intend to use the Linux operating system on the primary system partition. This feature is used as a Manufacturing Routing indicator and does not deliver parts, software or services.

- Attributes provided: None
- Attributes required: Indicates clients intend to use the Linux operating system on the primary system partition.
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 1)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for Linux.
 - AIX - not supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: Only one of features 2145, 2146 or 2147 may exist on a system Configuration report.

(#2424) - 0.6M 16-bit SCSI-2 System-to-System Cable

This cable provides a 16-bit connection between any two differential or single ended SCSI devices having 68-pin connectors. It can be used to attach an external SCSI device to a SCSI adapter card in an RS/6000 system.

- Attributes provided: 0.6 meter SCSI cable with 68-pin connectors at each end
- Attributes required: 68-pin SCSI Interface
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#2425) - 2.5M 16-bit SCSI-2 System-to-System Cable

This cable provides a 16-bit connection between any two differential or single ended SCSI devices having 68-pin connectors. It can be used to attach an external SCSI device to a SCSI adapter card in an RS/6000 system.

- Attributes provided: 2.5 meter SCSI cable with 68-pin connectors at each end
- Attributes required: 68-pin SCSI Interface
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#2456) - 2M LC-SC 50 Micron Fiber Converter Cable

The 50 micron fiber cable is used to convert from LC type to SC type connectors. The 2 meter cable has a male LC type connector on one end and a female SC type connector on the other.

- Attributes provided: Cable with (1X) LC type plug and (1X) SC type receptacle
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#2459) - 2M LC-SC 62.5 Micron Fiber Converter Cable

The 62.5 micron fiber cable is used to convert from LC type to SC type connectors. The 2 meter cable has a male LC type connector on one end and a female SC type connector on the other.

- Attributes provided: Cable with (1X) LC type plug and (1X) SC type receptacle
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#2591) - External USB 1.44 MB Diskette Drive

The externally attached USB diskette drive provides storage capacity up to 1.44 MB on a high density (2HD) floppy disk and 720 KB on a double density floppy disk. Includes 350mm (13.7 in) captured cable with standard USB connector.

Limitation:

- Maximum 1 USB diskette per adapter,
- Up to 1 Keyboard and Mouse also supported on the adapter with the diskette drive at the same time
- No system boot capability
- Not to be operated upside down or with eject button down

Characteristics:

- Capacity - 1.44 MB (2HD disk) or 720 KB (double density disk)
- Physical Dimensions: Width=103mm (4.05 in), Height=17.6mm (.69 in), Depth=141.8mm (5.58 in)
- Color: Black
- Data Rate: 12 Mbits/sec
- Max Power Consumption: 2.36 Watt (seek)
- Operates in all positions except those noted in the limitations above
- Attributes provided: External diskette drive
- Attributes required: 1 available USB port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#2728) - 4 port USB PCIe Adapter

(No Longer Available as of August 31, 2017)

The PCI-Express 4 port USB adapter provides support for USB devices. In applications that require the use of an USB extension cable, use one FC 4256 per port.

- Attributes provided: Connectivity with USB 1.0 - 2.0 capable devices
- Attributes required: One available PCI-Express slot
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#2738) - 2-Port USB PCI Adapter

The 2 Port USB PCI Adapter is a USB 2.0 capable adapter that provides for the connection of one USB keyboard and mouse.

Limitation: Limited to USB 1.1 support with AIX

- Attributes provided: USB Keyboard/Mouse Attachment
- Attributes required: One available PCI slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#2749) - PCI Ultra Mag Media Controller

#2749 provides Ultra SCSI attachment capability for an external tape device or an external optical device.

- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#2757) - PCI-X Ultra RAID Disk Controller

This feature is a PCI-X SCSI controller with a maximum compressed write cache of 757MB. The #2757 provides RAID-5 protection for internal disks and also supports internal tape units, internal CD/ DVD-ROM and internal DVD-RAM units.

The #2757 has four LVD SCSI buses that support up to 20 internal disk units.

Hardware data compression is not supported.

In addition to providing RAID-5 protection for disks, the #2757 is also a high-performance controller for disks protected by system mirroring or disks with no data protection.

A minimum of three disk units of the same capacity are needed for a valid RAID-5 configuration. A maximum of six arrays are allowed per controller, with a maximum of 18 disk units allowed per array. All disk units in an array must be of the same capacity.

Parity is spread across either two, four, eight, or sixteen disk units in an array. If an array of three disk units is started, parity is spread across two disk units. If an array of four to seven disk units is started, parity is spread across four disk units. If an array of eight to fifteen disk units is started, parity is spread across eight disk units. If an array of sixteen to eighteen disk units is started, parity is spread across sixteen disk units.

The number of arrays and size of each array can be influenced by specifying an optimization of either balance, performance, or capacity in Operations Navigator when starting arrays. An optimization of balance is the default when starting arrays from the green screens. If disk units are included into an existing array, parity may be spread across less than the preferred number of disk units. In this case the RAID function must be stopped and started to redistribute the parity.

The #2757 can also control up to two internal removable media devices (tape, CD-ROM, DVD-ROM/RAM).

- Attributes provided: Controller for up to 20 disk units and two internal removable media devices
- Attributes required: One 3V PCI slot. This feature is only orderable as part of a feature conversion to #5581.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#2780) - PCI-X Ultra4 RAID Disk Controller

The #2780 is an Ultra4 (Ultra320) SCSI controller with a maximum compressed write cache of 757MB and a maximum compressed read cache size of 1GB, that provides RAID-5 protection for internal disks and also supports internal tape units, CD-ROM and DVD units. The #2780 has four Ultra4(Ultra320) SCSI buses.

In addition to providing RAID-5 protection for disks, #2780 is also designed to work as a high performance controller for disks protected by system mirroring or disks with no protection.

This controller also uses a Cache Battery Pack with can be replaced concurrent with system operation.

The #2780 controller supports a maximum of 20 disk units.

A minimum of three disk units of the same capacity are needed for a valid RAID-5 configuration. A maximum of six arrays are allowed per controller, with a maximum of 18 disk units allowed per array. All disk units in an array must be of the same capacity.

Parity is spread across either two, four, eight, or 16 disk units in an array. If an array of three disk units is started, parity is spread across two disk units. If an array of four to seven disk units is started, parity is spread across four disk units. If an array of 8-15 disk units is started, parity is spread across eight disk units. If an array of 16-18 disk units is started, parity is spread across 16 disk units.

The number of arrays and size of each array can be influenced by specifying an optimization of either "Balance", "Performance", or "Capacity" in Operations Navigator when starting arrays. An optimization of "Balance" will be used by default when starting arrays from the green screens. If disk units are included into an existing array, the number of parity drives does not increase, so parity may be spread across less than the preferred number of disk units. In this case the RAID function must be stopped and then started in order to redistribute the parity.

Note that this controller does not support DASD compression.

- Attributes provided: SCSI Raid Controller
- Attributes required: One 3V long PCI slot
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#2787) - PCI-X Fibre Chan Disk Controller

Provides Fibre Channel attachment for external disk devices. #2787 supports point-to-point and arbitrated loop topologies and has an LC type cable connector. Each #2787 is shipped with a wrap connector (P/N 05N6767). This feature supports 64bit, 133MHz PCI-X bus speeds. #0626 is a Linux direct attach version of this adapter.

One of the following adapter kits is required when connecting SC type cables to the #2787:

- #2456 -- LC-SC Adapter Kit (50um) can be ordered, both on initial, model upgrades, and simple MES orders. This optional kit is used to attach SC-type 50 micron fiber cables to a #2787. This kit contains a 2m LC-ST cable and ST-SC adapter for 50 micron fibre cables.
- #2459 - LC-SC Adapter Kit (62.5um) can be ordered, both on initial, model upgrades, and simple MES orders. This optional kit is used to attach SC-type 62.5 micron fiber cables to a #2787. This kit contains a 2m LC-ST cable and ST-SC adapter for 62.5 micron fibre cables.

An optics cleaning kit and instruction sheet is shipped with the #2787. The customer must supply all Fibre Channel cables for this controller.

- Attributes provided: Fiber attachment of external DASD
- Attributes required: One PCI slot
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#2844) - PCI IOP

#2844 is a PCI I/O processor that drives PCI IOA adapters in RIO-2 attached PCI or PCI-X I/O expansion towers/units.

A #2844 can drive a maximum of four IOAs, subject to configuration restrictions.

- Attributes provided: Support for up to four PCI adapters
- Attributes required: One 3V PCI slot (either short or long)
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#2847) - PCI IOP for SAN Load Source

Provides the specialized function required to attach IBM i operating system load source via a fibre channel adapter and boot from that load source. With IBM i 6.1, #2847 PCI IOP for SAN Load Source supports multipath for the i5/OS load source disk unit, along with supporting multipath for all other logical units (LUNs) attached to this IOP. A minimum of two IOPs are required for enabling redundancy. See the Redbook, "iSeries and TotalStorage: A Guide to Implementing external disk on IBM eServer i5 -SG24-7120", for more information.

- Attributes provided: Load source support via fiber channel.
- Attributes required: #0531 V5R3M5 Machine Code or later
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#2849) - POWER GXT135P Graphics Accelerator with Digital Support

The POWER GXT135P is a versatile, low-priced 2D graphics accelerator for Power servers. It can be configured to operate in either 8-bit or 24-bit color modes. This adapter supports both analog and digital monitors. Its predecessor, Feature Number 2848, supported only analog monitors.

- Hardware Description
 - 128-bit graphics processor
 - 8-bit CLUT or 24-bit true color
 - 16 MB SDRAM
 - 32-bit PCI interface
 - Universal PCI (5.0v or 3.3v)
 - 1 hardware color map
- Features Supported
 - Up to approximately 16.7 million colors
 - Rectangular clipping
 - 2 analog monitor outputs at up to 1280 x 1024 resolution
 - 1 analog monitor output at up to 2048 x 1536 resolution
 - 1 digital monitor output at up to 1600 x 1200 resolution
 - 60 to 85 Hz refresh rates (ISO 9241, Part 3)
- APIs Supported
 - X-Windows and Motif
 - UMS 2.3.0 (no hardware scaling)
- Software Requirements
 - The total number of Graphics Adapters in any one partition may not exceed four.
- Attributes provided: 2D Graphics
- Attributes required: 1 PCI slot
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#2861) - ARTIC960Hx 4-Port EIA-232 Cable

- Attributes provided: 4-port EIA-232 cable for (#2947)
- Attributes required: One #2947 adapter
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#2863) - ARTIC960Hx 4-Port X.21 Cable

- Attributes provided: 4-port X.21 cable for (#2947)
- Attributes required: One #2947 adapter
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#2864) - ARTIC960Hx 4-Port V.35 (DTE) Cable

- Attributes provided: 4-port X.35 (DTE) cable for (#2947)
- Attributes required: One #2947 adapter
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#2893) - PCIe 2-Line WAN w/Modem

(No Longer Available as of July 11, 2014)

The #2893 is a 2-line/port WAN w/modem PCIe adapter. This feature is the non-CIM (Complex Impedance Matching) version offered in all countries except Australia and New Zealand.

Port 0 is the modem port and supports V.92 56K Async PPP, V.92 data modem, V.44 data compression, V.34 FAX modem and FAX functions, such as ECM and 2D/1D conversion.

Port 0 does not provide Sync modem capabilities (SDLC and Sync PPP). Port 1 is the RVX port and supports multiple communications protocols, including synchronous operations.

Select one of the following cables to attach to port 0(modem port):

- #1010 Modem Cable - Austria
- #1011 Modem Cable - Belgium
- #1012 Modem Cable - Africa
- #1013 Modem Cable - Israel (supported only, not orderable)
- #1014 Modem Cable - Italy
- #1015 Modem Cable - France
- #1016 Modem Cable - Germany
- #1017 Modem Cable - UK
- #1018 Modem Cable - Iceland/Sweden
- #1020 Modem Cable - HK/NZ
- #1021 Modem Cable - Fin/Nor
- #1022 Modem Cable - Netherlands
- #1023 Modem Cable - Swiss
- #1024 Modem Cable - Denmark
- #1025 Modem Cable - US/Canada

Select one of the following cables to attach to port 1(RVX port):

- #0348 - V.24/EIA232 20-Ft PCI Cable
- #0353 - V.35 20-Ft PCI Cable
- #0359 - X.21 20-Ft PCI Cable
- #0367 - Operations Console PCI Cable (ships with a 25 pin to 9 pin adapter) Multiple #0367 cables can be ordered but only one per #2893 to serve as consoles for secondary partitions when Logical Partitioning is utilized. ECS is supported from both the modem port, and the RVX port.

The following cable is required to support ECS from the RVX port:

- #0348 - V.24/EIA232 20-Ft PCI Cable

The #2893 does not support the remote ring indicate function.

- Attributes provided: One PCIe slot
- Attributes required: Modem
- Minimum required: 0
- Maximum allowed: 184 (Initial order maximum: 184)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S level for Linux.
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#2934) - 3M Asynchronous Terminal/Printer Cable EIA-232

The Asynchronous Printer/Terminal Cable is used for attaching printers, plotters, and terminals that support the EIA-232 standard to any asynchronous adapter. This cable is the equivalent of the combination of FC 2936 (modem cable) and FC 2937 (printer/terminal interposer) and replaces this method of printer/terminal attachment.

This cable is 3m (9.8 feet) long, uses DB25 connectors and is supported on all RS/6000 systems using any asynchronous ports.

- Attributes provided: EIA232 device attachment capability
- Attributes required: Any Asynchronous port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#2936) - Asynchronous Cable EIA-232/V.24 3M

Used to attach a modem to the standard I/O ports with the 10-pin to 25-pin converter cable (#3925), 8-port Cable Assembly, 16-Port Cable Assembly. The cable is 3 meters (9.8 feet) in length.

- Attributes provided: Modem attachment to async or serial port
- Attributes required: Async or serial port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#2943) - 8-Port Asynchronous Adapter EIA-232/RS-422, PCI bus

For connection of up to 8 asynchronous EIA-232 or RS-422 devices. All eight ports are software programmable to support either EIA-232E or RS-422A protocols, at up to 230K baud.

- Attributes provided: 8 Async ports
- Attributes required: One PCI slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S level for AIX.
 - AIX - supported
 - IBM i - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#2947) - IBM ARTIC960Hx 4-Port Multiprotocol PCI Adapter

The IBM ARTIC960Hx 4-Port Selectable PCI Adapter (#2947) is a one-slot, standard length, 32-bit PCI card. The adapter provides 4-Ports of: EIA-232, EIA530, RS-449, X.21, or V.35. Each port will support speeds of up to 2.0M bps. Software support is provided by ARTIC960 Support for AIX Developer's Kit.

- Attributes provided: One to four WAN connections at up to 2.0Mbps
- Attributes required: One full length 32-bit PCI slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S level for AIX.
 - AIX - supported
 - IBM i - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: Does not apply

(#2951) - Cable, V.24 / EIA-232

V.24 cable for use with #2962 - 2-Port Multiprotocol Adapter. Maximum of two cables per #2962.

- Attributes provided: V.24 Cable
- Attributes required: #2962 Adapter
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: Does not apply

(#2952) - Cable, V.35

V.35 cable for use with #2962 - 2-Port Multiprotocol Adapter. Maximum of two cables per #2962.

- Attributes provided: V.35 Cable
- Attributes required: #2962 Adapter
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: Does not apply

(#2953) - Cable, V.36 / EIA-499

V.36/EIA-499 cable for use with #2962 - 2-Port Multiprotocol Adapter. Maximum of two cables per #2962.

- Attributes provided: V.36 Cable
- Attributes required: #2962 Adapter
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: Does not apply

(#2954) - Cable, X.21

X.21 cable for use with #2962 - 2-Port Multiprotocol Adapter. Maximum of two cables per #2962.

- Attributes provided: X.21 Cable
- Attributes required: #2962 Adapter
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: Does not apply

(#2962) - 2-Port Multiprotocol PCI Adapter

This adapter provides high-speed connections between stand-alone system units on a WAN. To access WAN lines, the 2-Port Multiprotocol PCI Adapter connects via external communications equipment including Channel Service Units (CSU), Data Service Units (DSU), or through synchronous modems.

This adapter together with IBM AIXlink/X.25 provides a two-port connection to X.25 packet switched networks. IBM AIXlink/X.25 is a separately orderable LPP (5696-926).

2-Port Multiprotocol PCI Adapter with an appropriate cable is compatible with:

- X.21 DCE - Using 2-Port Cable, X.21 (#2954)
 - CCITT X.21 Signalling
 - CCITT V.11 Electrical
 - CCITT X.27 Electrical
 - EIA-422-A Electrical
 - ISO 4903 Connector for DCE side of an X.21 VHSI Modem Cable
- V.24 DCE - Using 2-Port Cable, V.24/EIA-232 (#2951)
 - CCITT V.24 Signalling
 - CCITT V.28 Electrical
 - CCITT X.21bis Electrical and Signalling
 - EIA-232-C Electrical and Signalling
 - ISO 2110 Connector for DCE side of an V.24 VHSI Modem Cable
- V.35 DCE - Using 2-Port Cable, V.35 (#2952)
 - CCITT V.35 Some signals for signalling
 - CCITT V.28 Some signals for electrical and signalling
 - ISO 2593 Connector for DCE side of an V.35 VHSI Modem Cable
- V.36 DCE - Using 2-Port Cable, V.36/EIA-449 (#2953)
 - CCITT V.10 Electrical
 - CCITT V.11 Electrical
- Attributes provided: Two high speed WAN connections
- Attributes required: One PCI slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S level for AIX.
 - AIX - supported
 - IBM i - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: Does not apply

(#3124) - Serial-to-Serial Port Cable for Drawer/Drawer- 3.7M

This 3.7 meter cable is available to provide a null-modem connection between the serial ports of two system drawers that are mounted within the same rack. The cable provides a DB25 female connector at each end.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3125) - Serial-to-Serial Port Cable for Rack/Rack- 8M

This 8 meter cable is available to provide a null-modem connection between the serial ports of two system drawers that are mounted in separate racks. The cable provides a DB25 female connector at each end.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3146) - RIO-2(Remote I/O-2)Cbl, 1.2M

This 1.2-meter RIO-2 (Remote I/O-2) cable connects two RIO-2 based I/ O planars within an I/O drawer.

- Attributes provided: 1.2M RIO-2 Cable
- Attributes required: I/O Drawer and two RIO-2 I/O planars
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3147) - RIO-2(Remote I/O-2)Cbl, 3.5M

This 3 1/2 meter RIO-2 (Remote I/O-2)cable is available to connect the processor complex and the I/O drawers. It can also be utilized to connect I/O drawers mounted in separate racks.

- Attributes provided: Interconnection of CEC and I/O drawers
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3148) - RIO-2 (Remote I/O-2) Cable, 10M

This 10 meter RIO-2 (Remote I/O-2) cable is available to connect the processor complex and the I/O drawers. It can also be utilized to connect I/O drawers mounted in separate racks.

- Attributes provided: Interconnection of CEC and I/O drawers
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3156) - RIO-2 (Remote I/O-2) Cable, 1.75M

This 1.75 meter RIO-2 (Remote I/O-2) cable is utilized to connect RIO-2 based I/O planars and I/O drawers to the system CEC.

- Attributes provided: 1.75M RIO-2 Cable
- Attributes required: I/O Drawer and two RIO-2 connectors on the system CEC.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3168) - RIO-2 (Remote I/O-2) Cbl, 2.5M

This 2.5 meter RIO-2 (Remote I/O-2) cable is utilized to connect RIO-2 based I/O planars and I/O drawers to the system CEC.

- Attributes provided: 2.5M RIO-2 Cable
- Attributes required: I/O Drawer and two RIO-2 connectors on the system CEC.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3273) - 36.4 GB 10,000 RPM Ultra320 SCSI Disk Drive Assembly

The 36.4 GB 10,000 RPM Ultra320 SCSI Disk Drive Assembly provides 36.4 GB of storage capacity and supports the industry standard Ultra320 SCSI interface speed of up to 320 MBps.

Characteristics:

- Form Factor: 3.5-inch, 1-inch (25 mm) high
- Cable included: No
- External Interface: Ultra320 SCSI (16-bit, Low Voltage Differential)
- Attachment Industry Spec: SCSI U320
- Average Seek Time: 4.82 ms (based on four(4) READS to one(1) WRITE)
- Average Latency: 2.99 ms
- Rotational Speed: 10,000 RPM
- Maximum Data Transfer Rate: 67 MBps

Limitation: This disk drive requires attachment to a supported Ultra320 SCSI Adapter in an system that supports an Ultra320 SCSI cable/backplane in order for the drive to run at 320 MBps. Also, any and all other SCSI devices on the same SCSI bus must also be Ultra2, Ultra3, or Ultra320 SCSI device(s) in order for this disk drive to run at 320 MBps.

- Attributes provided: 36.4 GB of disk storage mounted in a carrier.
- Attributes required: One disk drive bay.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3274) - 73.4 GB 10,000 RPM Ultra320 SCSI Disk Drive Assembly

The 73.4 GB 10,000 RPM Ultra320 SCSI Disk Drive Assembly provides 73.4 GB of storage capacity and supports the industry standard Ultra320 SCSI interface speed of up to 320 MBps.

Characteristics:

- Form Factor: 3.5-inch, 1-inch (25 mm) high
- Cable included: No
- External Interface: Ultra320 SCSI (16-bit, Low Voltage Differential)
- Attachment Industry Spec: SCSI U320
- Average Seek Time: 4.82 ms (based on four(4) READS to one(1) WRITE)
- Average Latency: 2.99 ms
- Rotational Speed: 10,000 RPM
- Maximum Data Transfer Rate: 67 MBps

Limitation: This disk drive requires attachment to a supported Ultra320 SCSI Adapter in an system that supports an Ultra320 SCSI cable/backplane in order for the drive to run at 320 MBps. Also, any and all other SCSI devices on the same SCSI bus must also be Ultra2, Ultra3, or Ultra320 SCSI device(s) in order for this disk drive to run at 320 MBps.

- Attributes provided: 73.4 GB of disk storage mounted in a carrier.
- Attributes required: One disk drive bay.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3275) - 146.8 GB 10,000 RPM Ultra320 SCSI Disk Drive Assembly

The 146.8 GB 10,000 RPM Ultra320 SCSI Disk Drive Assembly provides 146.8 GB of storage capacity and supports the industry standard Ultra320 SCSI interface speed of up to 320 MBps.

Characteristics:

- Form Factor: 3.5-inch, 1-inch (25 mm) high
- Cable included: No
- External Interface: Ultra320 SCSI (16-bit, Low Voltage Differential)
- Attachment Industry Spec: SCSI U320
- Average Seek Time: 4.94 ms (based on four(4) READS to one(1) WRITE)
- Average Latency: 2.99 ms
- Rotational Speed: 10,000 RPM
- Maximum Data Transfer Rate: 67 MBps

Limitation: This disk drive requires attachment to a supported Ultra320 SCSI Adapter in a system that supports an Ultra320 SCSI cable/ backplane in order for the drive to run at 320 MBps. Also, any and all other SCSI devices on the same SCSI bus must also be Ultra2, Ultra3, or Ultra320 SCSI device(s) in order for this disk drive to run at 320 MBps.

- Attributes provided: 146.8 GB of disk storage mounted in a carrier.
- Attributes required: One disk drive bay.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3277) - 36.4 GB 15,000 RPM Ultra320 SCSI Disk Drive Assembly

The 36.4 GB 15,000 RPM Ultra320 SCSI Disk Drive Assembly provides 36.4 GB of storage capacity and supports the industry standard Ultra3 SCSI interface speed of up to 320 MBps.

Characteristics:

- Form Factor: 3.5-inch, 1-inch (25 mm) high
- Cable included: No
- External Interface: Ultra320 SCSI (16-bit, Low Voltage Differential)
- Attachment Industry Spec: SCSI U320
- Average Seek Time: 3.7 ms (based on four(4) READS to one(1) WRITE)
- Average Latency: 2 ms
- Rotational Speed: 15,000 RPM
- Maximum Data Transfer Rate: 83 MBps

Limitation: This disk drive requires attachment to a supported Ultra320 SCSI Adapter in a system that supports an Ultra320 SCSI cable/ backplane in order for the drive to run at 320 MBps. Also, any and all other SCSI devices on the same SCSI bus must also be Ultra2, Ultra3, or Ultra320 SCSI device(s) in order for this disk drive to run at 320 MBps.

- Attributes provided: 36.4 GB of disk storage mounted in a carrier.
- Attributes required: One disk drive bay.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3278) - 73.4 GB 15,000 RPM Ultra320 SCSI Disk Drive Assembly

The 73.4 GB 15,000 RPM Ultra320 SCSI Disk Drive Assembly provides 73.4 GB of storage capacity and supports the industry standard Ultra3 SCSI interface speed of up to 320 MBps.

Characteristics:

- Form Factor: 3.5-inch, 1-inch (25 mm) high
- Cable included: No
- External Interface: Ultra320 SCSI (16-bit, Low Voltage Differential)
- Attachment Industry Spec: SCSI U320
- Average Seek Time: 3.7 ms (based on four(4) READS to one(1) WRITE)
- Average Latency: 2 ms
- Rotational Speed: 15,000 RPM
- Maximum Data Transfer Rate: 83 MBps

Limitation: This disk drive requires attachment to a supported Ultra320 SCSI Adapter in a system that supports an Ultra320 SCSI cable/ backplane in order for the drive to run at 320 MBps. Also, any and all other SCSI devices on the same SCSI bus must also be Ultra2, Ultra3, or Ultra320 SCSI device(s) in order for this disk drive to run at 320 MBps.

- Attributes provided: 73.4 GB of disk storage mounted in a carrier.
- Attributes required: One disk drive bay.
- Minimum required: 0
- Maximum allowed: 1440 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#3279) - 146.8 GB 15,000 RPM Ultra320 SCSI Disk Drive Assembly

The 146.8 GB 15,000 RPM Ultra320 SCSI Disk Drive Assembly provides 146.8 GB of storage capacity and supports the industry standard Ultra3 SCSI interface speed of up to 320 MBps.

Characteristics:

- Form Factor: 3.5-inch, 1-inch (25 mm) high
- Cable included: No
- External Interface: Ultra320 SCSI (16-bit, Low Voltage Differential)
- Attachment Industry Spec: SCSI U320
- Average Seek Time: 3.7 ms (based on four(4) READS to one(1) WRITE)
- Average Latency: 2 ms
- Rotational Speed: 15,000 RPM
- Maximum Data Transfer Rate: 107 MBps

Limitation: This disk drive requires attachment to a supported Ultra320 SCSI Adapter in a system that supports an Ultra320 SCSI cable/ backplane in order for the drive to run at 320 MBps. Also, any and all other SCSI devices on the same SCSI bus must also be Ultra2, Ultra3, or Ultra320 SCSI device(s) in order for this disk drive to run at 320 MBps.

- Attributes provided: 146.8 GB of disk storage mounted in a carrier.
- Attributes required: One disk drive bay.
- Minimum required: 0
- Maximum allowed: 1440 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#3450) - SAS YO Cable 1.5m - HD 6Gb Adapter to Enclosure

(No longer available as of December 31, 2020)

This 1.5 meter SAS cable connects a SAS adapter to a SAS I/O enclosure. This YO cable has three connectors, one Mini-SAS HD (High Density) connector and two Mini SAS connectors. The Mini-SAS HD connector attaches to a SAS adapter such as the #5913 1.8GB RAID SAS Adapter. Both Mini SAS connectors attach to the same I/O drawer (enclosure) such as a #5887 EXP24S SAS I/O drawer. This cable can support up to 6Gb throughput.

Multiple cable length feature codes are available. Choose the cable length that best matches the distance between the adapter and the SAS I/O drawer.

- Attributes provided: connection between SAS adapter with Mini-SAS HD connectors and a SAS I/O drawer with Mini SAS connectors
- Attributes required: available connectors on SAS controller and SAS I/O drawer
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3451) - SAS YO Cable 3m - HD 6Gb Adapter to Enclosure

(No longer available as of December 31, 2020)

This 3 meter SAS cable connects a SAS adapter to a SAS I/O enclosure. This YO cable has three connectors, one Mini-SAS HD (High Density) connector and two Mini SAS connectors. The Mini-SAS HD connector attaches to a SAS adapter such as the #5913 1.8GB RAID SAS Adapter. Both Mini SAS connectors attach to the same I/O drawer (enclosure) such as a #5887 EXP24S SAS I/O drawer. This cable can support up to 6Gb throughput.

Multiple cable length feature codes are available. Choose the cable length that best matches the distance between the adapter and the SAS I/O drawer.

- Attributes provided: connection between SAS adapter with Mini-SAS HD connectors and a SAS I/O drawer with Mini SAS connectors
- Attributes required: available connectors on SAS controller and SAS I/O drawer
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3452) - SAS YO Cable 6m - HD 6Gb Adapter to Enclosure

(No longer available as of December 31, 2020)

This 6 meter SAS cable connects a SAS adapter to a SAS I/O enclosure. This YO cable has three connectors, one Mini-SAS HD (High Density) connector and two Mini SAS connectors. The Mini-SAS HD connector attaches to a SAS adapter such as the #5913 1.8GB RAID SAS Adapter. Both Mini SAS connectors attach to the same I/O drawer (enclosure) such as a #5887 EXP24S SAS I/O drawer. This cable can support up to 6Gb throughput.

Multiple cable length feature codes are available. Choose the cable length that best matches the distance between the adapter and the SAS I/O drawer.

- Attributes provided: connection between SAS adapter with Mini-SAS HD connectors and a SAS I/O drawer with Mini SAS connectors
- Attributes required: available connectors on SAS controller and SAS I/O drawer
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3453) - SAS YO Cable 10m - HD 6Gb Adapter to Enclosure

This 10 meter SAS cable connects a SAS adapter to a SAS I/O enclosure. This YO cable has three connectors, one Mini-SAS HD (High Density) connector and two Mini SAS connectors. The Mini-SAS HD connector attaches to a SAS adapter such as the #5913 1.8GB RAID SAS Adapter. Both Mini SAS connectors attach to the same I/O drawer (enclosure) such as a #5887 EXP24S SAS I/O drawer. This cable can support up to 6Gb throughput.

Multiple cable length feature codes are available. Choose the cable length that best matches the distance between the adapter and the SAS I/O drawer.

- Attributes provided: connection between SAS adapter with Mini-SAS HD connectors and a SAS I/O drawer with Mini SAS connectors
- Attributes required: available connectors on SAS controller and SAS I/O drawer
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3454) - SAS X Cable 3m - HD 6Gb 2-Adapter to Enclosure

This 3 meter SAS cable connects two SAS adapters to a SAS I/O enclosure. This X cable has four connectors, two Mini-SAS HD (High Density) connector and two Mini SAS connectors. The Mini-SAS HD connectors attaches to two SAS adapters such as the #5913 1.8GB RAID SAS Adapter. Both Mini SAS connectors attach to the same I/O drawer (enclosure) such as a #5886 EXP12S or #5887 EXP24S SAS I/O drawer. This cable can support up to 6Gb throughput.

Multiple cable length feature codes are available. Choose the cable length that best matches the distance between the adapter and the I/O drawer. See SAS cabling documentation for the length of each leg of the cable. The SAS adapters can be in the same or in different PCIe I/O drawers. Or one adapters can be in a supported Power System CEC and the other adapter can be in a PCIe I/O drawer. Or both adapters can be in a supported Power System CEC.

- Attributes provided: connection between two SAS adapter with Mini-SAS HD connectors and a SAS I/O drawer with Mini SAS connectors
- Attributes required: available connectors on SAS controllers and SAS I/O drawer
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3455) - SAS X Cable 6m - HD 6Gb 2-Adapter to Enclosure

This 6 meter SAS cable connects two SAS adapters to a SAS I/O enclosure. This X cable has four connectors, two Mini-SAS HD (High Density) connector and two Mini SAS connectors. The Mini-SAS HD connectors attaches to two SAS adapters such as the #5913 1.8GB RAID SAS Adapter. Both Mini SAS connectors attach to the same I/O drawer (enclosure) such as a #5886 EXP12S or #5887 EXP24S SAS I/O drawer. This cable can support up to 6Gb throughput.

Multiple cable length feature codes are available. Choose the cable length that best matches the distance between the adapter and the I/O drawer. See SAS cabling documentation for the length of each leg of the cable. The SAS adapters can be in the same or in different PCIe I/O drawers. Or one adapters can be in a supported Power System CEC and the other adapter can be in a PCIe I/O drawer. Or both adapters can be in a supported Power System CEC.

- Attributes provided: connection between two SAS adapter with Mini-SAS HD connectors and a SAS I/O drawer with Mini SAS connectors
- Attributes required: available connectors on SAS controllers and SAS I/O drawer
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3456) - SAS X Cable 10m - HD 6Gb 2-Adapter to Enclosure

(No longer available as of December 31, 2020)

This 10 meter SAS cable connects two SAS adapters to a SAS I/O enclosure. This X cable has four connectors, two Mini-SAS HD (High Density) connector and two Mini SAS connectors. The Mini-SAS HD connectors attaches to two SAS adapters such as the #5913 1.8GB RAID SAS Adapter. Both Mini SAS connectors attach to the same I/O drawer (enclosure) such as a #5886 EXP12S or #5887 EXP24S SAS I/O drawer. This cable can support up to 6Gb throughput.

Multiple cable length feature codes are available. Choose the cable length that best matches the distance between the adapter and the I/O drawer. See SAS cabling documentation for the length of each leg of the cable. The SAS adapters can be in the same or in different PCIe I/O drawers. Or one adapters can be in a supported Power System CEC and the other adapter can be in a PCIe I/O drawer. Or both adapters can be in a supported Power System CEC.

- Attributes provided: connection between two SAS adapter with Mini-SAS HD connectors and a SAS I/O drawer with Mini SAS connectors
- Attributes required: available connectors on SAS controllers and SAS I/O drawer
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3457) - SAS YO Cable 15m - HD 3Gb Adapter to Enclosure

(No longer available as of December 31, 2020)

This 15 meter SAS cable connects a SAS adapter to a SAS I/O enclosure. This YO cable has three connectors, one Mini-SAS HD (High Density) connector and two Mini SAS connectors. The Mini-SAS HD connector attaches to a SAS adapter such as the #5913 1.8GB RAID SAS Adapter or #ESA1/ESA2 PCIe2 RAID SAS Adapter. Both Mini SAS connectors attach to the same I/O drawer (enclosure) such as a #5887 EXP24S SAS I/O drawer. This cable can support up to 3Gb throughput.

Multiple cable length feature codes are available. Choose the cable length that best matches the distance between the adapter and the SAS I/O drawer.

- Attributes provided: connection between SAS adapter with Mini-SAS HD connectors and a SAS I/O drawer with Mini SAS connectors
- Attributes required: available connectors on SAS controller and SAS I/O drawer
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3458) - SAS X Cable 15m - HD 3Gb 2-Adapter to Enclosure

This 15 meter SAS cable connects two SAS adapters to a SAS I/O enclosure. This X cable has four connectors, two Mini-SAS HD (High Density) connector and two Mini SAS connectors. The Mini-SAS HD connectors attaches to two SAS adapters such as the #5913 1.8GB RAID SAS Adapter or #ESA1/ESA2 PCIe2 RAID SAS Adapter. Both Mini SAS connectors attach to the same I/O drawer (enclosure) such as a #5886 EXP12S or #5887 EXP24S SAS I/O drawer. This cable can support up to 3Gb throughput.

Multiple cable length feature codes are available. Choose the cable length that best matches the distance between the adapter and the I/O drawer. See SAS cabling documentation for the length of each leg of the cable. The SAS adapters can be in the same or in different PCIe I/O drawers. Or one adapters can be in a supported Power System CEC and the other adapter can be in a PCIe I/O drawer. Or both adapters can be in a supported Power System CEC.

- Attributes provided: connection between two SAS adapter with Mini-SAS HD connectors and a SAS I/O drawer with Mini SAS connectors
- Attributes required: available connectors on SAS controllers and SAS I/O drawer
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3578) - 300 GB 10,000 RPM Ultra320 SCSI Disk Drive Assembly

The 300 GB 10,000 RPM Ultra320 SCSI Disk Drive Assembly provides 300 GB of storage capacity and supports the industry standard Ultra320 SCSI interface speed of up to 320 MBps.

Characteristics:

- Form Factor: 3.5-inch, 1-inch (25 mm) high
- Cable included: No
- External Interface: Ultra320 SCSI (16-bit, Low Voltage Differential)
- Attachment Industry Spec: SCSI U320
- Average Seek Time: 4.9 ms (based on four(4) READS to one(1) WRITE)
- Average Latency: 2.99 ms
- Rotational Speed: 10,000 RPM
- Maximum Data Transfer Rate: 88 MBps

Limitation: This disk drive requires attachment to a supported Ultra320 SCSI Adapter in a system that supports an Ultra320 SCSI cable/ backplane in order for the drive to run at 320 MBps. Also, any and all other SCSI devices on the same SCSI bus must also be Ultra2, Ultra3, or Ultra320 SCSI device(s) in order for this disk drive to run at 320 MBps.

- Attributes provided: 300 GB of disk storage mounted in a carrier.
- Attributes required: One disk drive bay.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3585) 300 GB 15K RPM SCSI Disk Drive (AIX/Linux)

The 300 GB 15,000 RPM Ultra320 SCSI Disk Drive Assembly provides 300 GB of storage capacity and supports the industry standard Ultra3 SCSI interface speed of up to 320 MBps.

Characteristics:

- Form Factor: 3.5-inch, 1-inch (25 mm) high
- Cable included: No
- External Interface: Ultra320 SCSI (16-bit, Low Voltage Differential)
- Attachment Industry Spec: SCSI U320
- Average Seek Time: 3.7 ms (based on four(4) READS to one(1) WRITE)
- Average Latency: 2 ms
- Rotational Speed: 15,000 RPM
- Maximum Data Transfer Rate: 107 MBps

Limitation: This disk drive requires attachment to a supported Ultra320 SCSI Adapter in a system that supports an Ultra320 SCSI cable/ backplane in order for the drive to run at 320 MBps. Also, any and all other SCSI devices on the same SCSI bus must also be Ultra2, Ultra3, or Ultra320 SCSI device(s) in order for this disk drive to run at 320 MBps.

- Attributes provided: 300 GB of disk storage
- Attributes required: one disk drive bay
- Minimum required: 0
- Maximum allowed: 1440 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#3586) - 69GB 3.5" SAS Solid State Drive

(No Longer Available as of July 29, 2011)

The 69GB 3.5" SAS Solid State Drive (SSD) provides 69.7 GB of very high performance storage, much faster than spinning disk drives with their delays due to positioning the disk arm and waiting for the spinning disk to rotate under the arm. SSD also provide lower power utilization than spinning or hard disk drives (HDD). The drive is formatted to 69.7 GB and can be used by AIX, Linux (#3586) and IBM i (#3587). Both are identical drives, but have different feature codes to help the IBM configuration tools understand how the SSD is used.

- Connector - standard SAS dual port
- 3Gb/sec SAS device (300 MB/sec)
- 528 bytes sectors Power System
- Attributes provided: 69.7GB of formatted drive storage mounted in a 3.5-inch carrier
- Attributes required: One 3.5-inch SAS drive bay slot in the #5886 EXP 12S SAS Disk Drawer or 8234-EMA/9117-MMA CEC
- Minimum required: 0
- Maximum allowed: 880 (Initial order maximum: 250)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3587) - 69GB 3.5" SAS Solid State Drive

(No Longer Available as of July 29, 2011)

The 69GB 3.5" SAS Solid State Drive (SSD) provides 69.7 GB of very high performance storage, much faster than spinning disk drives with their delays due to positioning the disk arm and waiting for the spinning disk to rotate under the arm. SSD also provide lower power utilization than spinning or hard disk drives (HDD). The drive is formatted to 69.7 GB and can be used by AIX, Linux (#3586) and IBM i (#3587). Both are identical drives, but have different feature codes to help the IBM configuration tools understand how the SSD is used.

- Connector - standard SAS dual port
- 3Gb/sec SAS device (300 MB/sec)
- 528 bytes sectors Power System
- Attributes provided: 69.7GB of formatted drive storage mounted in a 3.5-inch carrier
- Attributes required: One 3.5-inch SAS drive bay slot in the #5886 EXP 12S SAS Disk Drawer or 8234-EMA/9117-MMA CEC
- Minimum required: 0
- Maximum allowed: 880 (Initial order maximum: 250)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3632) - Widescreen LCD Monitor

(No Longer Available as of August 08, 2017)

The Widescreen LCD Monitor has the following general characteristics:

- Black color
- Minimum 533mm (21 inch) diagonal LCD digital screen
- Maximum native resolution of 1680 x 1050 (widescreen format 1.6:1)
- Can display traditional resolutions (1024x768 and 1280x1024) without stretching
- Tilt, swivel, and height stand adjustments
- Industry standard analog input (15-pin D) and a DVI to VGA converter
- Attributes provided: Color Flat-panel Monitor
- Attributes required: Graphics Adapter
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

Note: Not supported in Mainland China.

(#3635) - T210 Flat-Panel Monitor

The T210 flat-panel monitor has the following general characteristics:

- Business black color
- 21-inch TFT LCD digital screen with a viewable image size of 528 mm (20.8 inches) measured diagonally, incorporating a 0.207 mm pixel pitch/type for bright, high-definition images.
- Designed to provide flicker free operation at a maximum resolution of 2048 x 1536 pels at 60Hz.
- Tilt/swivel stand
- Attributes provided: Color Flat-panel Monitor
- Attributes required: Graphics Adapter
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#3636) - L200P Flat Panel Monitor

The L200p flat-panel monitor has the following general characteristics:

- Business black color
- 20.1-inch TFT LCD digital screen with a viewable image size of 510 mm (20.1 inches) measured diagonally, incorporating a 0.255 mm pixel pitch/type for bright, high-definition images.
- Designed to provide flicker free operation at a maximum resolution of 1600 x 1200 pels at 75Hz in analog mode and 1600 x 1200 pels at 60Hz in digital mode.
- Tilt/swivel stand
- Attributes provided: Color Flat-panel Monitor
- Attributes required: Graphics Adapter
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3637) - IBM T541H /L150p 15" TFT Color Monitor

Both the T541H and L150p monitors have the following general characteristics:

- Business Black color
- 15-inch TFT LCD digital screen with a viewable image size of 381 mm (15.0 inches) measured diagonally, incorporating a 0.297 mm pixel pitch/type for bright, high-definition images.

- Designed to provide flicker free operation at a maximum resolution of 1024 x 768 pels at 75Hz in analog mode and 1024 x 768 pels at 60Hz in digital mode.
- Tilt/swivel stand
- Supports 2D Graphics Adapters only
- Attributes provided: Color Flat-panel Monitor
- Attributes required: 2D Graphics Adapter
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#3639) - IBM ThinkVision L170p Flat Panel Monitor

The IBM ThinkVision L170p LCD flat-panel monitor has the following general characteristics:

- Business black color
- 17.0-inch LCD digital screen with a viewable image size of 432 mm (17.0 inches) measured diagonally, incorporating a 0.264mm pixel pitch/type for bright, high-definition images.
- Maximum resolution of 1280 x 1024.
- Tilt/swivel and height adjustable stand
- Analog or digital connection
- Dual input allows attachment to two systems concurrently.
- Internal power
- Depth: 237.0 mm (9.3 in.)
- Height: 457.0 mm (18.0 in.)
- Width: 400.0 mm (15.7 in.)
- Weight: 5.7 kg (12.6 lbs.)
- Viewing angle: Vertical 170 degrees; horizontal 170 degrees
- Contrast ratio: 500:1 (typical)
- Video inputs: 15-pin D / DVI-D
- Two removable cables: one analog and one digital
- Attributes provided: Color Flat-panel Monitor
- Attributes required: Graphics Adapter
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#3640) - ThinkVision L171p Flat Panel Monitor

The ThinkVision L171p LCD flat-panel monitor has the following general characteristics:

- Business black color
- 17.0-inch LCD digital screen with a viewable image size of 432 mm (17.0 inches) measured diagonally, incorporating a 0.280mm pixel pitch/type for bright, high-definition images.
- Maximum resolution of 1280 x 1024.
- Tilt/swivel and height adjustable stand
- Analog or digital connection
- Dual input allows attachment to two systems concurrently.
- Internal power
- Depth: 237.0 mm (9.3 in.)
- Height: 457.0 mm (18.0 in.)
- Width: 400.0 mm (15.7 in.)
- Weight: 5.7 kg (12.6 lbs.)
- Viewing angle: Vertical 170 degrees; horizontal 170 degrees
- Contrast ratio: 800:1 (typical)
- Video inputs: 15-pin D / DVI-D
- Two removable cables: one analog and one digital
- RoHS compliant
- Attributes provided: Color Flat-panel Monitor
- Attributes required: Graphics Adapter
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#3641) - IBM T115 Flat Panel Monitor

The IBM T115 LCD flat-panel monitor has the following general characteristics:

- Business black color
- 15.0-inch LCD digital screen with a viewable image size of 381 mm (15.0 inches) measured diagonally, incorporating a 0.297mm pixel pitch/type for bright, high-definition images.
- Maximum resolution of 1024 x 768 (XGA)
- Tilt adjustable stand
- Analog connection
- Internal power
- Depth (w/stand): 144 mm (6.67 inches)
- Height (max w/stand): 361 mm (14.2 inches)
- Width: 362 mm (14.2 inches)
- Weight: 2.9 kg (6.4 lbs)
- Contrast ratio: 400:1 (typical)
- Brightness: 250cd/m2 (typical)
- Viewing angles (H/V): 130 degrees/100 degree
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#3642) - ThinkVision L191p Flat Panel Monitor

The ThinkVision L191p LCD flat-panel monitor has the following general characteristics:

- Business black color
- 19.0-inch LCD digital screen with a viewable image size of 483 mm (19.0 inches) measured diagonally, incorporating a 0.294mm pixel pitch/type for bright, high-definition images.
- Maximum resolution of 1280 x 1024.
- Tilt/swivel and height adjustable stand
- Analog or digital connection
- Dual input allows attachment to two systems concurrently.
- Internal power
- Depth: 237.0 mm (9.3 in.)
- Height: 457.0 mm (18.0 in.)
- Width: 408.0 mm (16.1 in.)
- Weight: 7.1 kg (15.7 lbs.)
- Contrast ratio: 1000:1 (typical)
- Video inputs: 15-pin D / DVI-D
- Two removable cables, one analog and one digital
- Attributes provided: Color Flat-panel Monitor
- Attributes required: Graphics Adapter
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#3643) - IBM T120 Flat Panel Monitor

The IBM T120 LCD flat-panel monitor has the following general characteristics:

- Business black color
- 20.1-inch LCD digital screen with a viewable image size of 511 mm (20.1 inches) measured diagonally, incorporating a 0.255 mm pixel pitch/type for bright, high-definition images.

- Maximum resolution of 1600 x 1200 (UXGA)
- Tilt/lift adjustable stand
- Analog and digital connections
- Internal power
- Depth (w/stand): 246 mm (9.7 inches)
- Height (max w/stand): 416.6 mm (16.5 inches)
- Width: 445.6 mm (17.5 inches)
- Weight: 7.5 kg (16.5 lbs)
- Contrast ratio: 700:1 (typical)
- Brightness:300cd/m2 (typical)
- Viewing angles(H/V): 178 degrees/178 degrees
- Video inputs: 15-pin D / DVI-D
- Two removable cables, one analog and one digital
- Attributes provided: Color Flat-panel Monitor
- Attributes required: Graphics Adapter
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#3644) - IBM T119 Flat Panel Monitor

The IBM T119 LCD flat-panel monitor has the following general characteristics:

- Business black color
- 19.0-inch LCD digital screen with a viewable image size of 483 mm (19.0 inches) measured diagonally, incorporating a 0.294 mm pixel pitch/type for bright, high-definition images.
- Maximum resolution of 1280 x 1024 (SXGA)
- Tilt/lift adjustable stand
- Analog and digital connections
- Internal power
- Depth (w/stand): 246 mm (9.7 inches)
- Height (max w/stand): 443.6 mm (17.5 inches)
- Width: 418 mm (16.5 inches)
- Weight: 7.4 kg (16.3 lbs)
- Contrast ratio: 550:1 (typical)
- Brightness:250cd/m2 (typical)
- Viewing angles (H/V): 140 degrees/135 degrees
- Video inputs: 15-pin D / DVI-D
- Two removable cables, one analog and one digital
- Attributes provided: Color Flat-panel Monitor
- Attributes required: Graphics Adapter
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#3645) - IBM T117 Flat Panel Monitor

The IBM T117 LCD flat-panel monitor has the following general characteristics:

- Business black color
- 17.0-inch LCD digital screen with a viewable image size of 432 mm (17.0 inches) measured diagonally, incorporating a 0.264 mm pixel pitch/type for bright, high-definition images.

- Maximum resolution of 1280 x 1024 (SXGA)
- Tilt/lift adjustable stand
- Analog and digital connections
- Internal power
- Depth (w/stand): 246 mm (9.7 inches)
- Height (max w/stand): 395.5 mm (15.6 inches)
- Width: 375.4 mm (14.8 inches)
- Weight: 5.8 kg (12.8 lbs)
- Contrast ratio: 500:1 (typical)
- Brightness: 300cd/m2 (typical)
- Viewing angles (H/V): 140 degrees/130 degrees
- Video inputs: 15-pin D / DVI-D
- Two removable cables, one analog and one digital
- Attributes provided: Color Flat-panel Monitor
- Attributes required: Graphics Adapter
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#3646) - 73GB 15K RPM SAS Disk Drive

73.4GB Serial Attached SCSI (SAS) DASD device, in a carrier capable of providing Hot Swap support. Provides 73.4GB of storage capacity. Supports the industry standard SAS interface. Can be used only in a drawer/system designed to support the SAS interface.

Characteristics:

- Form Factor: 3.5 inch Form Factor, 1 inch drive.
- Cable included: No
- External Interface: standard SAS Dual Port
- Rotational Speed: 15,000 RPM
- Interface Speed: 300 MB/sec.
- Format: 512 Bytes/sector default, 528 Bytes/sector possible with reformat.
- Attributes provided: 73.4GB of disk storage mounted in a carrier.
- Attributes required: one disk drive bay
- Minimum required: 0
- Maximum allowed: 1320 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#3647) 146GB 15K RPM SAS Disk Drive (AIX/Linux)

(No Longer Available as of February 8, 2013)

146.8GB Serial Attached SCSI (SAS) DASD device, in a carrier capable of providing Hot Swap support. Provides 146.8GB of storage capacity. Supports the industry standard SAS SCSI interface. Can be used only in a drawer/system designed to support the SAS SCSI interface.

Characteristics:

- Form Factor: 3.5 inch Form Factor, 1 inch drive.
- Cable included: No
- External Interface: standard SAS Dual Port
- Rotational Speed: 15,000 RPM
- Interface Speed: 300 MB/sec.
- Format: 512 Bytes/sector default, 528 Bytes/sector possible with reformat.
- Attributes provided: 146.8GB of Disk Storage mounted in a carrier
- Attributes required: one SAS Drive Slot
- Minimum required: 0
- Maximum allowed: 1320 (Initial order maximum: 250)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3648) 300GB 15K RPM SAS Disk Drive (AIX/Linux)

(No Longer Available as of February 8, 2013)

300GB Serial Attached SCSI (SAS) DASD device, in a carrier capable of providing Hot Swap support. Provides 300GB of storage capacity. Supports the industry standard SAS SCSI interface. Can be used only in a drawer/system designed to support the SAS SCSI interface.

Characteristics:

- Form Factor: 3.5 inch Form Factor, 1 inch drive.
- Cable included: No
- External Interface: standard SAS Dual Port
- Rotational Speed: 15,000 RPM
- Interface Speed: 300 MB/sec.
- Format: 512 Bytes/sector default, 528 Bytes/sector possible with reformat.
- Attributes provided: 300GB of Disk Storage mounted in a carrier
- Attributes required: one SAS Drive Slot
- Minimum required: 0
- Maximum allowed: 1320 (Initial order maximum: 250)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3649) 450GB 15K RPM SAS Disk Drive (AIX/Linux)

(No Longer Available as of February 8, 2013)

Attached SAS DASD device, in a carrier capable of providing Hot Swap support. Provides 450GB of storage capacity. Supports the industry standard SAS interface. Can be used only in a drawer/system designed to support the SAS interface.

Characteristics:

- Form Factor: 3.5 inch Form Factor, 1 inch drive.
- Cable included: No
- External Interface: standard SAS Dual Port
- Rotational Speed: 15,000 RPM
- Interface Speed: 300 MB/sec.
- Format: 512 Bytes/sector default, 528 Bytes/sector possible with re-format.
- Attributes provided: 450GB of disk storage mounted in a carrier.
- Attributes required: one SAS disk drive bay
- Minimum required: 0
- Maximum allowed: 1320 (Initial order maximum: 250)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

This feature allows 3 of the internal SAS disk slots (SAS disks slots 4, 5, and 6) in a CEC enclosure to be controlled by a SAS controller adapter(or adapters) in an expansion adapter slot(s), located in the same MMA system. With this feature the connection to the 3 internal SAS disk slots is transferred from the internal controller to a Mini SAS 4x receptacle on the rear bulkhead of the CEC enclosure at adapter slot location P1-C3. This feature occupies slot location P1-C3. An external cable, feature 3679 or 3667 (or similar cable) is required to connect the Mini SAS 4x bulkhead connector to the SAS controller adapter(s). The SAS controller adapter(s) requires additional slot(s) The SAS controller adapter(s) is/are not part of this feature.

- Attributes provided: External connection for 3 of 6 internal SAS Disk slots.
- Attributes required: Slot P1-C3 in the CEC enclosure (PCIe slot) plus a separate slot required for the external SAS Adapter.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3651) - External connection for the 6 internal SAS Disk slots.

This feature allows external control of the 6 internal SAS Disk slots in a CEC enclosure. This feature allows the 6 internal SAS disk slots in a CEC enclosure to be controlled by a SAS controller adapter (or adapters) in an expansion adapter slot(s), located in the same system. With this feature the control of the internal SAS drive slots is transferred from the internal controller to a Mini SAS 4x receptacle on the rear bulkhead of the CEC enclosure at adapter slot location P1-C3. This feature occupies slot location P1-C3. An external cable, feature 3679 or 3667 (or similar cable) is required to connect the Mini SAS 4x bulkhead connector to the SAS controller adapter(s). The SAS controller adapter(s) require additional PCI slots(s). The SAS controller adapter(s) is/are not part of this feature.

- Attributes provided: External connection for the 6 internal SAS Disk slots
- Attributes required: Slot P1-C3 in the CEC enclosure (PCIe slot), plus a separate slot required for the external SAS Adapter.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3652) - SAS Cable (EE) Drawer to Drawer 1M

(No longer available as of April 19, 2019)

SAS Cable (EE), connects a second SAS disk drawer to a primary SAS disk drawer attached to a SAS controller adapter. This cable has one Mini SAS 4x cable plug connector on each end. Both connectors must be attached to an ENCLOSURE UP Arrow port on the ESM module of the attaching drawers. Follow the directions on the connector labels when attaching the connectors on this cable. This cable supports both Single and Dual path configurations. All supported configurations require two of this feature to attach a secondary disk drawer to the primary disk drawer. The length of this cable is 1 meter. Choose the SAS (EE) cable length to match the distance between the two SAS drawers.

- Attributes provided: SAS Disk drawer to SAS Disk drawer attach cable
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3653) - SAS Cable (EE) Drawer to Drawer 3M

(No longer available as of April 19, 2019)

SAS Cable (EE), connects a second SAS disk drawer to a primary SAS disk drawer attached to a SAS controller adapter. This cable has one Mini SAS 4x cable plug connector on each end. Both connectors must be attached to an ENCLOSURE UP Arrow port on the ESM module of the attaching drawers. Follow the directions on the connector labels when attaching the connectors on this cable. This cable supports both Single and Dual path configurations. All supported configurations require two of this feature to attach a secondary disk drawer to the primary disk drawer. The length of this cable is 3 meter. Choose the SAS (EE) cable length to match the distance between the two SAS drawers.

- Attributes provided: SAS Disk drawer to SAS Disk drawer attach cable
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3654) - SAS Cable (EE) Drawer to Drawer 6M

(No longer available as of April 19, 2019)

SAS Cable (EE), connects a second SAS disk drawer to a primary SAS disk drawer attached to a SAS controller adapter. This cable has one Mini SAS 4x cable plug connector on each end. Both connectors must be attached to an ENCLOSURE UP Arrow port on the ESM module of the attaching drawers. Follow the directions on the connector labels when attaching the connectors on this cable. This cable supports both Single and Dual path configurations. All supported configurations require two of this feature to attach a secondary disk drawer to the primary disk drawer. The length of this cable is 6 meter. Choose the SAS (EE) cable length to match the distance between the two SAS drawers.

- Attributes provided: SAS Disk drawer to SAS Disk drawer attach cable
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3658) 428GB 15K RPM SAS Disk Drive (IBM i)

(No Longer Available as of February 8, 2013)

Attached SAS DASD device, in a carrier capable of providing Hot Swap support. Provides 428GB of storage capacity. Supports the industry standard SAS interface. Can be used only in a drawer/system designed to support the SAS interface.

Characteristics:

- Form Factor: 3.5 inch Form Factor, 1 inch drive.
- Cable included: No
- External Interface: standard SAS Dual Port
- Rotational Speed: 15,000 RPM
- Interface Speed: 300 MB/sec.
- Format: 528 Bytes/sector default, 512 B

Note: This drive is not supported as a load source drive for POWER5/POWER5+ systems.

- Attributes provided: 428GB SAS disk storage mounted in a carrier.
- Attributes required: one SAS disk drive bay
- Minimum required: 0
- Maximum allowed: 1320 (Initial order maximum: 250)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3660) - Processor Fabric Cable, 2 enclosure

This cable is a modular component of the external Processor Fabric Bus. One of these cables is required for each pair of adjacent CEC enclosures in the system stack. One feature is required for a connection between drawers 1 and 2. On the Power 570 server a second feature is required for a connection between drawers 2 and 3, and a third feature is required for a connection between drawers 3 and 4.

- Attributes provided: External Processor Fabric Bus
- Attributes required: A two or more CEC enclosure system
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3661) SAS Cable (X) Adapter to SAS Enclosure, Dual Controller/Dual Path 3M

This SAS cable (X) connects a SAS disk drawer to two SAS controller adapters. This cable supports dual controller/dual path attach between two SAS controller adapters and the SAS disk drawer. The SAS controller adapters can be in the same or in different host systems. This cable has four Mini SAS 4x plug connectors. Two of the Mini SAS 4x plug connectors attach to the adapters and are keyed as END DEVICES. Two of the Mini SAS 4x plug connectors attach to the SAS disk drawer and are keyed for ENCLOSURE DOWN Arrow. All of the connectors are wired in 2x mode. Follow the directions on the connector labels when attaching the connectors on this cable. This cable is 3 meters long, choose the SAS (X) cable length that matches the distance between the adapters and the SAS disk drawer. The adapter legs of this cable are each 2.5 meters long.

- Attributes provided: Connection between two SAS controller adapters and a SAS disk drawer
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3662) SAS Cable (X) Adapter to SAS Enclosure, Dual Controller/Dual Path 6M

This SAS cable (X) connects a SAS disk drawer to two SAS controller adapters. This cable supports dual controller/dual path attach between two SAS controller adapters and the SAS disk drawer. The SAS controller adapters can be in the same or in different host systems. This cable has four Mini SAS 4x plug connectors. Two of the Mini SAS 4x plug connectors attach to the adapters and are keyed as END DEVICES. Two of the Mini SAS 4x plug connectors attach to the SAS disk drawer and are keyed for ENCLOSURE DOWN Arrow. All of the connectors are wired in 2x mode. Follow the directions on the connector labels when attaching the connectors on this cable. This cable is 6 meters long, choose the SAS (X) cable length that matches the distance between the adapters and the SAS disk drawer. The adapter legs of this cable are each 5.5 meters long.

- Attributes provided: Connection between two SAS controller adapters and a SAS disk drawer
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3663) SAS Cable (X) Adapter to SAS Enclosure, Dual Controller/Dual Path 15M

(No longer available as of December 31, 2020)

This SAS cable (X) connects a SAS disk drawer to two SAS controller adapters. This cable supports dual controller/dual path attach between two SAS controller adapters and the SAS disk drawer. The SAS controller adapters can be in the same or in different host systems. This cable has four Mini SAS 4x plug connectors. Two of the Mini SAS 4x plug connectors attach to the adapters and are keyed as END DEVICES. Two of the Mini SAS 4x plug connectors attach to the SAS disk drawer and are keyed for ENCLOSURE DOWN Arrow. All of the connectors are wired in 2x mode. Follow the directions on the connector labels when attaching the connectors on this cable. This cable is 15 meters long, choose the SAS (X) cable length that matches the distance between the adapters and the SAS disk drawer. The adapter legs of this cable are each 14.5 meters long.

- Attributes provided: Connection between two SAS controller adapters and a SAS disk drawer
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3664) - Processor Fabric Cable, 3 enclosure

This cable is a modular component of the external Processor Fabric Bus. One of these cables is required for each three CEC enclosure combination in the system stack.

One of these features is required for a connection between drawers 1 and 3, and a second feature is required for a connection between drawers 2 and 4.

- Attributes provided: External Processor Fabric Bus
- Attributes required: A three or more CEC enclosure system
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3665) - Processor Fabric Cable, 4 enclosure

This cable is a modular component of the external Processor Fabric Bus. One of these cables is required for each four CEC enclosure combination in the system stack.

One of these features is required for a connection between drawers 1 and 4.

- Attributes provided: External Processor Fabric Bus
- Attributes required: A 4 CEC enclosure system
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3667) - SAS Cable (YR) -1M

This Y cable has three Mini SAS 4x plug connectors. The single connector end is wired in 4x mode and is keyed for attachment to an ENCLOSURE OUT. On the dual connector end, the connectors are each wired in 2x mode and are keyed for attachment to an END DEVICE. This cable connects two SAS RAID Adapters to a bulkhead port for accessing internal SAS disks. This cable is 1 meter long.

- Attributes provided: Cable to support RAID application for internal SAS disks
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3671) - Serv Interface Cable- 2, 3, and 4 Enclosure

(No longer available as of March 31, 2018)

Connects the components in each CEC enclosure to the active Service Processor for monitoring system functions. This cable connects at the rear of each CEC enclosure and is required for two, three and four drawer configurations. Two drawer configurations require cable #3671. Three drawer configurations require cables #3671 and #3672. Four drawer configurations require cables #3671, #3672 and #3673.

- Attributes provided: Service Interface
- Attributes required: System with two, three or four CEC enclosures
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3672) - Serv Interface Cable- 3 and 4 Enclosure

(No Longer Available as of March 31, 2018)

Connects the components in each CEC enclosure to the active Service Processor for monitoring system functions. This cable connects at the rear of each CEC enclosure and is required for three and four drawer configurations.

- Attributes provided: Service Interface
- Attributes required: System with three or four CEC enclosures
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3673) - Serv Interface Cable- 4 Enclosure

(No Longer Available as of March 31, 2018)

Connects the components in each CEC enclosure to the active Service Processor for monitoring system functions. This cable connects at the rear of each CEC enclosure and is required for four drawer configurations. Two drawer configurations require cable #3671. Three drawer configurations require cables #3671 and #3672. Four drawer configurations require cables #3671, #3672 and #3673.

- Attributes provided: Service Interface
- Attributes required: System with four CEC enclosures
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3676) - 69.7GB 15k rpm SAS Disk Drive

Provides a 15,000 RPM, 3.5-inch disk unit with 69.7GB capacity and a Serially Attached SCSI (SAS) interface. #3676 is mounted in a carrier and Hot Swap is supported.

- Attributes provided: 69.7GB Disk Unit
- Attributes required: Disk Unit Slot and a SAS Disk Unit Controller
- Minimum required: 0
- Maximum allowed: 1320 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#3677) 139.5GB 15k rpm SAS Disk Drive (IBM i)

(No Longer Available as of February 8, 2013)

Provides a 15,000 RPM, 3.5-inch disk unit with 139.5GB capacity and a Serially Attached SCSI (SAS) interface. #3677 is mounted in a carrier and hot swap is supported.

- Attributes provided: 139.5GB Disk Unit in a carrier
- Attributes required: one SAS drive slot
- Minimum required: 0
- Maximum allowed: 1320 (Initial order maximum: 250)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3678) 283.7GB 15k rpm SAS Disk Drive (IBM i)

(No Longer Available as of February 8, 2013)

Provides a 15,000 RPM, 3.5-inch disk unit with 283.7GB capacity and a Serially Attached SCSI (SAS) interface. #3678 is mounted in a carrier and hot swap is supported.

- Attributes provided: 283.7GB Disk Unit in a carrier
- Attributes required: one SAS drive slot
- Minimum required: 0
- Maximum allowed: 1320 (Initial order maximum: 250)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3679) - SAS Cable (AI)- Adapter to Internal drive 1M

(No longer available as of April 19, 2019)

This SAS cable (AI) connects a SAS Adapter to a bulkhead port for accessing internal SAS disks. It is 1 meter long. This cable has two Mini SAS 4x plug connectors, and is wired in 4x mode. Both ends are keyed for attachment to an END DEVICE.

- Attributes provided: SAS 4x Cable
 - Attributes required: feature to create the internal disk port
 - Minimum required: 0
 - Maximum allowed: 4 (Initial order maximum: 4)
 - OS level required: n/a
 - Initial Order/MES/Both/Supported: Both
 - CSU: Yes
 - Return parts MES: No
- Note: One per CEC enclosure.

(#3681) - 3M SAS CABLE, ADPTR TO ADPTR (AA)

(No longer available as of December 31, 2020)

The dedicated 2:6 cable connects between the dedicated top port on #5904, #5906 or #5908 for a SAS RAID Dual controller configuration providing (higher performance) path for all the dual controller communication including the mirroring of Write Cache and Parity update footprints between the adapters.

If the cable fails or is disconnected for some reason, then the "traditional" dual controller communication path via the SAS fabric (i.e. through the common disk expanders) is used for the adapter-to-adapter communication (mirror Write Cache, Parity Update footprints, etc...). This cable provides higher performance and redundancy. The cable is required for dual SAS RAID configuration. It is not required nor used for a single SAS RAID adapter (standalone) configuration.

- Attributes provided: Higher performance path for all the dual controller communication including the mirroring of Write Cache and Parity update footprints between the adapters.
 - Attributes required: Two of any combination of the following SAS RAID adapters #5904, #5906 or 5908.
 - Minimum required: 0
 - Maximum allowed: 999 (Initial order maximum: 250)
 - OS level required: n/a
 - Initial Order/MES/Both/Supported: Both
 - CSU: Yes
 - Return parts MES: No
- Note: Requires one per paired SAS RAID controller in any combination of #5904, #5906 or #5908. These controllers can also function as a single SAS RAID controller without the cable.

(#3682) - 6M SAS CABLE, ADPTR TO ADPTR (AA)

The dedicated 2:6 cable connects between the dedicated top port on #5904, #5906 or #5908 for a SAS RAID Dual controller configuration providing (higher performance) path for all the dual controller communication including the mirroring of Write Cache and Parity update footprints between the adapters.

If the cable fails or is disconnected for some reason, then the "traditional" dual controller communication path via the SAS fabric (i.e. through the common disk expanders) is used for the adapter-to-adapter communication (mirror Write Cache, Parity Update footprints, etc...). This cable provides higher performance and redundancy. The cable is required for dual SAS RAID configuration. It is not required nor used for a single SAS RAID adapter (standalone) configuration.

- Attributes provided: Higher performance path for all the dual controller communication including the mirroring of Write Cache and Parity update footprints

- Attributes required: Two of any combination of the following SAS RAID adapters #5904, #5906 or 5908.
 - Minimum required: 0
 - Maximum allowed: 999 (Initial order maximum: 250)
 - OS level required: n/a
 - Initial Order/MES/Both/Supported: Both
 - CSU: Yes
 - Return parts MES: No
- Note: Requires one per paired SAS RAID controller in any combination of #5904, #5906 or #5908. These controllers can also function as a single SAS RAID controller without the cable. VIOS 2.1.1.0 or later.

(#3684) SAS Cable (AE) Adapter to Enclosure, single controller/single path 3M

This adapter-to-enclosure (AE) SAS cable most commonly connects a SAS controller to a media expansion drawer.

For AIX and Linux, this cable can also be used to connect two SAS adapters to a SAS disk drawer in a specific dual controller HA two system JBOD configuration using two #5912 controllers. Single controller/single path connections are supported with this cable only for this specific JBOD configuration, and, as such, two #5912 SAS controllers and two (AE style) cables are required for a supported configuration. The two SAS adapters must be in different host systems/partitions.

This cable has one mini SAS 4X plug connector on the adapter end wired in 4x mode and one mini SAS 4X plug connector on the drawer end, wired in 4x mode. Follow the directions on the connector labels when attaching the connectors on this cable. This cable is three meters long. Select the SAS (AE) cable length that best matches the distance between the host system and the remote SAS drawer being attached.

- Attributes provided: Connection between a SAS controller and a media expansion drawer or for AIX and Linux connection between #5912 SAS controller and a SAS disk drawer in a dual controller HA two system JBOD configuration only
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3685) SAS Cable (AE) Adapter to Enclosure, single controller/single path 6M

(No longer available as of December 31, 2020)

This adapter-to-enclosure (AE) SAS cable most commonly connects a SAS controller to a media expansion drawer.

For the AIX and Linux operating systems, this cable can also be used to connect two SAS adapters to a SAS disk drawer in a specific dual controller HA two system JBOD configuration using two #5912 controllers. Single controller/single path connections are supported with this cable only for this specific JBOD configuration, and, as such, two #5912 SAS controllers and two (AE style) cables are required for a supported configuration. The two SAS adapters must be in different host systems/partitions.

This cable has one mini SAS 4X plug connector on the adapter end wired in 4x mode and one mini SAS 4X plug connector on the drawer end, wired in 4x mode. Follow the directions on the connector labels when attaching the connectors on this cable. This cable is three meters long. Select the SAS (AE) cable length that best matches the distance between the host system and the remote SAS drawer being attached.

- Attributes provided: Connection between a SAS controller and a media expansion drawer or for AIX and Linux connection between #5912 SAS controller and a SAS disk drawer in a dual controller HA two system JBOD configuration only
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3686) SAS Cable (YI) System to SAS Enclosure, Single Controller/Dual Path 1.5M

(No Longer Available as of January 7, 2011)

This SAS cable (YI) connects a single remote SAS drawer to a host system that contains an integrated SAS controller connection. There are a limited number of Power System servers that can support this configuration. This cable supports single controller/dual path attach between the SAS controller and the SAS disk drawer. This cable has one Mini SAS 4X plug connector on the host end keyed as ENCLOSURE UP Arrow, wired in 4x mode and two Mini SAS 4X plug connector on the drawer end keyed as ENCLOSURE UP Arrow both wired in 2x mode. Follow the directions on the connector labels when attaching the connectors on this cable. This cable is 1.5 meters long, choose the SAS (YI) cable length that matches the distance between the host system and the SAS disk drawer.

- Attributes provided: Connection between host system native SAS connector and a remote SAS drawer
- Attributes required: Host system with native SAS connector
- Minimum required: 0
- Maximum allowed: 4 (Initial order maximum: 4)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3687) SAS Cable (YI) System to SAS Enclosure, Single Controller/Dual Path 3M

This SAS cable (YI) connects a single remote SAS drawer to a host system that contains an integrated SAS controller connection. There are a limited number of Power System servers that can support this configuration. This cable supports single controller/dual path attach between the SAS controller and the SAS disk drawer. This cable has one Mini SAS 4X plug connector on the host end keyed as ENCLOSURE UP Arrow, wired in 4x mode and two Mini SAS 4X plug connector on the drawer end keyed as ENCLOSURE UP Arrow both wired in 2x mode. Follow the directions on the connector labels when attaching the connectors on this cable. This cable is 3 meters long, choose the SAS (YI) cable length that matches the distance between the host system and the SAS disk drawer.

- Attributes provided: Connection between host system native SAS connector and a remote SAS drawer
- Attributes required: Host system with native SAS connector
- Minimum required: 0
- Maximum allowed: 4 (Initial order maximum: 4)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3688) - SAS Cable (AT) 0.6 Meter

(No longer available as of April 19, 2019)

This 0.6 Meter SAS Cable (AT) is used to drive the 12X I/O Drawer Small Form Factor disk using PCIe SAS adapters installed in the drawer. If SFF disk is installed in the 12X I/O Drawer PCIe, SFF disk, then there must be at least one SAS AT cable assigned.

- Attributes provided: 0.6 Meter SAS Cable (AT)
- Attributes required: 12X I/O Drawer with a PCIe SAS adapter
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3689) - SAS AT Cable 0.6m - HD 6Gb Adapter to 12X Enclosure (AT)

(No longer available as of April 19, 2019)

This 0.6 meter SAS cable connects a SAS adapter located in a PCIe I/O drawer to a SAS port on that same I/O drawer. This AT cable has two connectors, one Mini-SAS HD (High Density) connector and one Mini SAS connector. The Mini-SAS HD connector attaches to a SAS adapter such as the #5913 1.8GB RAID SAS Adapter. The Mini SAS connectors attaches to the I/O drawer (enclosure) such as a #5802 or #5803 12X PCIe I/O drawer. This cable can support up to 6Gb throughput.

- Attributes provided: connection between SAS adapter with Mini-SAS HD SA connectors and a SAS I/O drawer with Mini SAS connectors
- Attributes required: available connectors on SAS controller and SAS I/O drawer. Adapter must be in that same I/O drawer.
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3691) SAS Cable (YO) Adapter to SAS Enclosure, Single Controller/Dual Path 1.5 M

This SAS cable (YO) connects a remote SAS drawer to a SAS controller adapter. This cable supports single controller/dual path attach between the SAS controller adapter and the SAS disk drawer. This cable has one Mini SAS 4X plug connector on the adapter end keyed for an END DEVICE, wired in 4x mode and two Mini SAS 4X plug connectors on the drawer end keyed for ENCLOSURE DOWN Arrow, both are wired in 2x mode. Follow the directions on the connector labels when attaching the connectors on this cable. This cable is 1.5 meters long, choose the SAS (YO) cable length that matches the distance between the adapter and the SAS disk drawer.

- Attributes provided: connection between SAS controller adapter and a SAS disk drawer
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3692) SAS Cable (YO) Adapter to SAS Enclosure, Single Controller/Dual Path 3 M

This SAS cable (YO) connects a remote SAS drawer to a SAS controller adapter. This cable supports single controller/dual path attach between the SAS controller adapter and the SAS disk drawer. This cable has one Mini SAS 4X plug connector on the adapter end keyed for an END DEVICE, wired in 4x mode and two Mini SAS 4X plug connectors on the drawer end keyed for ENCLOSURE DOWN Arrow, both are wired in 2x mode. Follow the directions on the connector labels when attaching the connectors on this cable. This cable is 3 meters long, choose the SAS (YO) cable length that matches the distance between the adapter and the SAS disk drawer.

- Attributes provided: connection between SAS controller adapter and a SAS disk drawer
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3693) SAS Cable (YO) Adapter to SAS Enclosure, Single Controller/Dual Path 6 M

This SAS cable (YO) connects a remote SAS drawer to a SAS controller adapter. This cable supports single controller/dual path attach between the SAS controller adapter and the SAS disk drawer. This cable has one Mini SAS 4X plug connector on the adapter end keyed for an END DEVICE, wired in 4x mode and two Mini SAS 4X plug connectors on the drawer end keyed for ENCLOSURE DOWN Arrow, both are wired in 2x mode. Follow the directions on the connector labels when attaching the connectors on this cable. This cable is 6 meters long, choose the SAS (YO) cable length that matches the distance between the adapter and the SAS disk drawer.

- Attributes provided: connection between SAS controller adapter and a SAS disk drawer
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3694) SAS Cable (YO) Adapter to SAS Enclosure, Single Controller/Dual Path 15 M

(No longer available as of December 31, 2020)

This SAS cable (YO) connects a remote SAS drawer to a SAS controller adapter. This cable supports single controller/dual path attach between the SAS controller adapter and the SAS disk drawer. This cable has one Mini SAS 4X plug connector on the adapter end keyed for an END DEVICE, wired in 4x mode and two Mini SAS 4X plug connectors on the drawer end keyed for ENCLOSURE DOWN Arrow, both are wired in 2x mode. Follow the directions on the connector labels when attaching the connectors on this cable. This cable is 15 meters long, choose the SAS (YO) cable length that matches the distance between the adapter and the SAS disk drawer.

- Attributes provided: connection between SAS controller adapter and a SAS disk drawer
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3704) - External xSeries Attach

#3704 is added to an order for each Direct Attached xSeries Server connected to the system. The marketing configurators use this code to determine the number of RIO and SPCN cables required and to insure that the number of External xSeries Servers does not exceed the system limit. Each External xSeries Server is cabled with a pair of RIO cables and attached to the SPCN string like all other HSL attached I/O towers.

- Attributes provided: N/A
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3705) - PCI IOP

#3705 is a PCI I/O processor with 64MB of memory which drives PCI IOA adapters.

#3705 can drive a maximum of four IOAs, subject to configuration restrictions.

- Attributes provided: support for up to 4 PCI IOAs
- Attributes required: one PCI slot
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3706) - DVD-ROM

This DVD-ROM mounts in a removable media device slot. It can read 640MB CD-ROM and 4.7GB DVD-RAM media. #3706 can be used for Alternate IPL (IBM distributed CD-ROM media only) and program distribution.

- Attributes provided: DVD-ROM
- Attributes required: Removable media device slot in an I/O tower
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3707) - 30GB 1/4-Inch Cartridge Tape

The #3707 is a 30GB 1/4-Inch Cartridge Tape Unit that can be mounted in half-high, autodocking, removable media bays of expansion towers/units.

The #3707 may be used for save/restore, alternate IPL, program distribution, migration and 1/4-inch cartridge tape exchange.

A #3707 will read/write the following tape formats:

- 30GB (up to 60GB with compression in SLR60 format) with IBM SLR60-30GB Data Cartridge (19P4209)
- 25GB (up to 50GB with compression in MLR3 format) with IBM MLR3-25GB Data Cartridge (59H4128)
- 16GB (up to 32GB with compression in QIC5010 format) with IBM MLR1-16GB Data Cartridge (59H4175)
- 5GB (up to 10GB with compression in SLR100 format) with IBM SLR100-5GB Data Cartridge (35L0661)
- 2GB (up to 4GB with compression in QIC5010 format) with IBM MLR1-2GB Data Cartridge (35L0589)

A #3707 is capable of read only support of the following tape formats:

- 4GB (QIC4GB format) with SLR5-4GB Data Cartridge (59H3660)
- 2.5GB (QIC2GB format) with IBM DC9250 Data Cartridge (16G8436)

The #3707 has the these technical specifications for the primary recording format:

- Cartridge Capacity (Native) = 30.0GB (1500-ft tape)
- Cartridge Capacity (Compression) = 60.0GB (1500-ft tape)
- Data Rate (Native) = 4.0MB/s
- Data Rate (Compression) = 8.0MB/s
- Attributes provided: 30GB 1/4-inch tape device
- Attributes required: half height, autodocking removable media bay and a disk controller in place to interface to this media bay.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3708) - 50GB 1/4-Inch Cartridge Tape

Mounted in a removable media device slot of a system unit or an expansion tower, these tape units may be used for save/restore, alternate IPL, program distribution, migration and 1/4-inch cartridge tape exchange.

Will READ/WRITE:

- 50GB (up to 100GB with compression in SLR100 format) with IBM SLR100-50GB Data Cartridge (35L0968)
- 30GB (up to 60GB with compression in SLR60 format) with IBM SLR60-30GB Data Cartridge (19P4209)
- 25GB (up to 50GB with compression in MLR3 format) with IBM MLR3-25GB Data Cartridge (59H4128)
- 5GB (up to 10GB with compression in SLR100 format) with IBM SLR100-5GB Data Cartridge (35L0661)

Will READ:

- 16GB (up to 32GB with compression in QIC5010 format) with IBM MLR1-16GB Data Cartridge (59H4175)
- 4GB (QIC4GB format) with SLR5-4GB data Cartridge (59H3660)
- 2GB (up to 4GB with compression in QIC5010 format) with IBM MLR1-2GB

Specifications for the primary recording format:

- Cartridge Capacity (Native) = 50.0GB (1500-ft tape)
- Cartridge Capacity (Compression) = 100.0GB (1500-ft tape)
- Data Rate (Native) = 5.0MB/s
- Data Rate (Compression) = 10.0MB/s
- Attributes provided: 50GB 1/4-inch Cartridge Tape Device
- Attributes required: Half-high removable media bay and a controller in place to interface to this media bay
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3709) - PCI 100/10Mbps Ethernet IOA

The #3709 allows attachment to standardized 100Mbps high-speed Ethernet LANs and allows attachment to existing 10Mbps Ethernet LANs. This adapter comes with an RJ45 connector for attachment to UTP-5 media.

The #3709 is not supported on/with any Integrated Netfinity Server feature.

- Attributes provided: Attachment to 100/10Mbps Ethernet LANs
- Attributes required: One PCI slot (3v or 5v)
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#3711) - Processor Cable, Two-Drawer System

(No Longer Available as of August 31, 2017)

This cable provides the required inter-connections between processors in separate drawers of a two-drawer system. It is a flat cable that connects to the front of each drawer. Two drawer configurations require cables #3711 and #3712. Three drawer configurations require cables #3712 and #3713. Four drawer configurations require cables #3712, #3713 and #3714.

- Attributes provided: Processor connections for two drawer systems
- Attributes required: System configured with two drawers
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3712) - Processor Cable, Two, Three or Four Drawer System

(No Longer Available as of August 31, 2017)

This cable provides the required inter-connections between processors in separate drawers of a two, three, or four drawer system. It is a flat cable that connects to the front of each drawer. Two drawer configurations require cables #3711 and #3712. Three drawer configurations require cables #3712 and #3713. Four drawer configurations require cables #3712, #3713 and #3714.

- Attributes provided: Processor connections for two, three or four drawer systems
- Attributes required: System configured with two, three or four drawers
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3713) - PROCESSOR CABLES, THREE OR FOUR DRAWER SYSTEM:

(No Longer Available as of August 31, 2017)

This feature ships two cables and provides the required inter-connections between processors in separate drawers of a three or four drawer system. They are flat cables that connects to the front of each drawer. Two drawer configurations require cables #3711 and #3712. Three drawer configurations require cables #3712 and #3713. Four drawer configurations require cables #3712, #3713 and #3714.

- Attributes provided: Processor connections for three or four drawer systems
- Attributes required: System configured with three or four drawers
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3714) - PROCESSOR CABLES, FOUR-DRAWER SYSTEM

(No Longer Available as of August 31, 2017)

This feature ships three cables and provides the required inter-connections between processors in separate drawers of a four-drawer system. They are flat cables that connects to the front of each drawer. Two drawer configurations require cables #3711 and #3712. Three drawer configurations require cables #3712 and #3713. Four drawer configurations require cables #3712, #3713 and #3714.

- Attributes provided: Processor connections for four drawer systems
- Attributes required: System configured with four drawers
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3925) - 0.3M Serial Port Converter Cable, 9-Pin to 25-Pin

This cable converts the 9-pin serial port on the system to a 25-pin serial port which allows the user to attach 25-pin serial devices to the system.

- Attributes provided: 9-Pin to 25-Pin connectivity
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3926) - Asynch Printer/Terminal Cable, 9-pin to 25-pin, 4M

(No Longer Available as of July 29, 2011)

This 4-meter cable and transposer (2 parts) allows external async devices such as printers or terminals to be attached directly to the 9-pin serial port. This is equivalent to using #3925 in combination with #2934.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3927) - Serial Port Null Modem Cable, 9-pin to 9-pin, 3.7M

This 3.7 meter 9 pin to 9 pin Null modem Serial cable allows two EIA-232 communications ports to exchange data with one another without going through a modem.

- Attributes provided: 9 pin female connector at each end of the cable
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3928) - Serial Port Null Modem Cable, 9-pin to 9-pin, 10M

This 10 meter 9 pin to 9 pin Null Modem Serial cable allows two EIA-232 communications ports to exchange data with one another without going through a modem.

- Attributes provided: 9 pin female connector at each end of the cable
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#3930) - System Serial Port Converter Cable

This cable is used to connect the System port/UPS Conversion Cable (#1827) to the CEC serial port. Also used to connect an ASCII terminal or modem to the serial port which is physically an RJ45 connection on the Power 710/720/730/740 system unit .

- Attributes provided: Attachment of #1827 to CEC serial port; attachment of ASCII terminal or modem to the serial port.

- Attributes required: None
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#4242) 1.8 M (6-ft) Extender Cable for Displays (15-pin D-shell to 15-pin D-shell)

(No Longer Available as of March 31, 2018)

This cable is required to connect displays with a 15-pin "D" shell connector to the appropriate accelerator connector when it is farther away than the attached monitor cable can reach. Rack mounted systems are likely candidates for this extender cable.

- Attributes provided: 6-foot extension cable
- Attributes required: Supported monitor and adapter with a 15-pin "D" shell connector.
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#4256) Extender Cable-USB KEYB1.8

This feature provides a 2M extension cable for use with USB keyboards.

- Attributes provided: 2M Extension Cable
- Attributes required: USB Keyboard
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#4276) - VGA to DVI Connection Converter

This feature is a plug converter that will allow a Video device with a 15 pin D-shell VGA cable plug (such as a KVM switch) to connect to a graphics adapter with a 28 pin D-shell DVI receptacle connector. This device has both a 28 pin D-Shell DVI plug and a 15 pin D-shell VGA receptacle.

- Attributes provided: VGA to DVI connection converter
- Attributes required: VGA device and graphics adapter with DVI connector.
- Minimum required: 0
- Maximum allowed: 250 (Initial order maximum: 9999)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#4319) - 35.16GB 10k rpm Disk Unit

#4319 is a 10k rpm disk unit with 35.16GB capacity and an Ultra2 SCSI interface.

- Attributes provided: 35.16GB disk unit
- Attributes required: Disk unit slot and a disk unit controller
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#4326) - 35.16GB 15k rpm Disk Unit

#4326 is a 15k rpm disk unit with 35.16GB capacity and a SCSI interface.

- Attributes provided: 35.16GB disk unit
- Attributes required: Disk unit slot and a disk unit controller
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#4327) - 70.56GB 15k rpm Disk Unit

#4327 is a 15k rpm disk unit with 70.56GB capacity and an Ultra320 SCSI interface.

- Attributes provided: 70.56GB disk unit
- Attributes required: Disk unit slot and a disk unit controller
- Minimum required: 0
- Maximum allowed: 1200 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#4328) - 141.12GB 15k rpm Disk Unit

Provides a 15,000 rpm disk unit with 141.12GB capacity and a Ultra-4 (Ultra320) SCSI interface.

- Attributes provided: 141.12GB disk unit
- Attributes required: Disk unit slot and a disk unit controller
- Minimum required: 0
- Maximum allowed: 1200 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#4329) - 282.25GB 15k rpm Disk Unit

Provides a 15,000 rpm disk unit with 282.25GB capacity and a Ultra-4 (Ultra320) SCSI interface.

- Attributes provided: 282.25GB disk unit
- Attributes required: Disk unit slot and a disk unit controller
- Minimum required: 0
- Maximum allowed: 1200 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#4367) - Package 5X #2055 & 20X #1995 (AIX/Linux)

(No Longer Available as of August 23, 2013)

This feature will deliver a packaged of five PCIe RAID & SSD SAS Adapters 3Gb w/ Blind Swap Cassette (equivalent to #2055) and twenty 177GB SSD Modules with eMLC (equivalent to #1995) for AIX and Linux.

Feature 4367 is used to order and remains in IBM AAS records. Features #2055 and #1995 are not used with this feature.

- Attributes provided: 5 x #2055 and 20 x #1995
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 16 (Initial order maximum: 16)
- OS level required:
 - AIX Version 7.1
 - AIX Version 6.1 with the 6100-06 Technology Level
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 2, or later (available 9/30/2010)
 - AIX Version 5.3 with the 5300-11 Technology Level and Service Pack 5, or later (available 9/30/2010)
 - AIX Version 5.3 with the 5300-10 Technology Level and Service Pack 5, or later (available 9/30/2010)
 - IBM i not supported use #1996
 - SuSE Linux Enterprise Server Version 10, Service Pack 3 or later
 - SuSE Linux Enterprise Server Version 11, Service Pack 1 or later
 - Red Hat Enterprise Linux Version 5.5 or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#4377) - Package 5X #2055 & 20X #1996 (IBM i)

(No Longer Available as of August 23, 2013)

This feature will deliver a packaged of five PCIe RAID & SSD SAS Adapters 3Gb w/ Blind Swap Cassette (equivalent to #2055) and twenty 177GB SSD Modules with eMLC (equivalent to #1996) for IBM i.

Feature 4367 is used to order and to remains in IBM AAS records. Features #2055 and #1996 are not used with this feature.

- Attributes provided: 5 x #2055 and 20 x #1996
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 16 (Initial order maximum: 16)
- OS level required:
 - IBM i 7.1 or later
 - IBM i 6.1 with 6.1.1 machine code or later
 - AIX not supported use #1995
 - SuSE Linux Enterprise Server Version not supported use #1995
 - Red Hat Enterprise Linux not supported use #1995
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#4430) - DVD-RAM

This DVD-RAM device reads and writes 4.7GB on single sided media. Double sided media, must be manually flipped. It can also read 640MB CD-ROM media.

Mounted in a removable media device slot, this feature may be used for alternate IPL, program distribution, and data interchange.

- Attributes provided: DVD-RAM
- Attributes required: Removable media slot in an external I/O tower
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#4487) - 50GB 1/4-Inch Cartridge Tape

Mounted in a removable media device slot of an expansion tower, these tape units may be used for save/restore, alternate IPL, program distribution, migration and 1/4-inch cartridge tape exchange.

Will READ/WRITE:

- 50GB (up to 100GB with compression in SLR100 format) with IBM SLR100-50GB Data Cartridge (35L0968)
- 30GB (up to 60GB with compression in SLR60 format) with IBM SLR60-30GB Data Cartridge (19P4209)
- 25GB (up to 50GB with compression in MLR3 format) with IBM MLR3-25GB Data Cartridge (59H4128)
- 5GB (up to 10GB with compression in SLR100 format) with
- IBM SLR100-5GB Data Cartridge (35L0661)

Will READ:

- 16GB (up to 32GB with compression in QIC5010 format)with IBM MLR1-16GB Data Cartridge (59H4175)
- 4GB (QIC4GB format) with SLR5-4GB Data Cartridge (59H3660)
- 2GB (up to 4GB with compression in QIC5010 format) with IBM MLR1-2GB

Specifications for the primary recording format:

- Cartridge Capacity (Native) = 50.0GB (1500-ft tape)
- Cartridge Capacity (Compression) = 100.0GB (1500-ft tape)
- Data Rate (Native) = 5.0MB/s
- Data Rate (Compression) = 10.0MB/s
- Attributes provided: 50GB 1/4-inch cartridge tape
- Attributes required: Removable media slot and disk controller that can drive internal removable media.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#4495) - 4/8GB (4X2GB) DIMMS, 276 PIN 533 MHz, DDR2 SDRAM

CoD Memory Feature is a total of 8GB of memory. 4GB are active with purchase of the feature. 4GB are available for activation immediately (with the purchase of the activation feature) or at a later time (with the purchase of the activation feature). 276 pin DIMM, 533 MHz DDR2.

- Attributes provided: 8 GB of Memory-4GB active/8GB total memory available.
- Attributes required: 4 empty DIMM slots
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#4496) - 8/16GB (4X4GB) DIMMs, 276 PIN, 533 MHz DDR2 SDRAM

CoD Memory Feature is a total of 16GB of memory. 8GB are active with purchase of the feature. 8GB are available for activation immediately (with the purchase of the activation feature) or at a later time (with the purchase of the activation feature). 276 pin DIMM, 533 MHz DDR2.

- Attributes provided: 8GB active memory, 16GB total memory available.
- Attributes required: 4 empty DIMM slots.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#4497) - 16GB (4X4GB) DIMMs, 276 PIN, 533 MHz, DDR2 SDRAM

Memory Feature is a total of 16GB of memory. 4 each 4GB DIMMs. 276 pin DIMM, 533 MHz DDR2.

- Attributes provided: 16GB of Memory.
- Attributes required: 4 empty DIMM slots.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#4499) - 16GB (4X4GB) DIMMs, 276 pin, 400MHz DDR2 SDRAM

Memory Feature is a total of 16GB of memory. 4 each 4GB DIMMs. 276 pin DIMM, 400 MHz DDR2.

- Attributes provided: 16GB of memory.
- Attributes required: 4 empty DIMM slots on processor card 8338.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#4630) - DVD-RAM

This DVD-RAM device reads and writes 4.7GB on single sided media. Double sided media, must be manually flipped. It can also read 640MB CD-ROM media.

Mounted in a removable media device slot, this feature may be used for alternate IPL, program distribution, and data interchange.

- Attributes provided: DVD-RAM
- Attributes required: Removable media device slot in an I/O tower/unit
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#4633) - DVD-RAM

#4633 is a DVD-RAM that uses cartridgeless media only (this is different from the 4630, which can use cartridge media, but the media can be removed from the cartridge to be used in this drive). Media support will be limited to writing DVD-RAM only and reading of CD-ROM, CD-R, DVD-ROM and DVD-RAM.

- Attributes provided: Read/Write of DVD-RAM media, Read only of CD-ROM, CD-R and DVD-ROM media
- Attributes required: Removable media device slot in an I/O tower
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

One and only one rack indicator feature is required on all orders (#4650 to #4666).

(#4650) - Rack Indicator- Not Factory Integrated

(No Longer Available as of August 31, 2012)

This indicator is used to specify that the rack mountable device in this initial order should not be merged into a rack within IBM Manufacturing.

Note: This "no additional charge" feature will be placed on an initial order for a rack mountable device by the Configuration Tool when the order does not include a 19" Rack.

Note: A rack integration indicator is required on all 19" Rack mountable device initial orders. One feature code from the group 4650 to 4666 must be listed on the order. More than one feature code from this group is not allowed.

- Attributes provided: System will not be shipped in a rack.
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#4651) - Rack Indicator, Rack #1

(No Longer Available as of August 31, 2012)

When added to an initial rack order, this indicator is used to specify the first rack for a multi rack order, or the only rack for a single rack order.

When added to an initial rack mountable device order, this indicator is used to specify that the rack mountable device (such as a system or I/O drawer) is to be mounted in rack #1.

Note: For 19" rack mountable device orders: One feature code from the group 4650 to 4666 must be listed on the order. More than one feature code from this group is not allowed.

For 19" rack orders: If IBM Mfg. is to assemble a rack mountable device into the rack, one feature code selection from the group 4651 to 4666 must be listed on the order. More than one feature code selection from this group is not allowed. The quantity of this selected feature code on the 19" rack order must equal the number of rack mountable devices to be installed in the rack by IBM Mfg.

- Attributes provided: Rack Integration/ Rack Specify
- Attributes required: Rack
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#4652) - Rack Indicator, Rack #2

(No Longer Available as of August 31, 2012)

When added to an initial rack order, this indicator is used to specify the second rack for a multi rack order.

When added to an initial rack mountable device order, this indicator is used to specify that the rack mountable device (such as a system or I/O drawer) is to be mounted in rack #2 of a multi rack order.

Note: For 19" rack mountable device orders: One feature code from the group 4650 to 4666 must be listed on the order. More than one feature code from this group is not allowed.

For 19" rack orders: If IBM Mfg. is to assemble a rack mountable device into the rack, one feature code selection from the group 4651 to 4666 must be listed on the order. More than one feature code selection from this group is not allowed. The quantity of this selected feature code on the 19" rack order must equal the number of rack mountable devices to be installed in the rack by IBM Mfg.

- Attributes provided: Rack Integration/Rack specify
- Attributes required: Rack
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#4653) - Rack Indicator, Rack #3

(No Longer Available as of August 31, 2012)

When added to an initial rack order, this indicator is used to specify the third rack for a multi rack order.

When added to an initial rack mountable device order, this indicator is used to specify that the rack mountable device (such as a system or I/O drawer) is to be mounted in rack #3 of a multi rack order.

Note: For 19" rack mountable device orders: One feature code from the group 4650 to 4666 must be listed on the order. More than one feature code from this group is not allowed.

For 19" rack orders: If IBM Mfg. is to assemble a rack mountable device into the rack, one feature code selection from the group 4651 to 4666 must be listed on the order. More than one feature code selection from this group is not allowed. The quantity of this selected feature code on the 19" rack order must equal the number of rack mountable devices to be installed in the rack by IBM Mfg.

- Attributes provided: Rack specify
- Attributes required: Rack
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#4654) - Rack Indicator, Rack #4

(No Longer Available as of August 31, 2012)

When added to an initial rack order, this indicator is used to specify the fourth rack for a multi rack order.

When added to an initial rack mountable device order, this indicator is used to specify that the rack mountable device (such as a system or I/O drawer) is to be mounted in rack #4 of a multi rack order.

Note: For 19" rack mountable device orders: One feature code from the group 4650 to 4666 must be listed on the order. More than one feature code from this group is not allowed.

For 19" rack orders: If IBM Mfg. is to assemble a rack mountable device into the rack, one feature code selection from the group 4651 to 4666 must be listed on the order. More than one feature code selection from this group is not allowed. The quantity of this selected feature code on the 19" rack order must equal the number of rack mountable devices to be installed in the rack by IBM Mfg.

- Attributes provided: Rack specify
- Attributes required: Rack
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#4655) - Rack Indicator, Rack #5

(No Longer Available as of August 31, 2012)

When added to an initial rack order, this indicator is used to specify the fifth rack for a multi rack order.

When added to an initial rack mountable device order, this indicator is used to specify that the rack mountable device (such as a system or I/O drawer) is to be mounted in rack #5 of a multi rack order.

Note: For 19" rack mountable device orders: One feature code from the group 4650 to 4666 must be listed on the order. More than one feature code from this group is not allowed.

For 19" rack orders: If IBM Mfg. is to assemble a rack mountable device into the rack, one feature code selection from the group 4651 to 4666 must be listed on the order. More than one feature code selection from this group is not allowed. The quantity of this selected feature code on the 19" rack order must equal the number of rack mountable devices to be installed in the rack by IBM Mfg.

- Attributes provided: Rack specify
- Attributes required: Rack
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#4656) - Rack Indicator, Rack #6

(No Longer Available as of August 31, 2012)

When added to an initial rack order, this indicator is used to specify the sixth rack for a multi rack order.

When added to an initial rack mountable device order, this indicator is used to specify that the rack mountable device (such as a system or I/O drawer) is to be mounted in rack #6 of a multi rack order.

Note: For 19" rack mountable device orders: One feature code from the group 4650 to 4666 must be listed on the order. More than one feature code from this group is not allowed.

For 19" rack orders: If IBM Mfg. is to assemble a rack mountable device into the rack, one feature code selection from the group 4651 to 4666 must be listed on the order. More than one feature code selection from this group is not allowed. The quantity of this selected feature code on the 19" rack order must equal the number of rack mountable devices to be installed in the rack by IBM Mfg.

- Attributes provided: Rack specify
- Attributes required: Rack
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#4657) - Rack Indicator, Rack #7

(No Longer Available as of August 31, 2012)

When added to an initial rack order, this indicator is used to specify the seventh rack for a multi rack order.

When added to an initial rack mountable device order, this indicator is used to specify that the rack mountable device (such as a system or I/O drawer) is to be mounted in rack #7 of a multi rack order.

Note: For 19" rack mountable device orders: One feature code from the group 4650 to 4666 must be listed on the order. More than one feature code from this group is not allowed.

For 19" rack orders: If IBM Mfg. is to assemble a rack mountable device into the rack, one feature code selection from the group 4651 to 4666 must be listed on the order. More than one feature code selection from this group is not allowed. The quantity of this selected feature code on the 19" rack order must equal the number of rack mountable devices to be installed in the rack by IBM Mfg.

- Attributes provided: Rack specify
- Attributes required: Rack
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#4658) - Rack Indicator, Rack #8

(No Longer Available as of August 31, 2012)

When added to an initial rack order, this indicator is used to specify the eighth rack for a multi rack order.

When added to an initial rack mountable device order, this indicator is used to specify that the rack mountable device (such as a system or I/O drawer) is to be mounted in rack #8 of a multi rack order.

Note: For 19" rack mountable device orders: One feature code from the group 4650 to 4666 must be listed on the order. More than one feature code from this group is not allowed.

For 19" rack orders: If IBM Mfg. is to assemble a rack mountable device into the rack, one feature code selection from the group 4651 to 4666 must be listed on the order. More than one feature code selection from this group is not allowed. The quantity of this selected feature code on the 19" rack order must equal the number of rack mountable devices to be installed in the rack by IBM Mfg.

- Attributes provided: Rack specify
- Attributes required: Rack
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#4659) - Rack Indicator, Rack #9

(No Longer Available as of August 31, 2012)

When added to an initial rack order, this indicator is used to specify the ninth rack for a multi rack order.

When added to an initial rack mountable device order, this indicator is used to specify that the rack mountable device (such as a system or I/O drawer) is to be mounted in rack #9 of a multi rack order.

Note: For 19" rack mountable device orders: One feature code from the group 4650 to 4666 must be listed on the order. More than one feature code from this group is not allowed.

For 19" rack orders: If IBM Mfg. is to assemble a rack mountable device into the rack, one feature code selection from the group 4651 to 4666 must be listed on the order. More than one feature code selection from this group is not allowed. The quantity of this selected feature code on the 19" rack order must equal the number of rack mountable devices to be installed in the rack by IBM Mfg.

- Attributes provided: Rack specify
- Attributes required: Rack
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#4660) - Rack Indicator, Rack #10

(No Longer Available as of August 31, 2012)

When added to an initial rack order, this indicator is used to specify the tenth rack for a multi rack order.

When added to an initial rack mountable device order, this indicator is used to specify that the rack mountable device (such as a system or I/O drawer) is to be mounted in rack #10 of a multi rack order.

Note: For 19" rack mountable device orders: One feature code from the group 4650 to 4666 must be listed on the order. More than one feature code from this group is not allowed.

For 19" rack orders: If IBM Mfg. is to assemble a rack mountable device into the rack, one feature code selection from the group 4651 to 4666 must be listed on the order. More than one feature code selection from this group is not allowed. The quantity of this selected feature code on the 19" rack order must equal the number of rack mountable devices to be installed in the rack by IBM Mfg.

- Attributes provided: Rack specify
- Attributes required: Rack
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#4661) - Rack Indicator, Rack #11

(No Longer Available as of August 31, 2012)

When added to an initial rack order, this indicator is used to specify the eleventh rack for a multi rack order.

When added to an initial rack mountable device order, this indicator is used to specify that the rack mountable device (such as a system or I/O drawer) is to be mounted in rack #11 of a multi rack order.

Note: For 19" rack mountable device orders: One feature code from the group 4650 to 4666 must be listed on the order. More than one feature code from this group is not allowed.

For 19" rack orders: If IBM Mfg. is to assemble a rack mountable device into the rack, one feature code selection from the group 4651 to 4666 must be listed on the order. More than one feature code selection from this group is not allowed. The quantity of this selected feature code on the 19" rack order must equal the number of rack mountable devices to be installed in the rack by IBM Mfg.

- Attributes provided: Rack specify
- Attributes required: Rack
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#4662) - Rack Indicator, Rack #12

(No Longer Available as of August 31, 2012)

When added to an initial rack order, this indicator is used to specify the twelfth rack for a multi rack order.

When added to an initial rack mountable device order, this indicator is used to specify that the rack mountable device (such as a system or I/O drawer) is to be mounted in rack #12 of a multi rack order.

Note: For 19" rack mountable device orders: One feature code from the group 4650 to 4666 must be listed on the order. More than one feature code from this group is not allowed.

For 19" rack orders: If IBM Mfg. is to assemble a rack mountable device into the rack, one feature code selection from the group 4651 to 4666 must be listed on the order. More than one feature code selection from this group is not allowed. The quantity of this selected feature code on the 19" rack order must equal the number of rack mountable devices to be installed in the rack by IBM Mfg.

- Attributes provided: Rack specify
- Attributes required: Rack
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#4663) - Rack Indicator, Rack #13

When added to an initial rack order, this indicator is used to specify the thirteenth rack for a multi rack order.

When added to an initial rack mountable device order, this indicator is used to specify that the rack mountable device (such as a system or I/O drawer) is to be mounted in rack #13 of a multi rack order.

Note: For 19" rack mountable device orders: One feature code from the group 4650 to 4666 must be listed on the order. More than one feature code from this group is not allowed.

For 19" rack orders: If IBM Mfg. is to assemble a rack mountable device into the rack, one feature code selection from the group 4651 to 4666 must be listed on the order. More than one feature code selection from this group is not allowed. The quantity of this selected feature code on the 19" rack order must equal the number of rack mountable devices to be installed in the rack by IBM Mfg.

- Attributes provided: Rack specify
- Attributes required: Rack
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#4664) - Rack Indicator, Rack #14

(No Longer Available as of August 31, 2012)

When added to an initial rack order, this indicator is used to specify the fourteenth rack for a multi rack order.

When added to an initial rack mountable device order, this indicator is used to specify that the rack mountable device (such as a system or I/O drawer) is to be mounted in rack #14 of a multi rack order.

Note: For 19" rack mountable device orders: One feature code from the group 4650 to 4666 must be listed on the order. More than one feature code from this group is not allowed.

For 19" rack orders: If IBM Mfg. is to assemble a rack mountable device into the rack, one feature code selection from the group 4651 to 4666 must be listed on the order. More than one feature code selection from this group is not allowed. The quantity of this selected feature code on the 19" rack order must equal the number of rack mountable devices to be installed in the rack by IBM Mfg.

- Attributes provided: Rack specify
- Attributes required: Rack
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#4665) - Rack Indicator, Rack #15

(No Longer Available as of August 31, 2012)

When added to an initial rack order, this indicator is used to specify the fifteenth rack for a multi rack order.

When added to an initial rack mountable device order, this indicator is used to specify that the rack mountable device (such as a system or I/O drawer) is to be mounted in rack #15 of a multi rack order.

Note: For 19" rack mountable device orders: One feature code from the group 4650 to 4666 must be listed on the order. More than one feature code from this group is not allowed.

For 19" rack orders: If IBM Mfg. is to assemble a rack mountable device into the rack, one feature code selection from the group 4651 to 4666 must be listed on the order. More than one feature code selection from this group is not allowed. The quantity of this selected feature code on the 19" rack order must equal the number of rack mountable devices to be installed in the rack by IBM Mfg.

- Attributes provided: Rack specify
- Attributes required: Rack
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#4666) - Rack Indicator, Rack #16

(No Longer Available as of August 31, 2012)

When added to an initial rack order, this indicator is used to specify the sixteenth rack for a multi rack order.

When added to an initial rack mountable device order, this indicator is used to specify that the rack mountable device (such as a system or I/O drawer) is to be mounted in rack #16 of a multi rack order.

Note: For 19" rack mountable device orders: One feature code from the group 4650 to 4666 must be listed on the order. More than one feature code from this group is not allowed.

For 19" rack orders: If IBM Mfg. is to assemble a rack mountable device into the rack, one feature code selection from the group 4651 to 4666 must be listed on the order. More than one feature code selection from this group is not allowed. The quantity of this selected feature code on the 19" rack order must equal the number of rack mountable devices to be installed in the rack by IBM Mfg.

- Attributes provided: Rack specify
- Attributes required: Rack
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#4710) - On/Off 999 GB-Days, Memory Billing POWER7

After the ON/OFF Memory function is enabled in a system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is provided to your sales channel. The sales channel will place an order on your behalf for the quantity of this feature that matches your reported use. One #4710 feature should be ordered for each 999 billable days for each 1GB increment of POWER7 memory that was used.

- Attributes provided: Payment for 999 GB-DAYS of ON/OFF memory use
- Attributes required: Inactive Memory available for temporary use.
- Minimum required: 0
- Maximum allowed: 100 (Initial order maximum: 0)
- OS level required: N/A
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#4746) - PCI Twinaxial Workstn IOA

The #4746 provides support for up to 40 twinaxial displays and printers. A 20-ft cable with an 8-port expansion (breakout) box is included with this adapter. Each expansion port supports seven attached devices, allowing for 56 total attached devices, of which only 40 can be active.

- Attributes provided: Attachment of twinaxial devices.
- Attributes required: One PCI slot (3V or 5V)
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#4764) - PCI-X Cryptographic Coprocessor (FIPS 4)

(No Longer Available as of July 29, 2011)

Provides both cryptographic coprocessor and secure-key cryptographic accelerator functions in a single PCI-X card. The coprocessor functions are targeted to banking and finance applications. Financial PIN processing and Europay, MasterCard, Visa (EMV) credit card functions are provided. EMV is a standard for integrated-chip based credit cards. The secure-key accelerator functions are targeted to improving the performance of Secure Sockets Layer (SSL) transactions. The #4764 provides the security and performance required to support eBusiness and emerging digital signature applications. Host application access to the cryptographic services of the #4764 are via the Common Cryptographic Architecture (CCA) application programming interfaces (APIs) or additionally via Public-Key Cryptographic Standards (PKCS#11) APIs. Only one API can be loaded on a single feature 4764 card.

The #4764 provides secure storage of cryptographic keys in a tamper resistant hardware security module (HSM), which is designed to meet FIPS 140 security requirements. FIPS 140 is a U.S. Government National Institute of Standards & Technology (NIST) administered standard and certification program for cryptographic modules.

Feature 4764 PCI-X Cryptographic Coprocessor (FIPS 4) users will be able to download firmware for AIX from the following URL replacing the firmware CD previously provided.

<http://www-03.ibm.com/systems/p/os/aix/versions/os.html>

Refer to: Additional Software support and offerings

- Attributes provided:
 - Cryptographic Accelerator Function
 - EMV-Based Credit Card Function
 - CCA API Host Support, and PKCS#11 API.
 - Attributes required:
 - One PCI-X card slot per 4764 FC.
 - Note: Only one API (CCA or PKCS11 but not both) can be loaded per 4764 Feature.
 - Minimum required: 0
 - Maximum allowed: 192 (Initial order maximum: 192)
 - OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - not supported
 - Initial Order/MES/Both/Supported: Both
 - CSU: Yes
 - Return parts MES: No
- Note: Please validate that software components which provide SSL are enabled to use hardware cryptographic devices through the PKCS#11 or CCA API's. If assistance is needed in determining if the device will meet your needs please contact crypto@us.ibm.com.

(#4791) - ACTIVE MEMORY EXPANSION ENABLEMENT

Feature number 4791 instructs manufacturing to enable memory expansion on the system.

- Attributes provided: None
- Attributes required: An HMC
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX 6.1 with 6100-04 Technology Level and Service Pack 3, or later
 - IBM i - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#4801) - PCI Crypto Coprocessor

#4801 provides a rich set of data encryption and authentication services for applications requiring high security. Cryptographic keys are stored in a tamper-resistant module on the coprocessor. This feature is ideally suited for banking and financial applications. With the tamper resistant-module the coprocessor can also be used to implement other advanced applications such as electronic postage metering.

Application services provided by the coprocessor include:

- Data encryption using Triple-DES (Data Encryption Standard)
- Digital signature generation/verification using RSA public-key cryptography
- Data integrity checking using MD5 and SHA-1 secure hash algorithms
- Financial PIN support for automatic teller machine (ATM) networks
- Basic Secure Electronic Transaction (SET) block operations
- Secure storage of keys in a Federal Information Processing Standard (FIPS) 140-1 Level 3 tamper-resistant module

The PCI Cryptographic Coprocessor is compatible with IBM's Common Cryptographic Architecture (CCA).

For more information, visit:

<http://www.ibm.com/security/cryptocards/>

Option 35 CCA Cryptographic Service Provider is required along with Cryptographic Access Provider 128-bit (5722-AC3) licensed program. Both Option 35 and the LPP are no-charge.

- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#4805) - PCI Crypto Accelerator

Feature #4805 provides improved performance for high-transaction-rate secure Web applications which use the secure sockets layer (SSL) or transport layer security (TLS) protocols. SSL/ TLS is the predominant method for securing Web transactions. Applications using SSL/TLS include those transferring payment information (e.g., credit card numbers) over the Internet, e.g., between a Web browser and a server in the case of B2C or between servers in the case of B2B. Establishing SSL/TLS secure Web connections requires very compute intensive cryptographic processing. Feature #4805 off-loads cryptographic processing associated with the establishment of a SSL/TLS session, thus freeing the server for other processing.

The Cryptographic Accelerator is targeted to high-transaction-rate secure Web applications using SSL/TLS. If your application requires a FIPS 140-1 certified, tamper-resistant module for storing cryptographic keys and/or requires financial PIN processing, then features #4801 or #4802, Cryptographic Coprocessors should be your choice.

Note: FIPS 140-1 is a U.S. Government National Institute of Standards and Technology (NIST) administered standard and certification program for cryptographic modules.

<http://www.ibm.com/eserver/iSeries/support>

- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#4808) - PCIe Crypto Coprocessor Gen3 BSC 4765-001

(No Longer Available as of February 27, 2015)

Secure-key adapter provides both cryptographic coprocessor and cryptographic accelerator functions in a single PCIe card. The adapter is well suited to applications requiring high-speed, security-sensitive, RSA acceleration, cryptographic operations for data encryption and digital signing, secure management, and use of cryptographic keys, or custom cryptographic applications. It provides secure storage of cryptographic keys in a tamper-resistant hardware security module designed to meet FIPS 140-2 level 4 security requirements. The adapter is a PCIe 4x full height - short card.

#4807, #4808 and #4809 are all feature codes representing the same physical card with the same CCIN of 4765, but different feature codes are used to indicate if a blind swap cassette is used and its type. #4807 indicates no blind swap cassette. #4808 indicates a Gen 3 blind swap cassette. #4809 indicates a Gen 4 blind swap cassette.

Other IBM PCIe Cryptographic Coprocessor adapter highlights

- Integrated Dual processors that operate in parallel for higher reliability
- Supports IBM Common Cryptographic Architecture or PKCS#11 standard
- Ability to configure adapter as coprocessor or accelerator
- Support for smart card applications using Europay, MasterCard and Visa
- Cryptographic key generation and random number generation
- PIN processing - generation, verification, translation
- Encrypt/Decrypt using AES and DES keys

Please refer to the following URL for the latest firmware and software updates.

<http://www-03.ibm.com/security/cryptocards/>

- Attributes provided: Cryptographic Coprocessor and Accelerator Functions
- Attributes required: One PCIe Cryptographic CoProcessor card slot per adapter
- Minimum required: 0
- Maximum allowed: 10 (Initial order maximum: 10)
- OS level required:
 - AIX Version 6.1 with the 6100-05 Technology Level
 - AIX Version 5.3 with the 5300-12 Technology Level
 - IBM 7.1, or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
- Note:
 - Max of 2 #4809 per enclosure
 - Max of 4 #4808 per #5802 or #5877
 - Combine System Max total is 10 for #4808 and #4809.

(#4809) - PCIe Crypto Coprocessor Gen4 BSC 4765-001

(No Longer Available as of February 27, 2015)

Secure-key adapter provides both cryptographic coprocessor and cryptographic accelerator functions in a single PCIe card. The adapter is well suited to applications requiring high-speed, security-sensitive, RSA acceleration, cryptographic operations for data encryption and digital signing, secure management, and use of cryptographic keys, or custom cryptographic applications. It provides secure storage of cryptographic keys in a tamper-resistant hardware security module designed to meet FIPS 140-2 level 4 security requirements. The adapter is a PCIe 4x full height - short card.

#4807, #4808 and #4809 are all feature codes representing the same physical card with the same CCIN of 4765, but different feature codes are used to indicate if a blind swap cassette is used and its type. #4807 indicates no blind swap cassette. #4808 indicates a Gen 3 blind swap cassette. #4809 indicates a Gen 4 blind swap cassette.

Other IBM PCIe Cryptographic Coprocessor adapter highlights

- Integrated Dual processors that operate in parallel for higher reliability
- Supports IBM Common Cryptographic Architecture or PKCS#11 standard
- Ability to configure adapter as coprocessor or accelerator
- Support for smart card applications using Europay, MasterCard and Visa
- Cryptographic key generation and random number generation
- PIN processing - generation, verification, translation
- Encrypt/Decrypt using AES and DES keys

Please refer to the following URL for the latest firmware and software updates.

<http://www-03.ibm.com/security/cryptocards/>

- Attributes provided: Cryptographic Coprocessor and Accelerator Functions
- Attributes required: One PCIe Cryptographic CoProcessor card slot per adapter
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - AIX Version 6.1 with the 6100-05 Technology Level
 - AIX Version 5.3 with the 5300-12 Technology Level
 - IBM 7.1, or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
- Note:
 - Max of 2 #4809 per enclosure
 - Max of 4 #4808 per #5802 or #5877
 - Combine System Max total is 10 for #4808 and #4809.

(#4812) - PCI Integ xSeries Server

#4812 is a double wide PCI card that contains a 2.0GHz processor with 2MB integrated L2 cache. It has two integrated 1000/100/10Mbps ethernet ports, two USB 1.1 ports and traditional PC keyboard and mouse ports. A keyboard and mouse can either connect to the traditional ports or connect to the USB ports. There is an SVGA video port for connection of a display.

#4812 has two memory slots. These slots must always contain a pair of identical memory features. Available memory features are:

- #0446 - 512MB DDR Server Memory (MES only)
- #0447 - 1GB DDR Server Memory (MES only)

The #4812 requires an IOP #2844 to drive it. The IOP may be shared, but only one #4812 is permitted per IOP.

When #4812 is ordered, the configurator will add two #0446 512MB Server Memory features to the order. The two #0446 features may be replaced with two #0447 Optional 1GB Server Memory features or the two server memory features may be removed from the order and two #0446 or two #0447 may be installed in the field. The configurator will also add to the order a #2844 PCI IOP to drive the #4812. The #2844 may be removed from the order for PCI slot conservation.

The two integrated 1000/100/10Mbps Ethernet LAN ports included on the #4812 provide attachment to IEEE standard 802.3ab high-speed (1Gbps) Ethernet LANs. They can also be used to connect to existing 10 and 100Mbps Ethernet networks. The adapter supports UTP CAT 5 or higher media interface and TCP/IP. The #4812 does not support any other LAN features and does not support native i5/OS functions.

The following features are defaulted (where offered) and may be removed from the order:

- #0325 IPCS Extension Cable for Windows (for display, mouse and and keyboard)
- #1700 IPCS Keyboard and Mouse for Windows

Supported Windows versions:

- Windows 2000 Server
- Windows 2000 Advanced Server
- Windows Server 2003 Standard Edition
- Windows Server 2003 Enterprise Edition
- Windows Server 2003 Web Edition

For versions of Windows 2000, a display is required and must be connected to the #4812. For versions of Windows 2003, a display is not required but may be connected to the #4812 to support Windows. If no display is connected, the Virtual System Console is used.

For Linux server products supported on #4812, see:

www.ibm.com/eserver/iseries/integratedxseries/linux

- Attributes provided: Windows server functions
- Attributes required: IOP and two 3.3V PCI card slots
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#4813) - PCI Integ xSeries Server

#4813 is a double-wide PCI card that contains a 2.0GHz processor with 2MB integrated L2 cache. It has two integrated 1000/100/10Mbps Ethernet ports, two USB 1.1 ports and traditional PC keyboard and mouse ports. A keyboard and mouse can connect to either the traditional ports or the USB ports. There is an SVGA video port for connection of a display.

The #4813 is a #4812 encased in a double wide blind swap cassette.

#4813 has two memory slots. These slots must always contain a pair of identical memory features. Available memory features are:

- #0446 - 512MB DDR Server Memory (MES only)
- #0447 - 1GB DDR Server Memory (MES only)

The #4813 requires an IOP #2844 to drive it. The IOP may be shared, but only one #4813 is permitted per IOP.

When #4813 is ordered, the configurator will add two #9726 Base 512MB Server Memory features to the order. The two #9726 features may be replaced with two #8546 Optional Base 1GB Server Memory features or the two server memory features may be removed from the order and two #0446 or two #0447 may be installed in the field. The configurator will also add to the order a #2844 Base PCI IOP to drive the #4813. The #2844 may be removed from the order for PCI slot conservation.

The two integrated 1000/100/10Mbps Ethernet LAN ports included on the #4813 provide attachment to IEEE standard 802.3ab high-speed (1Gbps) Ethernet LANs. They can also be used to connect to existing 10 and 100Mbps Ethernet networks. The adapter supports UTP CAT 5 or higher media interface and TCP/IP. The #4813 does not support any other LAN features and does not support native i5/OS functions.

The following features are defaulted (where offered) and may be removed from the order:

- #0325 IPCS Extension Cable for Windows (for display, mouse and and keyboard)
- #1700 IPCS Keyboard and Mouse for Windows

Supported Windows versions:

- Windows 2000 Server
- Windows 2000 Advanced Server
- Windows Server 2003 Standard Edition
- Windows Server 2003 Enterprise Edition
- Windows Server 2003 Web Edition

For versions of Windows 2000, a display is required and must be connected to the #4813. For versions of Windows 2003, a display is not required but may be connected to the #4813 to support Windows. If no display is connected, the Virtual System Console is used.

For Linux server products supported on #4813, visit:

- Attributes provided: Windows server functions
- Attributes required: IOP and two 3.3V PCI card slots
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#4891) - CBU SPECIFY

This specify code indicates this system has been properly registered as a Capacity BackUp system and has, through that registration been authorized to temporarily receive IBM i Operating System License Entitlements and 5250 Processor Enablement entitlements, from a primary system under the conditions specified at the time the system was registered. This feature is an indicator only, authorization to use this system as a backup is obtained only by registering the system with IBM on the CBU Web site at:

www.ibm.com/systems/power/hardware/cbu

- Attributes provided: Indicates the system has been registered for use as a CBU system for IBM i License entitlement purposes.
- Attributes required: # 2145 Primary OS - IBM i
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
Note: Feature #4891 may be ordered on an MES order only when ordered with a Model Conversion.
- CSU: N/A
- Return parts MES: No
Note: Feature 4891 may be ordered on an MES order only when ordered with a Model Conversion from Machine Type 9406.

(#4980) - 3.5 GHz Proc Card, 0/12 Core POWER7, 16 DDR3 Memory Slots

(No Longer Available as of April 25, 2014)

Twelve core 3.5 GHz POWER7 CUoD processor planar containing two six- core processors. Each processor has 2 MB of L2 cache (256 KB per core) and 32 MB of L3 cache (4 MB per core). There are 16 DDR3 DIMM slots on the processor planar (8 DIMM slots per processor) which may be used as Capacity on Demand (CoD) memory without activating the processors. The voltage regulators are included in this feature code.

Memory CoD activations will activate memory hardware only in the system serial number for which they are purchased. If you move memory hardware to another system, the memory may not be functional in that system until arrangements are made to move the memory activations or purchase additional memory activations.

- Attributes provided: Twelve 3.5 GHz POWER7 Processors (inactive) on 1 Card
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 4 (Initial order maximum: 4)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: No
- Return parts MES: No
Note: When MES ordering two or three #4980 processor drawers, SMP processor cable #3711 for a Two-Drawer System will be included as a default option by the configurator in order for support the hot addition of each additional CEC enclosures. If hot-add of CEC enclosures is not desired, then the SMP processor cable #3711 may be de-selected.

(#4981) - 3.1 GHz Proc Card, 0/16 Core POWER7, 16 DDR3 Memory Slots

(No Longer Available as of April 25, 2014)

Sixteen core 3.1 GHz POWER7 CUoD processor planar containing two eight-core processors. Each processor has 2 MB of L2 cache (256 KB per core) and 32 MB of L3 cache (4 MB per core). There are 16 DDR3 DIMM slots on the processor planar (8 DIMM slots per processor) which may be used as Capacity on Demand (CoD) memory without activating the processors. The voltage regulators are included in this feature code.

Memory CoD activations will activate memory hardware only in the system serial number for which they are purchased. If you move memory hardware to another system, the memory may not be functional in that system until arrangements are made to move the memory activations or purchase additional memory activations.

- Attributes provided: Sixteen 3.1 GHz POWER7 Processors (inactive) on 1 Card
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 4 (Initial order maximum: 4)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: No
- Return parts MES: No
 Note: When MES ordering two or three #4981 processor drawers, SMP processor cable #3711 for a Two-Drawer System will be included as a default option by the configurator in order for support the hot addition of each additional CEC enclosures. If hot-add of CEC enclosures is not desired, then the SMP processor cable #3711 may be de-selected.

(#4990) - Single 5250 Enterprise Enablement

This feature will activate one processors worth of 5250 Enterprise Enablement in an IBM i environment.

- Attributes provided: One Processor of 5250 Enterprise Enablement
- Attributes required: IBM i environment
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#4991) - Full 5250 Enterprise Enablement

This feature will fully activate 5250 Enterprise Enablement in an IBM i environment

- Attributes provided: Full 5250 Enterprise Enablement
- Attributes required: IBM i environment
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#4992) - Single 5250 Enterprise Enablement

This feature will activate one processors worth of 5250 Enterprise Enablement in an IBM i environment.

- Attributes provided: One Processor of 5250 Enterprise Enablement
- Attributes required: IBM i environment
- Minimum required: 0
- Maximum allowed: 64 (Initial order maximum: 64)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#4997) - Full 5250 Enterprise Enablement

This feature will fully activate 5250 Enterprise Enablement in an IBM i environment.

- Attributes provided: Full 5250 Enterprise Enablement
- Attributes required: IBM i environment
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5000) - Software Preload Required

(No Longer Available as of August 31, 2012)

Indicates that preloaded software and/or consolidated I/O is shipped with the initial order. A maximum of one (#5000) is supported. This feature has country-specific usage.

- Attributes provided: Software Pre-load
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#5001) - Custom Service Specify, Off-Site

For exclusive use by the Rochester Custom Solution Center. Marketing configurator support is not required/provided. Having #5001 on the order, will cause the order content to be internally routed to the CSC build area in building 114 (Rochester).

- Attributes provided: Customization
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: Does not apply

(#5002) - Customer Solution Center - Rochester Mfg

(No Longer Available as of February 21, 2012)

Indicates that machine is to be routed to the CSC. This feature has country-specific usage.

- Attributes provided: CSC support
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#5005) - Software Preinstall

Licensed programs may be preinstalled on the media selected. To order this option, specify code (#5005) on the initial system order. The preinstalled licensed programs will be at the same release level as programs being shipped from the Program Libraries at the time the system is manufactured.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5088) - PCI-X Expansion Unit

(No Longer Available as of June 1, 2006)

The #5088 is an eight-EIA-unit-high "top hat" with is installed on top of a #5094 expansion tower. Each #5088 has 14 PCI-X slots for PCI IOPs and IOAs. Disk units and removable media are not supported within a #5088.

Each #5088 has two redundant 575W power supplies and two internal power connectors that attach to the AC distribution box in the #5094. A #5094 may have one or two line cords, so the #5088 may or may not have dual line cord capability depending on the configuration of the #5094.

If a #5088 is ordered together with a #5094, the #5094 will ship with a #5088 installed on top. The #5088 may also be ordered for field install on an existing #5074/#5094. A #5088 may not be installed on a #5294 or #5079.

One or two RIO-2 cables must be ordered to attach the #5088 to the RIO-2 ports.

Select the appropriate cable based on the cable length required.

- #3156 - 1.75m RIO-2 Cable
- #3168 - 2.5m RIO-2 Cable
- #3146 - 1m RIO-2 Cable
- #3147 - 3.5m RIO-2 Cable
- #3148 - 10m RIO-2 Cable
- #1485 - 15m RIO-2 Cable

Each #5088 will require one of the following SPCN cables:

- #1466 - 30m SPCN Cable-supported only
- #6001 - 2m SPCN Cable -supported only
- #6006 - 3m SPCN Cable
- #6007 - 15m SPCN Cable
- #6008 - 6m SPCN Cable
- #6029 - 30m SPCN Cable
- Attributes provided: 14 PCI-X slots
- Attributes required: Two HSL connections
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5094) - PCI-X Expansion Tower

The #5094 is an I/O expansion tower that can contain up to 45 disk units, has 14 PCI slots and two removable media bays.

One bus adapter to provide the RIO-2 interface to the system is required with each #5094. Select one of the following:

- #9517 - Base HSL-2 Bus Adapter, to specify two copper RIO-2 ports

One or two cables must be ordered to attach to the RIO-2 ports. Select the appropriate cable length required.

The following RIO cables can be used with a #5094:

- #3156 1.75m RIO-2 Cable
- #3168 2.5m RIO-2 Cable
- #3146 1m RIO-2 Cable
- #3147 4m RIO-2 Cable
- #3148 10m RIO-2 Cable

One SPCN cable is required for each #5094. Select from the following:

- #1466 30m SPCN Cable
- #6001 2m SPCN Cable
- #6006 3m SPCN Cable
- #6007 15m SPCN Cable
- #6008 6m SPCN Cable
- #6029 30m SPCN Cable

Each #5094 can support 15 disk units without a #5108 installed. With #5108 installed, a #5094 can support up to 45 disk units, total.

Each #5094 comes with redundant, hot-swap, power supplies.

To enable further #5094 redundancy, dual line cord capability for the #5094 is provided by feature#5115. An additional #5094 line cord must be ordered when installing a #5115. Plugging in the second line cord, even if to the same outlet, enables the AC power modules to be redundant.

The following line cords are supported on a #5094:

- #1399 - 4.3m 300V/16A
- #1406 - 200V 16A 14-Ft TL Line Cord
- #6455 - 4.3m 200V/16A Pwr Cd Italy
- #1409 - 4.3m 200V/16A Pwr Cd AU/NZ
- #1418 - 4.3m 200V/16A Pwr Cd S Afric
- #1419 - 4.3m 200V/16A Pwr Cd Israel
- #1420 - 4.3m 200V/16A Pwr Cd EU/Asia
- #1421 - 4.3m 200V/16A Pwr Cd CH/DK
- #1451 - 200V 6-Ft Line Cord
- #1452 - 200V 14-Ft Line Cord
- #1453 - 200V 6-Ft Locking Line Cord
- #1454 - 200V 12A 14-Ft TL Line Cord (U.S. default)
- #1455 - 200V 6-Ft Wtrtght Line Cord
- #1456 - 200V 14-Ft Wtrtght Line Cord
- #1476 - 4.3m 200V/12A Pwr Cd UK

The 45 disk unit positions are in groups of 15, each group of 15 disk units is further divided into three groups of five disk units, each group of five disk units supported on a separate SCSI (LVD-SCSI) bus from a #2757/#2780/#5712 PCI Disk Unit Controller.

The #5094 removable media bays are supported by the same #2757/ #2780/#5712 PCI Disk Unit Controller which supports the 5 base disk unit positions (disk slot positions D31 thru D50).

- Attributes provided: 14 PCI slots, up to 45 disk positions (15base, 0 featurable), two removable media bays
- Attributes required: RIO-2 connection
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5096) - PCI-X Exp Tower (no disk)

#5096 is an I/O expansion tower that has 14 PCI slots. It does not support disk units and does not support any internal removable media devices. A #5088 can not be mounted on a #5096.

One bus adapter to provide the RIO-2 interface to the system is required with each #5096.

One or two cables must be ordered to attach to the RIO-2 ports. Select the appropriate cable based on the cable length required.

The following RIO cables can be used with a #5096:

- #3156 - 1.75m RIO-2 Cable
- #3168 - 2.5m RIO-2 Cable
- #3146 1m RIO-2 Cable
- #3147 4m RIO-2 Cable
- #3148 10m RIO-2 Cable

One of the following SPCN cables is required for each #5096:

- #1466 30m SPCN Cable
- #6001 2m SPCN Cable
- #6006 3m SPCN Cable
- #6007 15m SPCN Cable
- #6008 6m SPCN Cable
- #6029 30m SPCN Cable

No base IOP is included with the #5096. Each #5096 comes with redundant, hot-swap, power supplies. To enable further #5096 redundancy, dual line cord capability for the #5096 is provided by feature #5115. An additional #5096 line cord must be ordered when installing a #5115. Plugging in the second line cord, even if to the same outlet, enables the AC power modules to be redundant.

The following line cords are supported on a #5096:

- #1399 - 4.3m 300V/16A
- #1406 - 200V 16A 14-Ft TL Line Cord
- #4655 - 4.3m 200V/16A Pwr Cd Italy
- #1409 - 4.3m 200V/16A Pwr Cd AU/NZ
- #1418 - 4.3m 200V/16A Pwr Cd S Afric
- #1419 - 4.3m 200V/16A Pwr Cd Israel
- #1420 - 4.3m 200V/16A Pwr Cd EU/Asia
- #1421 - 4.3m 200V/16A Pwr Cd CH/DK
- #1451 - 200V 6-Ft Line Cord
- #1452 - 200V 14-Ft Line Cord
- #1453 - 200V 6-Ft Locking Line Cord
- #1454 - 200V 12A 14-Ft TL Line Cord (U.S. default)
- #1455 - 200V 6-Ft Wtrtght Line Cord
- #1456 - 200V 14-Ft Wtrtght Line Cord
- #1476 - 4.3m 200V/12A Pwr Cd UK
- Attributes provided: 14 PCI slots
- Attributes required: RIO-2 connection
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5108) - 30-Disk Expansion Feature

#5108 is a disk unit expansion enclosure feature for a single line cord #5094 PCI-X Expansion Tower. #5108 includes two 15-disk-unit enclosures, one 765-watt power supply, back-planes, and cables. One PCI Disk Unit Controller is required to support each 15-disk-unit enclosure.

- Attributes provided: 30 additional disk unit slots
- Attributes required: #5094 PCI-X Expansion Tower
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5115) - Dual Line Cords - Tower

#5115 is a dual line cord enabler for the upper unit in a #5094 PCI-X Expansion Tower. #5115 includes an additional power supply. An additional line cord must be specified.

Plugging in the second line cord, even if to the same outlet, enables the AC power modules to be redundant.

- Attributes provided: Dual line cord capability
- Attributes required: #5094
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5116) - Dual Line Cords - 5294 Tower

Provides dual line cord capability for a single enclosure in a #5294 tower. Two line cords must be specified for each #5116 ordered with a #5294. When ordering a #5116 for an installed #5294, an additional line cord must be specified for each #5116. The configurator will default two #5116s, for each #5294 ordered with a system that has dual line cords on the system unit.

Plugging in the second line cord, even if to the same outlet, enables the AC power modules to be redundant.

- Attributes provided: Dual line cord capability for a single unit in a #5294
- Attributes required: #5294
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5138) - Redundant Power and Cooling

#5138 provides redundant power for the #0595 PCI-X Expansion Towers. #5138 includes a second 435W power supply, and requires that a second line cord be specified. The second line cord enables dual line cord capability.

- Attributes provided: Redundant Power
- Attributes required: #0595 PCI-X Expansion Tower.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5160) - Power Dist Unit 1 Phase NEMA

This feature provides a single phase NEMA PDU for 19 inch Racks. Each PDU provides six outlets.

System units and/or expansion units would use a #6458 line cord to connect to the #5160.

The following line cords are supported on the #5160:

- #1424 - 200V 6-Ft Locking Line Cord (supported, not orderable)
- #1425 - 200V 6-Ft Wtrtght Line Cord (supported, not orderable)
- #1426 - 200V 14-Ft Locking Line Cord
- #1427 - 200V 14-Ft Wtrtght Line Cord
- #1446 - 4.3m 200V/30A Pwr Cd Korea
- #1447 - 4.3m 200V/30A Pwr Cd AU
- #1448 - 4.3m 200V/30A Pwr Cd NZ (supported, not orderable)
- Attributes provided: Power Distribution Unit
- Attributes required: 19 Inch Rack
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5161) - Power Dist Unit 1 Phase IEC

This feature provides a single phase IEC PDU for iSeries racks. Each PDU provides six outlets.

System units and/or expansion units would use a #6458 line cord to connect to the #5161.

The following line cord is supported on the #5161:

- #1449 - 4.3m 200V/32A Pwr Cd EU 1-PH
- Attributes provided: Power Distribution Unit
- Attributes required: 19 Inch Rack
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5162) - Power Dist Unit 2 of 3 Phase

This feature provides a 2 of 3 phase Power Distribution Unit (PDU) for iSeries Racks. Each PDU provides six outlets.

The following line cord is supported on the #5162:

- #1450 - 4.3m 200V/16A Pwr Cd EU 2-PH (supported, not orderable)
- Attributes provided: Power Distribution Unit
- Attributes required: 19 Inch Rack
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5163) - Power Dist Unit - 3 Phase

This feature provides a 3 phase Power Distribution Unit (PDU) for iSeries Racks. Each PDU provides six outlets.

System units and/or expansion units would use a #6458 line cord to connect to the #5163.

The following line cord is supported on the #5163:

- #1477 - 4.3m 200V/16A PWR CD
- Attributes provided: Power Distribution Unit
- Attributes required: 19 Inch Rack
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5289) - 2 Port Async EIA-232 PCIe Adapter

(No Longer Available as of August 14, 2015)

Adapter provides connection for 2 asynchronous EIA-232 devices. Ports are programmable to support EIA-232 protocols, at a line speed of 128K bps. Two RJ45 connections are located on the rear of the adapter. To attach to devices using a 9-pin (DB9) connection, use an RJ45-to-DB9 converter. For convenience, one converter is included with this feature. One converter for each connector needing a DB9 connector is needed.

The converter cable shipped with the feature is a 10-pin RJ-45 approximately 30 cm or 1 foot in length. 10-pin is often used for DCE devices like modems. DTE devices may be able to use fewer pin connections. Multiple RJ-45 pin out options are used and sold across the industry. The #3930 feature provides an 8-pin RJ45-to-DB9 converter cable. If an addition 10-pin RJ45-to-DB9 connector like the cable provided with the adapter is desired, it is commonly available from multiple sources and identified as a serial cable with a Digi part number 76000239. It is also possible to look up the cable's pin out specifications and build your own cables.

Note: #5289 and # 5290 are physically and electrically identical adapters except for the type of PCIe slot used (full-high or low profile). Note also the 2-port #5289/5290 is functionally nearly identical to the 4-port #5785/5277 except for the number and type of connectors.

Limitation: As of 2012, IBM i does not support PPP protocol. Also IBM i only supports use on POWER7 and POWER7+ servers.

- Attributes provided: 2-Port Asynchronous EIA-232 via 2x RJ45 connectors, one RJ45-to-DB9 converter cable
- Attributes required: 1 full high PCIe Slot
- Minimum required: 0
- Maximum allowed: 56 (Initial order maximum: 56)
- OS level required:
 - AIX Version 7.1 with the 7100-01 Technology level, or later
 - AIX Version 6.1 with the 6100-07 Technology Level, or latter
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 5
 - IBM i - not supported (see VIOS)
 - Refer to Software Requirements for specific Linux levels supported
 - Linux - supported

Additional driver is required to be installed for the above Linux levels. For detail problem description and instructions, visit:

<http://www14.software.ibm.com/webapp/set2/sas/f/lopdiags/info/LinuxAlerts.html>

- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5294) - 1.8m I/O Tower

The #5294 is a I/O expansion tower that can contain up to 90 disk units, has 28 PCI slots and has four removable media bays.

Each #5294 is essentially two #5094 PCI Expansion Towers, with side covers and casters removed, placed in a 1.8M rack. Each #5294 counts as two #5094s towards the system model maximums.

Two bus adapters, to provide the RIO interfaces to the system, are required with each #5294.

The upper and lower enclosures (#5094s) in a #5294 are not connected internally by a RIO cable. If the #5294 is to be placed in a RIO loop (both upper and lower enclosure on same RIO loop), an RIO-2 cable is required to connect the upper and lower enclosures.

Select the appropriate cable based on the length required.

Select three or four (any combination) of the following RIO cables, on first #5094 on system, initial order. For additional #5094s or on an MES, select two, three or four (any combination) RIO-2 cables per tower:

The following RIO-2 cables can be used with a #5294:

- #3146 1m RIO-2 Cable
- #3147 4m RIO-2 Cable
- #3148 10m RIO-2 Cable

Select two of the following SPCN cables for each #5294:

- #6001 2m SPCN Cable
- #6008 6m SPCN Cable
- #6007 15m SPCN Cable
- #6006 3m SPCN Cable
- #6007 15m SPCN Cable
- #6008 6m SPCN Cable
- #6029 30m SPCN Cable

For each #5294 ordered, a quantity of two #0694(#5094 Equivalent) specify codes will be added to the order. If a #5294 is to be shared between two systems, one #0694 must be removed from the original ordering system and added to the sharing system, using an RPO(Record Purpose Only) change.

Each of the two tower units within a #5294 fully support 45 disk units (no #5108s need be ordered).

Dual line cord capability is available for the #5294 with feature #5116. With a #5116 installed, both tower units of a #5294 will have dual line cord capability. Two additional line cords (for a total of four) must be ordered when a #5116 is installed. Plugging in the second line cord from the upper and lower units, even if to the same outlet, enables each unit's AC power modules to be redundant. For the best power protection, the first and second line cords should be attached to different power sources.

The following line cords are supported on a #5294 (two line cord features required):

- #1399 - 4.3m 300V/16A
- #1406 - 200V 16A 14-Ft TL Line Cord
- #6455 - 4.3m 200V/16A Pwr Cd Italy
- #1409 - 4.3m 200V/16A Pwr Cd AU/NZ
- #1418 - 4.3m 200V/16A Pwr Cd S Afric
- #1419 - 4.3m 200V/16A Pwr Cd Israel
- #1420 - 4.3m 200V/16A Pwr Cd EU/Asia
- #1421 - 4.3m 200V/16A Pwr Cd CH/DK
- #1451 - 200V 6-Ft Line Cord
- #1452 - 200V 14-Ft Line Cord
- #1453 - 200V 6-Ft Locking Line Cord
- #1454 - 200V 12A 14-Ft TL Line Cord
- #1455 - 200V 6-Ft Wtrtght Line Cord
- #1456 - 200V 14-Ft Wtrtght Line Cord
- #1476 - 4.3m 200V/12A Pwr Cd UK

The 45 disk unit positions in each unit of a #5294, are in groups of 15, each group of 15 disk units is further divided into three groups of five disk units, each group of five disk units supported on a separate SCSI (LVD-SCSI) bus from a PCI Disk Unit Controller.

The two removable media bays of each unit within a #5294 are supported by the same PCI Disk Unit Controller that supports disk unit positions D31 thru D35) of each internal tower unit.

- Attributes provided: 28 PCI slots, 90 disk unit positions, fourremovable media bays
- Attributes required: RIO connections, two to four wall electrical outlets, at least one #0694 on the inventory records
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5296) - 1.8m I/O Tower (no disk)

The #5296 is a I/O expansion tower that has 28 PCI slots, no disk unit bays, and no removable media bays.

Each #5296 is essentially two #5096 PCI-X Expansion Towers, with side covers and casters removed, placed in a 1.8M rack. Each #5296 counts as two #5096s towards the system model maximums.

Two bus adapters, to provide the RIO-2 interfaces to the system, are required with each #5296. Select two of the following:

- #6417 - Base RIO-2 Bus Adapter (for copper RIO-2 interfaces)

The upper and lower enclosures (#5096s) in a #5296 are not connected internally by a RIO cable. If the #5296 is to be placed in an RIO loop (both upper and lower enclosure on same RIO loop), a RIO-2 cable is required to connect the upper and lower enclosures. A copper loop can intermix I/O towers/units with copper RIO and copper RIO-2 ports. Select the appropriate cable based on the cable length required.

Select three or four of the following RIO cables, on initial orders, for the first #5296 on the system. For additional #5296s, or on an MES order, select two, three, or four of the following RIO cables per tower:

- #3156 - 1.75m RIO-2 Cable
- #3168 - 2.5m RIO-2 Cable
- #3146 1m RIO-2 Cable
- #3147 4m RIO-2 Cable
- #3148 10m RIO-2 Cable

Select two of the following SPCN cables for each #5296:

- #1466 30m SPCN Cable
- #6001 2m SPCN Cable
- #6006 3m SPCN Cable
- #6007 15m SPCN Cable
- #6008 6m SPCN Cable
- #6029 30m SPCN Cable

No base IOPs are included with a #5296. For each #5296 ordered, a quantity of two #0694, #5096 Equivalent, specify codes will be added to the order. If a #5296 is to be shared between two systems, one #0694 must be removed from the original ordering system and added to the sharing system, using a Record Purpose Only (RPO) change.

Dual line cord capability is available for the #5296 with feature #5116. With a #5116 installed, both tower units of a #5296 will have dual line cord capability. Two additional line cords (for a total of four), must be ordered when a #5116 is installed. Plugging in the second line cord from the upper and lower units, even if to the same outlet, enables each unit's AC power modules to be redundant. For the best power protection, the first and second line cords should be attached to different power sources.

Two of the following line cords are required on a #5296:

- #1399 - 4.3m 300V/16A
- #1406 - 200V 16A 14-Ft TL Line Cord
- #6455 - 4.3m 200V/16A Pwr Cd Italy
- #1409 - 4.3m 200V/16A Pwr Cd AU/NZ
- #1418 - 4.3m 200V/16A Pwr Cd S Afric
- #1419 - 4.3m 200V/16A Pwr Cd Israel
- #1420 - 4.3m 200V/16A Pwr Cd EU/Asia
- #1421 - 4.3m 200V/16A Pwr Cd CH/DK
- #1451 - 200V 6-Ft Line Cord
- #1452 - 200V 14-Ft Line Cord
- #1453 - 200V 6-Ft Locking Line Cord
- #1454 - 200V 12A 14-Ft TL Line Cord
- #1455 - 200V 6-Ft Wtrtght Line Cord
- #1456 - 200V 14-Ft Wtrtght Line Cord
- #1476 - 4.3m 200V/12A Pwr Cd UK
- Attributes provided: 28 PCI slots
- Attributes required: RIO connections, two to four wall electrical outlets, at least one #0696 on the inventory record
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5403) - One Processor Activation for Processor Feature #7380

Each occurrence of this feature will permanently activate one processor on Processor Card #7380

- Attributes provided: Activation of one processor on FC #7380
- Attributes required: FC #7380 with inactive processors
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5404) - Utility Billing for FC# 7380- 100 processor minutes

Provides payment for temporary use of processor feature #7380 with supported AIX or Linux operating systems. Each occurrence of this feature will pay for 100 minutes of usage. The purchase of this feature occurs after the customer has 100 minutes of use on processors in the shared processor pool that are not permanently active.

- Attributes provided: Payment for Utility CoD use of processor #7380 (AIX or Linux)
- Attributes required: At least one processor #7380 that is not permanently active.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5459) - One Processor Activation for Processor Feature #4980

(No Longer Available as of October 31, 2017)

Each occurrence of this feature will permanently activate one processor core on Processor Card #4980.

- Attributes provided: Activation of one processor on FC #4980
- Attributes required: FC #4980 with inactive processors
- Minimum required: 0
- Maximum allowed: 48 (Initial order maximum: 48)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5468) - One Processor Activation for Processor Feature #4981

(No Longer Available as of October 31, 2017)

Each occurrence of this feature will permanently activate one processor core on Processor Card #4981.

- Attributes provided: Activation of one processor on FC #4981
- Attributes required: FC #4981 with inactive processors
- Minimum required: 0
- Maximum allowed: 64 (Initial order maximum: 64)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5480) Utility Billing for FC# 7380 with IBM i - 100 processor minutes

Provides payment for temporary use of processor feature #7380 with the IBM i operating system. Each occurrence of this feature will pay for 100 minutes of processor use. The purchase of this feature occurs after the customer has 100 minutes of use on processors in the shared processor pool that are not permanently active.

- Attributes provided: Payment for temporary use of processor #7380 (IBM i)
- Attributes required: At least one processor #7380 that is not permanently active.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5481) Utility Billing for FC# 5620 with IBM i - 100 processor minutes

Provides payment for temporary use of processor feature #5620 with the IBM i operating system. Each occurrence of this feature will pay for 100 minutes of processor use. The purchase of this feature occurs after the customer has 100 minutes of use on processors in the shared processor pool that are not permanently active.

- Attributes provided: Payment for temporary use of processor #5620 (IBM i)
- Attributes required: At least one processor #5620 that is not permanently active.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5482) Utility Billing for FC# 5621 or #5622 with IBM i - 100 processor minutes

Provides payment for temporary use of processor feature #5621 or #5622 with the IBM i operating system. Each occurrence of this feature will pay for 100 minutes of processor use. The purchase of this feature occurs after the customer has 100 minutes of use on processors in the shared processor pool that are not permanently active.

- Attributes provided: 100 minutes use of processor #5621 or #5622 (IBM i)
- Attributes required: At least one processor #5621 or #5622 that is not permanently active.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5483) On/Off Processor Billing for FC#5620 with IBM i - 1 processor day

Once an On/Off Processor Enablement feature is ordered and the associated enablement code is entered into the system, you must report your on/off use to IBM at least monthly. This information, used to compute your billing data, is then provided to your sales channel. The sales channel will place an order for a quantity of On/ Off Processor Day Billing features and bill you. One #5483 should be ordered for each billable processor days use of feature 5620 with the IBM i operating system.

- Attributes provided: One processor day usage for feature #5620 (IBM i)
- Attributes required: On/Off Processor Enablement
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5484) On/Off Processor Billing for Feature #5621 or #5622 with IBM

Once an On/Off Processor Enablement feature is ordered and the associated enablement code is entered into the system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is then provided to your sales channel. The sales channel will place an order for a quantity of On/ Off Processor Day Billing features and bill you. One #5484 should be ordered for each billable processor days use of processor #5621 or #5622 with the IBM i operating system.

- Attributes provided: One processor day usage for feature #5621 or #5622 (IBM i)
- Attributes required: On/Off Processor Enablement. At least one processor #5621 or #5622 that is not permanently active.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5485) On/Off Processor Billing for FC#7380 with IBM i - 1 processor day

Once an On/Off Processor Enablement feature is ordered and the associated enablement code is entered into the system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is then provided to your sales channel. The sales channel will place an order for a quantity of On/ Off Processor Day Billing features and bill you. One #5485 should be ordered for each billable processor days use of feature # 7380 with the IBM i operating system.

- Attributes provided: One processor day usage for feature #7380 (IBM i)
- Attributes required: On/Off Processor Enablement
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5524) RFID TAGS FOR SERVERS, BLADES, BLADECENTERS, RACKS, AND HMCs

(No longer available as of December 31, 2020)

The specify feature attaches one Radio Frequency Identification Device (RFID) tag to a Server CEC, rack, HMC, Blade or BladeCenter enclosure. This can be used with MTM (machine type model) rack such as a 7014-T42, not a feature code rack such as a #0553. It applies to newly shipped MTM servers, racks, HMCs, Blades or BladeCenter enclosures, not MES orders with one exception. POWER5 CECs being upgraded to a POWER6 CEC can order this feature. The RFID tag meets the Financial Services Technology Consortium (FSTC) specifications for IT Data Center Asset Tracking.

- Attributes provided: RFIDs
- Attributes required: Server CEC, Blade, BladeCenter, MTM Rack, or HMC
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5544) - Sys Console on OP Console

When #5544 is on the order, the system console is driven by a WAN adapter. A #0367, Operations Console PCI cable is required on the system/order.

- Attributes provided: System Console on a WAN Connection
- Attributes required: WAN IOA, #0367 Operations Console PCI Cable
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5548) - Sys Console 100Mbps Ethernet

With #5548, the system console is driven by an Ethernet LAN adapter. Some system unit Ethernet ports are not supported. A 100/ 10Mbps Ethernet IOA is required on the system. This LAN adapter must be dedicated to console support functions and cannot be used for any other purpose.

- Attributes provided: System Console on a Ethernet Connection
- Attributes required: a 100/10Mbps Ethernet LAN IOA.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5550) - Sys Console On HMC

With #5550, system console function is driven by the Hardware Management Console (HMC) connected to the system. The HMC is required if the following

- Attributes provided: System Console on Hardware Management Console(HMC)
- Attributes required: Hardware Management Console (HMC)
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5553) - Sys Console-Ethernet No IOP

This specify indicates the use of an embedded CEC LAN port for the system console connection using Operations Console (LAN).

- Attributes provided: System console connection through an embedded CEC LAN port.
- Attributes required: Embedded CEC LAN port.
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5554) - Mirror 35GB Disk/Controller Pkg

This feature provides a disk unit controller (#2780 equivalent) and twelve (12) 15k rpm 35GB disk units (#4326 equivalent) for servers doing mirroring. Either #0042 Mirrored System IOP Level or #0043 Mirrored System Bus Level is a prerequisite.

- Attributes provided: Twelve (12) 35GB mirrored disk units
- Attributes required: PCI slot for disk controller, 12 disk unit slots and #0042 or #0043.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5555) - Mirror 70GB Disk/Controller Pkg

This feature provides a disk unit controller (#2780 equivalent) and twelve (12) 15k rpm 70GB disk units (#4327 equivalent) for servers doing mirroring. Either #0042 Mirrored System IOP Level or #0043 Mirrored System Bus Level is a prerequisite.

- Attributes provided: Twelve (12) 70GB mirrored disk units
- Attributes required: PCI slot for disk controller, 12 disk unit slots and #0042 or #0043.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5556) - Mirror 141GB Disk/Controller Pkg

Provides a disk unit controller (#2780 equivalent) and twelve 15k rpm 141GB disk units (#4328 equivalent) for servers doing mirroring. Either #0042 Mirrored System IOP Level or #0043 Mirrored System Bus Level is a prerequisite.

- Attributes provided: Twelve 141GB mirrored disk units
- Attributes required: PCI slot for disk controller, twelve disk unit slots and #0042 or #0043.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5560) - Mirror 35GB Drawer Package

This package feature includes one #0595 rackmount I/O expansion unit, one #2844 IOP, twelve #4326 35.16GB 15k rpm disk units and two high- function, large write cache disk controllers (#2757 or newer) for servers doing mirroring. The I/O drawer requires five EIA of rack space and has a total of seven PCI-X IOP/IOA slots and 12 disk unit slots. Three PCI-X slots and 12 disk unit slots are filled with the package contents, but four PCI-X slots can be used by other PCI-X IOPs/IOAs.

On IBM ordering, shipping, and inventory documentation, the component features specifically for the #0595 I/O drawer, the disk units, and the disk controllers will not be shown. The package's #0000 feature number will be shown and will carry the price and warranty for this package.

Customers should use the specific component features such as #0595 for all planning and implementation documentation. The #0040 Mirrored System Disk Level is a prerequisite.

A bus adapter to provide the RIO-2 interface to the system is required.

One or two RIO-2 cables must be ordered with each #5560.

Select the appropriate cable based on the length required.

The following RIO-2 cables can be used with a #5560:

- #3156 - 1.75m RIO-2 Cable
- #3168 - 2.5m RIO-2 Cable
- #3146 1m RIO-2 Cable
- #3147 4m RIO-2 Cable
- #3148 10m RIO-2 Cable

One SPCN cable is required with each #5560. Select one of the following:

- #1466 30m SPCN Cable
- #6001 2m SPCN Cable
- #6006 3m SPCN Cable
- #6007 15m SPCN Cable
- #6008 6m SPCN Cable
- #6029 30m SPCN Cable

The #5560 has redundant power when feature #5138 is installed. The #5138 provides a second 435W power supply. In addition, when a #5138 is installed, a second line cord must be ordered. The presence of the #5138 and the second line cord, enables dual line cord capability.

Select one of the following line cords, or select two if #5138 is ordered:

- #1394 - 4.3m 200V/10A Pwr Crd Brazil
- #1395 - 4.3m 200V/10A Pwr Cd China
- #1397 - 4.3m 200V/10A Pwr Crd Argent
- #1398 - 4.3m 100V/10A Pwr Crd Brazil
- #1410 - 200V 6-Ft Line Cord
- #1411 - 200V 14-Ft Line Cord
- #1412 - 125V 6-Ft Line Cord
- #1413 - 125V 14-Ft Line Cord
- #1414 - 200V 6-Ft Locking Line Cord
- #1415 - 200V 6-Ft Watertight Line Cord
- #1416 - 200V 14-Ft Locking Line Cord
- #1417 - 200V 14-Ft Wtrtght Line Cord
- #1422 - 3m IEC 320 C13/14 PDU Cord
- #1438 - 4.3m 200V/10A Pwr Cd AU/NZ
- #1439 - 4.3m 200V/10A Pwr Cd EU/Asia
- #1440 - 4.3m 200V/10A Pwr Cd Denmark
- #1441 - 4.3m 200V/10A Pwr Cd S Africa
- #1442 - 4.3m 200V/10A Pwr Cd Swiss
- #1443 - 4.3m 200V/10A Pwr Cd UK
- #1444 - 4.3m 200V/10A Pwr Cd Italy
- #1445 - 4.3m 200V/10A Pwr Cd Israel
- #6458 - 14-Ft Int 250V/10A Pwr Cd
- #6460 - 14-Ft 125V/15A Power Cord
- #6469 - 14-Ft 250V/15A Power Cord
- #6470 - 6-Ft 125V/15A Power Cord
- #6471 - 9-Ft 125V/15A Power Cord
- #6472 - 9-Ft 250V/16A Power Cord
- #6473 - 9-Ft 250V/10A Power Cord
- #6474 - 9-Ft 250V/13A Power Cord
- #6475 - 9-Ft 250V/16A Power Cord
- #6476 - 9-Ft 250V/10A Power Cord
- #6477 - 9-Ft 250V/10A Power Cord
- #6478 - 9-Ft 250V/16A Power Cord
- #6479 - 9-Ft 250V/10A Power Cord
- #6487 - 6-Ft 250V/15A Power Cord
- #6488 - 9-Ft Dual Voltage Pwr Cd
- #6493 - 9-Ft 250V/10A Power Cord
- #6494 - 9-Ft 250V/10A Power Cord
- #6495 - 9-Ft 250V/10A Power Cord
- #6496 - 9-Ft 250V/10A Power Cord
- #6497 - 6-Ft 250V/15A Power Cord
- #6498 - 6-Ft 250V/15A Power Cord
- #6651 - 9-Ft 127V/15A Power Cord
- #6659 - 9-Ft 240V/15A Power Cord
- #6660 - 14-Ft 127V/15A Power Cord
- #6669 - 14-Ft 240V/15A Power Cord
- #6670 - 6-Ft 125V/15A Power Cord
- #6680 - 9-Ft 250V/10A Power Cord
- #6687 - 6-Ft 250V/15A Power Cord
- Attributes provided: 12 35.16GB disk units and 7 PCI card slots
- Attributes required: #0040, 5 EIA rack space
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5561) - Mirror 70GB Drawer Package

This package feature includes one #0595 rackmount I/O expansion unit, one #2844 IOP, twelve #4327 70.56GB 15k rpm disk units and two high- function, large write cache disk controllers (#2757 or newer) for servers doing mirroring. The I/O drawer requires five EIA of rack space and has a total of seven PCI-X IOP/IOA slots and 12 disk unit slots. Three PCI-X slots and 12 disk unit slots are filled with the package contents, but four PCI-X slots can be used by other PCI-X IOPs/IOAs.

On IBM ordering, shipping, and inventory documentation, the component features specifically for the #0595 I/O drawer, the disk units, and the disk controllers will not be shown. The chargeable #5561 feature number will be shown and will carry the price and warranty for this package.

Customers should use the specific component features such as #0595 for all planning and implementation documentation. The #0040 Mirrored System Disk Level is a prerequisite.

A bus adapter to provide the HSL interface to the system is required.

One active **PS/2 Cable** must be ordered with each #5561.

Select the appropriate cable based on the length required.

- #3156 - 1.75m RIO-2 Cable
- #3168 - 2.5m RIO-2 Cable
- #3146 1m RIO-2 Cable
- #3147 4m RIO-2 Cable
- #3148 10m RIO-2 Cable

One SPCN cable is required with each #5561. Select one of the following:

- #1466 30m SPCN Cable
- #6001 2m SPCN Cable
- #6006 3m SPCN Cable
- #6007 15m SPCN Cable
- #6008 6m SPCN Cable
- #6029 30m SPCN Cable

The #5561 has redundant power when feature #5138 is installed. The #5138 provides a second 435W power supply. In addition, when a #5138 is installed, a second line cord must be ordered. The presence of the #5138 and the second line cord, enables dual line cord capability.

Select one of the following line cords, or select two if #5138 is ordered:

- #1394 - 4.3m 200V/10A Pwr Crd Brazil
- #1395 - 4.3m 200V/10A Pwr Cd China
- #1397 - 4.3m 200V/10A Pwr Crd Argent
- #1398 - 4.3m 100V/10A Pwr Crd Brazil
- #1410 - 200V 6-Ft Line Cord
- #1411 - 200V 14-Ft Line Cord
- #1412 - 125V 6-Ft Line Cord
- #1413 - 125V 14-Ft Line Cord
- #1414 - 200V 6-Ft Locking Line Cord
- #1415 - 200V 6-Ft Watertight Line Cord
- #1416 - 200V 14-Ft Locking Line Cord
- #1417 - 200V 14-Ft Wtrtght Line Cord
- #1422 - 3m IEC 320 C13/14 PDU Cord
- #1438 - 4.3m 200V/10A Pwr Cd AU/NZ
- #1439 - 4.3m 200V/10A Pwr Cd EU/Asia
- #1440 - 4.3m 200V/10A Pwr Cd Denmark
- #1441 - 4.3m 200V/10A Pwr Cd S Africa
- #1442 - 4.3m 200V/10A Pwr Cd Swiss
- #1443 - 4.3m 200V/10A Pwr Cd UK
- #1444 - 4.3m 200V/10A Pwr Cd Italy
- #1445 - 4.3m 200V/10A Pwr Cd Israel
- #6458 - 14-Ft Int 250V/10A Pwr Cd
- #6460 - 14-Ft 125V/15A Power Cord
- #6469 - 14-Ft 250V/15A Power Cord
- #6470 - 6-Ft 125V/15A Power Cord
- #6471 - 9-Ft 125V/15A Power Cord
- #6472 - 9-Ft 250V/16A Power Cord
- #6473 - 9-Ft 250V/10A Power Cord
- #6474 - 9-Ft 250V/13A Power Cord
- #6475 - 9-Ft 250V/16A Power Cord
- #6476 - 9-Ft 250V/10A Power Cord
- #6477 - 9-Ft 250V/10A Power Cord
- #6478 - 9-Ft 250V/16A Power Cord
- #6479 - 9-Ft 250V/10A Power Cord
- #6487 - 6-Ft 250V/15A Power Cord
- #6488 - 9-Ft Dual Voltage Pwr Cd
- #6493 - 9-Ft 250V/10A Power Cord
- #6494 - 9-Ft 250V/10A Power Cord
- #6495 - 9-Ft 250V/10A Power Cord
- #6496 - 9-Ft 250V/10A Power Cord
- #6497 - 6-Ft 250V/15A Power Cord
- #6498 - 6-Ft 250V/15A Power Cord
- #6651 - 9-Ft 127V/15A Power Cord
- #6659 - 9-Ft 240V/15A Power Cord
- #6660 - 14-Ft 127V/15A Power Cord
- #6669 - 14-Ft 240V/15A Power Cord
- #6670 - 6-Ft 125V/15A Power Cord
- #6680 - 9-Ft 250V/10A Power Cord
- #6687 - 6-Ft 250V/15A Power Cord
- Attributes provided: 12 70.56GB disk units and 7 PCI card slots
- Attributes required: #0040, 5 EIA of rack space
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5580) - 2780 Controller w/Aux Write Cache

Provides a disk controller with auxiliary write cache to improve cache data redundancy. The #5580 includes a #2780 PCI-X Ultra4 RAID Disk Controller and a secondary IOA with 757MB of auxiliary maximum compressed write cache. The #2780 and the secondary IOA each require one PCI-X slot and must be installed together in the same CEC or I/O unit/drawer/tower. The #2780 and the auxiliary write cache IOA are connected by a SCSI cable (provided). Feature #2780 will not appear on IBM ordering, shipping, or inventory documentation.

The connecting SCSI cable is attached to port four of the #2780, reducing the number of SCSI buses that support disk drives from four to three. The reduction of SCSI buses may also reduce the number of disk drives supported by the #2780, depending on the CEC or I/O unit/ drawer/tower in which the #2780 is installed. No disk drives are driven by the auxiliary write cache IOA.

- Attributes provided: Disk Controller with auxiliary write cache
- Attributes required: Two PCI-X slots within the same CEC or I/O unit/drawer/tower
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5581) - 2757 Controller w/Aux Write Cache

Provides a disk controller with auxiliary write cache to improve cache data redundancy. The #5581 includes a #2757 PCI-X Ultra4 RAID Disk Controller and a secondary IOA with 757MB of auxiliary maximum compressed write cache. The #2757 and the secondary IOA each require one PCI-X slot and must be installed together in the same CEC or I/O unit/drawer/tower. The #2757 and the auxiliary write cache IOA are connected by a SCSI cable (provided). Feature #2757 will not appear on IBM ordering, shipping, or inventory documentation.

The connecting SCSI cable is attached to port four of the #2757, reducing the number of SCSI buses that support disk drives from four to three. The reduction of SCSI buses may also reduce the number of disk drives supported by the #2757, depending on the CEC or I/O unit/ drawer/tower in which the #2757 is installed. No disk drives are driven by the auxiliary write cache IOA.

- Attributes provided: Disk Controller with auxiliary write cache
- Attributes required: Two PCI-X slots within the same CEC or I/O unit/drawer/tower
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5583) - 5777 Controller w/Aux Write Cache

Provides a disk controller with auxiliary write cache to improve cache data redundancy. The #5583 includes a #5777 PCI-X disk controller and a secondary IOA with 1.5GB of auxiliary maximum compressed write cache. #5777 and the secondary IOA each require one PCI-X slot and must be installed together in the same system unit or I/O unit/drawer/tower. The #5777 and the auxiliary write cache IOA are connected by a SCSI cable (provided). Feature #5777 will not appear on IBM ordering, shipping, or inventory documentation.

The connecting SCSI cable is attached to port four of the #5777, reducing the number of SCSI buses that support disk drives from four to three. The reduction of SCSI buses may also reduce the number of disk drives supported by the #5777, depending on the system unit or I/O unit/drawer/tower in which the #5777 is installed. No disk drives are driven by the auxiliary write cache IOA. #5583 does not require an IOP.

- Attributes provided: Disk Controller with auxiliary write cache
- Attributes required: Two PCI-X slots within the same system unit or I/O unit/drawer/tower
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5590) - 2780 Controller w/Aux Write Cache

Provides a disk controller with auxiliary write cache to improve cache data redundancy. #5590 includes a #2780 PCI-X RAID Disk Controller with 757MB of write cache and a secondary IOA with 1.5GB of auxiliary maximum compressed write cache. The #2780 and the secondary IOA each require one PCI-X slot and must be installed together in the same system unit or I/O unit/drawer/tower. #2780 and the auxiliary write cache IOA are connected by the provided SCSI cable. Feature #2780 will not appear on IBM ordering, shipping, or inventory documentation.

The connecting SCSI cable is attached to port four of the #2780, reducing the number of SCSI buses that support disk drives from four to three. The reduction of SCSI buses may also reduce the number of disk drives supported by the #2780, depending on the system unit or I/O unit/drawer/tower in which the #2780 is installed. No disk drives are driven by the auxiliary write cache IOA.

- Attributes provided: Disk Controller with auxiliary write cache
- Attributes required: Two PCI-X slots within the same system unit or I/O unit/drawer/tower
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5591) - 2757 Controller w/Aux Write Cache

Provides a disk controller with auxiliary write cache to improve cache data redundancy. The #5591 includes a #2757 PCI-X RAID Disk Controller with a 757MB write cache and a secondary IOA with 1.5GB of auxiliary maximum compressed write cache. The #2757 and the secondary IOA each require one PCI-X slot and must be installed together in the same system unit or I/O unit/drawer/tower. The #2757 and the auxiliary write cache IOA are connected by a SCSI cable (provided). Feature #2757 will not appear on IBM ordering, shipping, or inventory documentation.

The connecting SCSI cable is attached to port four of the #2757, reducing the number of SCSI buses that support disk drives from four to three. The reduction of SCSI buses may also reduce the number of disk drives supported by the #2757, depending on the system unit or I/O unit/drawer/tower in which the #2757 is installed. No disk drives are driven by the auxiliary write cache IOA.

- Attributes provided: Disk Controller with auxiliary write cache
- Attributes required: Two PCI-X slots within the same system unit or I/O unit/drawer/tower
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5600) 0/32GB DDR3 Memory (4X8GB) DIMMS - 1066 MHz - POWER7 CoD Memory

(No Longer Available as of August 31, 2017)

This CoD memory feature makes available four DIMMS each with 8 GB of memory for a total feature size of 32 GB of DDR3, 1066 MHz POWER7 system memory. None of the memory in this feature is active. Feature number 8212 or 8213 must be purchased to activate the memory in this feature.

Memory CoD activations will activate memory hardware only in the system serial number for which they are purchased. If you move memory hardware to another system, the memory may not be functional in that system until arrangements are made to move the memory activations or purchase additional memory activations.

- Attributes provided: 32GB of memory available on four DIMMS
 - Attributes required: Four DIMM slots
 - Minimum required: 0
 - Maximum allowed: 16 (Initial order maximum: 16)
 - OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
 - Initial Order/MES/Both/Supported: Both
 - CSU: No
 - Return parts MES: No
- Note: At least 50% of the system memory must be activated.

(#5601) 0/64GB DDR3 Memory (4X16GB) DIMMS - 1066 MHz - POWER7 CoD Memory

(No Longer Available as of August 31, 2017)

This CoD memory feature makes available four DIMMS each with 16 GB of memory for a total feature size of 64 GB of DDR3, 1066 MHz POWER7 system memory. None of the memory in this feature is active. Feature number 8212 or 8213 must be purchased to activate the memory in this feature.

Memory CoD activations will activate memory hardware only in the system serial number for which they are purchased. If you move memory hardware to another system, the memory may not be functional in that system until arrangements are made to move the memory activations or purchase additional memory activations.

- Attributes provided: 64GB of memory available on four DIMMS
 - Attributes required: Four DIMM slots
 - Minimum required: 0
 - Maximum allowed: 16 (Initial order maximum: 16)
 - OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
 - Initial Order/MES/Both/Supported: Both
 - CSU: No
 - Return parts MES: No
- Note: At least 50% of the system memory must be activated.

(#5602) 0/128GB DDR3 MEMORY (4X32GB) DIMMS - 1066 MHZ - POWER7 COD MEMORY

(No Longer Available as of August 31, 2017)

This CoD memory feature makes available four DIMMS each with 32 GB of memory for a total feature size of 128 GB of DDR3, 1066 MHz POWER7 system memory. None of the memory in this feature is active. Feature number 8212 or 8213 must be purchased to activate the memory in this feature.

- Attributes provided: 128GB of memory available on four DIMMS
 - Attributes required: Four DIMM slots
 - Minimum required: 0
 - Maximum allowed: 16 (Initial order maximum: 16)
 - OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
 - Initial Order/MES/Both/Supported: Both
 - CSU: No
 - Return parts MES: No
- Note: At least 50% of the system memory must be activated. The minimum firmware level required is 7.2.0.

(#5617) - Processor Power Regulator

This feature provides the needed voltage regulation to operate the 0/4 way processor features. Three power regulators in each CEC enclosure are required to provide redundant power regulator support.

- Attributes provided: Required processor voltage regulation
- Attributes required: 0/4 Processor feature
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5620) - 3.5 GHz Proc Card, 0/2 Core POWER6, 12 DDR2 Memory Slots

Dual-core 3.5 GHz POWER6 CUoD processor card. The two processors in this feature each have 4 MB of L2 cache and share 32 MB of L3 cache. There are 12 DDR2 DIMM slots on the processor card which may be used without activating the processors. Permanent activation of the processors requires purchase of the activation FC #5670.

- Attributes provided: Two 3.5 GHz Processors (inactive) on 1 Card
- Attributes required: Available processor socket
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5621) - 4.2 GHz Proc Card, 0/2 Core POWER6, 8 DDR2 Memory Slots

Dual-core 4.2 GHz POWER6 CUoD processor card. The two processors in this feature each have 4 MB of L2 cache and share 32 MB of L3 cache. There are 8 DDR2 DIMM slots on the processor card which may be used without activating the processors. Permanent activation of the processors requires purchase of the activation FC 5671. This processor may only be ordered when purchasing a model conversion upgrade from a 9117-570. The memory dimm slots on this card are compatible with the DDR2 DIMMs used on the 9117-570 system. Processor feature number 5622 can be used to expand a system that was built with processor feature 5621. Processor features 5621 and 5622 can not be mixed in the same CEC enclosure.

- Attributes provided: Two 4.2 GHz Processors (inactive) on 1 Card
- Attributes required: Available processor socket
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5622) - 4.2 GHz Proc Card, 0/2 Core POWER6, 12 DDR2 Memory Slots

Dual-core 4.2 GHz POWER6 CUoD processor card. The two processors in this feature each have 4 MB of L2 cache and share 32 MB of L3 cache. There are 12 DDR2 DIMM slots on the processor card which may be used without activating the processors. Permanent activation of the processors requires purchase of the activation FC 5672.

- Attributes provided: Two 4.2 GHz Processors (inactive) on 1 Card
- Attributes required: Available processor socket
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5625) - Proc Power Regulator

This feature provides the needed voltage regulation to operate the processors. Three power regulators in a single CEC enclosure with one or two processor feature cards provides redundant power regulator support.

Note: Processor #5620 in a single enclosure system is supported with 2 Processor Power Regulators, all other configurations and processors require three regulators in each CEC enclosure. A system with two power regulators does not provide redundant power regulator support.

- Attributes provided: Required processor voltage regulation
- Attributes required: empty power regulator slot
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5626) - System CEC Enclosure with IBM Bezel

Provides the chassis and IBM Bezel for one model MMA CEC enclosure.

- Attributes provided: Chassis and IBM Bezel.
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5628) - Sys AC Power Supply, 1600 W

One 1600 watt AC power supply. Two AC power supplies in a CEC enclosure provide redundant power support. If one should fail, it can be exchanged without interrupting the operation of the system. The system requires one functional power supply in each CEC enclosure to remain operational.

- Attributes provided: AC Power Supply
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5629) - Media Enclosure and Backplane

Sheetmetal enclosure and Backplane for support of one media device in a single CEC Enclosure.

- Attributes provided: One media device slot
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5632) - System AC Power Supply, 1725 W

(No Longer Available as of April 25, 2014)

One 1725 watt AC power supply. Two AC power supplies in a CEC enclosure provide redundant power support. If one should fail, it can be exchanged without interrupting the operation of the system. The system requires one functional power supply in each CEC enclosure to remain operational.

- Attributes provided: AC Power
 - Attributes required: None
 - Minimum required: 2
 - Maximum allowed: 8 (Initial order maximum: 8)
 - OS level required: n/a
 - Initial Order/MES/Both/Supported: Both
 - CSU: Yes
 - Return parts MES: No
- Note: Two power supplies are required for each CEC enclosure.

(#5636) - Integrated, 2 Port- 1Gb Virtual Ethernet, I/O ports

Integrated I/O connectors for a CEC enclosure. Provides 2X-1Gigabit Ethernet connections (RJ-45) that can be Virtualized into the system LPARs. The two system ports included with this feature do not function with the required HMC attached. All of the connectors are on the rear bulkhead of the CEC enclosure.

Features #5636, #5637 and #5639 may be mixed in multi enclosure systems.

- Attributes provided: HEA Integrated I/O Connections
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5637) - Integrated, 2 Port- 10Gb (SR) Virtual Ethernet, I/O ports

Integrated I/O connectors for a CEC enclosure. Provides 2X-10 Gigabit - Short Range Ethernet connections (Optical) that can be Virtualized into the system LPARs. The system port included with this feature does not function with the required HMC attached. All of the connectors are on the rear bulkhead of the CEC enclosure.

Features #5636, #5637 and #5639 may be mixed in multi enclosure systems.

- Attributes provided: HEA Integrated I/O Connections
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5639) - Integrated, 4 Port- 1Gb Virtual Ethernet, I/O ports

Integrated I/O connectors for a CEC enclosure. Provides 4X-1Gigabit Ethernet connections (RJ-45) that can be Virtualized into the system LPARs. The system port included with this feature does not function with the required HMC. All of the connectors are on the rear bulkhead of the CEC enclosure.

Features #5636, #5637 and #5639 may be mixed in multi enclosure systems.

- Attributes provided: HEA Integrated I/O Connections
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5640) - Utility Billing for FC# 5620- 100 processor minutes

Provides payment for temporary use of processor feature #5620 with AIX or Linux operating systems. Each occurrence of this feature will pay for 100 minutes of usage. The purchase of this feature occurs after the customer has 100 minutes of use on processors in the shared processor pool that are not permanently active.

- Attributes provided: Payment for temporary use of processor #5620 (AIX or Linux)
- Attributes required: At least one processor #5620 that is not permanently active.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5641) Utility Billing for FC# 5621 or #5622 - 100 processor minutes

Provides payment for temporary use of processor feature #5621 or #5622 with AIX or Linux operating systems. Each occurrence of this feature will pay for 100 minutes of usage. The purchase of this feature occurs after the customer has 100 minutes of use on processors in the shared processor pool that are not permanently active.

- Attributes provided: Payment for temporary use of processor #5621 or #5622 (AIX or Linux)
- Attributes required: At least one processor #5621 or #5622 that is not permanently active.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5646) - Blind Swap Type III Cassette- PCIe, Short Slot

(No Longer Available as of August 31, 2017)

This feature contains a blind swap cassette for one, single width PCI Express or PCI-X adapter designed to meet the "short" adapter size defined in the PCI Standard and used in a slot defined as a "short" slot. Use FC #5647 for PCI adapters that are mounted in a "standard" length PCI slot.

- Attributes provided: Mounting Hardware for a short PCI slot
- Attributes required: Empty PCI slot - Short
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#5647) - Blind Swap Type III Cassette- PCI-X or PCIe, Standard Slot

(No longer available as of April 19, 2019)

This feature contains a blind swap cassette for one, single width PCI Express adapter or PCI-X adapter that will be mounted in a Standard Length PCI slot. It includes the necessary hardware to mount various sizes of single width PCI adapters that may be less than standard size. Use FC #5646 for PCI adapters that are mounted in "short" PCI slots.

- Attributes provided: Mounting Hardware for a standard length PCI slot
- Attributes required: Empty PCI slot - Standard Length
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#5648) - Service Interface Card

This feature is used to connect each CEC Enclosure to the active Service Processor through the external Service Interface Cable so the drawer content can be monitored for RAS purposes.

This feature also includes 2X SPCN connectors (9 pin D-Shell, receptacle) and 2X HMC Ethernet connectors (RJ-45).

All connectors are on the rear bulkhead of the CEC Enclosure.

- Attributes provided: connection to the active Service Processor
- Attributes required: CEC enclosure
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5650) - On/Off Processor Day Billing for Feature #5620

Once an On/Off Processor Enablement feature is ordered and the associated enablement code is entered into the system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is then provided to your sales channel. The sales channel will place an order for a quantity of On/ Off Processor Day Billing features and bill you. One #5650 should be ordered for each billable processor days use of feature #5620 used by a supported AIX or Linux operating system.

- Attributes provided: One processor day usage for feature #5620 (AIX or Linux)
- Attributes required: On/Off Processor Enablement
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5652) - Disk/Media Backplane

(No Longer Available as of October 31, 2017)

This feature provides 6 SFF disk slots and 1 SATA media slot. Feature #5652 is not hot-pluggable, and it is not required in drawers 3 or 4. This feature contains two embedded SAS RAID controllers which function independently when feature #5662 is not installed, each controlling 2 or 3 of the Six SFF drive slots. Write cache is not enabled for the two controllers without the #5662 installed. Raid 0,10,5,6 are supported although the write performance of Raid 5,6 may be poor without the write cache enabled. When feature #5662 (Write Cache Dual Storage IOA Enablement card) is installed, the two controllers function in a Dual Storage IOA (i.e. HA RAID mode) configuration and both see all 6 internal disk units in the CEC drawer.

- Attributes provided: Six SFF disk slots and one SATA media device slot
 - Attributes required: none
 - Minimum required: 1
 - Maximum allowed: 4 (Initial order maximum: 4)
 - OS level required: n/a
 - Initial Order/MES/Both/Supported: Both
 - CSU: No
 - Return parts MES: No
- Note: One maximum in each CEC enclosure.

(#5653) On/Off Processor Billing for Feature #5621 or #5622 - 1 processor day

Once an On/Off Processor Enablement feature is ordered and the associated enablement code is entered into the system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is then provided to your sales channel. The sales channel will place an order for a quantity of On/ Off Processor Day Billing features and bill you. One #5653 should be ordered for each billable processor day use of processor #5621 or #5622 used by a supported AIX or Linux operating system.

- Attributes provided: One processor day usage for feature #5621 or #5622 (AIX or Linux)
- Attributes required: On/Off Processor Enablement. At least one processor #5621 or #5622 that is not permanently active.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

Once an On/Off Processor Enablement feature is ordered and the associated enablement code is entered into the system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is then provided to your sales channel. The sales channel will place an order for a quantity of On/ Off Processor Day Billing features and bill you. One #5656 should be ordered for each billable processor day use of feature #7380 used by a supported AIX or Linux operating system.

- Attributes provided: One processor day usage for feature #7380 (AIX or Linux)
- Attributes required: On/Off Processor Enablement
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5657) - Serv Interface Cable- 2 Enclosure

Connects the components in each CEC enclosure to the active Service Processor for monitoring system functions. This cable connects at the rear of each CEC enclosure to the Service Interface Card.

- Attributes provided: Service Interface
- Attributes required: System with two CEC enclosures
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5658) - Serv Interface Cable- 3 Enclosure

Connects the components in each CEC enclosure to the active Service Processor for monitoring system functions. This cable connects at the rear of each CEC enclosure to the Service Interface Card.

- Attributes provided: Service Interface
- Attributes required: System with three CEC enclosures
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5659) System CEC Enclosure with IBM BEZEL, I/O Backplane, and System Midplane

(No Longer Available as of April 25, 2014)

Provides the chassis and IBM Bezel for one model MMB CEC enclosure. The system I/O backplane provides up to six PCIe (8x) slots for adapters.

- Attributes provided: Chassis and IBM Bezel. Six PCIe slots.
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 4 (Initial order maximum: 4)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: No
- Return parts MES: No
Note: Maximum of one per CEC enclosure.

(#5660) - Serv Interface Cable- 4 Enclosure

Connects the components in each CEC enclosure to the active Service Processor for monitoring system functions. This cable connects at the rear of each CEC enclosure to the Service Interface Card.

- Attributes provided: Service Interface
- Attributes required: System with four CEC enclosures
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5662) - 175MB Cache RAID - Dual IOA Enablement Card

(No Longer Available as of December 31, 2016)

Feature #5662 is used to enable write cache on the two embedded SAS RAID controllers of the #5652 Disk/Media Backplane by providing the necessary rechargeable batteries for memory backup . It also enables the two embedded SAS RAID controllers to work as Dual Storage IOAs (i.e. HA RAID mode). Feature #5662 plugs into #5652 and enables a 175 MB write cache on each of the two embedded RAID controllers by providing two rechargeable batteries with associated charger circuitry. The write cache can provide additional I/O performance for attached disk or solid state drives, particularly for RAID 5 and RAID 6. The write cache contents are mirrored for redundancy between the two RAID adapters resulting in an effective write cache size of 175 MB. The batteries provide power to maintain both copies of write-cache information in the event power is lost.

- Attributes provided: Enablement of embedded SAS RAID controllers for both write cache and Dual Storage IOAs running all six SAS bays in the CEC (not configured with split backplane).
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 4 (Initial order maximum: 4)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
When ordering #1819, you must also order #5662. This applies to MES orders of #1819 unless #5662 is already present in the same CEC drawer. Feature #1819 must not be installed in a drawer unless #5662 is also installed. #1815 and #5662 cannot be installed in the same drawer.

(#5663) - Proc Enclosure and Backplane

This feature provides the electrical interconnection and mechanical hardware to support up to two system processor cards.

- Attributes provided: Two processor card slots in a CEC enclosure.
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5664) - Service Processor

(No Longer Available as of April 25, 2014)

This feature provides the service processor for the system. One service processor (#5664) is required in CEC enclosures 1 and 2.

- Attributes provided: One service processor
- Attributes required: None
- Minimum required: 1
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: No
- Return parts MES: No

(#5665) - FSP/Clock Pass Through Card

(No Longer Available as of August 31, 2017)

This feature provides a pass through card for the system. One pass through card (#5665) is required in CEC enclosures 3 and 4.

- Attributes provided: One pass through card
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5666) - I/O Backplane

This is the system I/O backplane and provides-

3 long, PCI Express (8X), slots P1-C1, P1-C2, P1-C3

1 short PCI Express (8X), slot P1-C6 - shares space with GX slot P1-C8

2 long PCI-X DDR 64 bit, 266 MHz, slots P1-C4, P1-C5

Up to 2 GX slots for adapters

2 short GX slots P1-C8 (shares space with PCI-X slot P1-C6), P1C9

- Attributes provided: PCI Slots, 4-PCIe, 2-PCI-X and 2-GX slots
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5667) - System Midplane

This feature provides system interconnection within the CEC enclosure and 2 I/O Expansion slots that will accept GX Adapters. A system configured with 2 processors (one processor feature) will only support GX slot P1-C8. All other supported system configurations will support both GX slots P1-C8 and P1-C9 in each CEC enclosure.

GX Slot P1-C8 shares space with PCI-X slot P1-C6.

- Attributes provided: I/O Expansion slots for GX adapters
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5668) - SAS Disk Backplane -6 slot

This feature provides 6 SAS DASD slots. These slots support Hot Pluggable SAS DASD drives.

- Attributes provided: 6 SAS DASD slots
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5669) System CEC Enclosure with OEM BEZEL, I/O Backplane, and System Midplane

(No Longer Available as of April 25, 2014)

Provides the chassis and OEM Bezel for one model MMB CEC enclosure. The system I/O backplane provides up to six PCIe (8x) slots for adapters.

- Attributes provided: Chassis and OEM Bezel. Six PCIe slots.
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 4 (Initial order maximum: 4)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: No
- Return parts MES: No
Note: Maximum of one per CEC enclosure.

(#5670) - One Processor Activation for Processor Feature #5620

Each occurrence of this feature will permanently activate one processor on Processor Card #5620.

- Attributes provided: Activation of one processor on FC #5620
- Attributes required: FC #5620 with inactive processors
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5671) - One Processor Activation for Processor Feature #5621

Each occurrence of this feature will permanently activate one processor on Processor Card #5621

- Attributes provided: Activation of one processor on FC #5621
- Attributes required: FC #5621 with inactive processors
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5672) - One Processor Activation for Processor Feature #5622

Each occurrence of this feature will permanently activate one processor on Processor Card #5622.

- Attributes provided: Activation of one processor on FC #5622
- Attributes required: FC #5622 with inactive processors
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5674) - SATA Media Enclosure and Backplane

Sheetmetal enclosure and Backplane for support of one SATA media device in a single CEC Enclosure.

- Attributes provided: One SATA media device slot
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5675) - 0/4 Core Processor Enclosure and Backplane

This feature provides the electrical interconnection and mechanical hardware to support up to two 0/4 core processor cards.

- Attributes provided: Two 0/4 core processor card slots in a CEC enclosure.
- Attributes required: 0/4 Core Processor feature
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5680) - Activation of 1GB DDR2 POWER6 Memory

Each occurrence of this feature will permanently activate 1 GB of DDR2, POWER6 memory.

- Attributes provided: Activation on 1GB of DDR2 -POWER6 memory
- Attributes required: inactive POWER6-DDR2 memory
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5681) - Activation of 256 GB DDR2 POWER6 Memory

Each occurrence of this feature will permanently activate 256 GB of DDR2, POWER6 memory.

- Attributes provided: Activation on 256 GB of DDR2 -POWER6 memory
- Attributes required: 256 GB of inactive POWER6-DDR2 memory
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5682) - Power 570 System Bezel

Bezel for one Power 570 CEC enclosure.

- Attributes provided: Power 570 system bezel
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5683) - System Chassis - 4 EIA

Chassis for one CEC enclosure.

- Attributes provided: Power 570 system chassis
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5684) - Activation of 100 GB DDR2 Memory

Each occurrence of this feature will permanently activate 100 GB of DDR2 memory.

- Attributes provided: Activation on 100 GB of DDR2 memory
- Attributes required: 100 GB of inactive DDR2 memory
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5686) - Virtual Processor Power Regulator

This feature is used only on a minimum configuration system when the customer chooses not to purchase the third Processor Power Regulator. The two Processor Power Regulators required in the minimum configuration system do not provide redundant processor power regulation.

- Attributes provided: none
- Attributes required: Minimum configuration system with 2 processor power regulators
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5690) 0/32GB DDR2 Memory (4X8GB) DIMMS- 400 MHz- POWER6 CoD Memory

This CoD memory feature makes available 4 DIMMS each with 8 GB of memory for a total feature size of 32 GB of DDR2, 400 MHz POWER6 system memory. None of the memory in this feature is active. Feature 5680 or 5681 must be purchased to activate the memory in this feature.

- Attributes provided: 32GB of memory available on 4 DIMMS
- Attributes required: 4 dimm slots (4 dimms per feature)
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5691) - On/Off, 1GB-1Day, Memory Billing POWER6 Memory

After the ON/OFF Memory function is enabled in a system you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is provided to your sales channel. The sales channel will place an order on your behalf for the quantity of this feature that matches your reported use. One #5691 feature should be ordered for each billable day for each 1GB increment of POWER6 memory that was used.

- Attributes provided: Payment for 1GB-DAY of ON/OFF memory use
- Attributes required: Inactive Memory available for temporary use.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5692) - 0/2GB DDR2 Memory (4X0.5GB) DIMMS- 667 MHz- POWER6 Memory

This CoD memory feature makes available 4 DIMMS each with 0.5 GB of memory for a total feature size of 2GB of DDR2, 667MHz POWER6 system memory. None of the memory in this feature is active. Feature #5680 must be purchased to activate the memory in this feature.

- Attributes provided: 2GB of memory available on 4 DIMMS
- Attributes required: 4 empty DIMM slots
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5693) - 0/4GB DDR2 Memory (4X1GB) DIMMS- 667 MHz- POWER6 CoD Memory

This CoD memory feature makes available 4 DIMMS each with 1 GB of memory for a total feature size of 4GB of DDR2, 667MHz POWER6 system memory. None of the memory in this feature is active. Feature #5680 must be purchased to activate the memory in this feature.

- Attributes provided: 4GB of memory available on 4 DIMMS
- Attributes required:
 - 4 empty memory slots (4 slots per #5693)
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5694) - 0/8GB DDR2 Memory (4X2GB) DIMMS- 667 MHz- POWER6 CoD Memory

This CoD memory feature makes available 4 DIMMS each with 2 GB of memory for a total feature size of 8 GB of DDR2, 667MHz POWER6 system memory. None of the memory in this feature is active. Feature #5680 must be purchased to activate the memory in this feature.

- Attributes provided: 8GB of memory available on 4 DIMMS
- Attributes required:
 - 4 empty memory slots (4 slots per #5694)
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5695) 0/16GB DDR2 Memory (4X4GB) DIMMS- 533 MHz- POWER6 CoD Memory

This CoD memory feature makes available 4 DIMMS each with 4 GB of memory for a total feature size of 16 GB of DDR2, 533 MHz POWER6 system memory. None of the memory in this feature is active. Feature 5680 or 5681 must be purchased to activate the memory in this feature.

- Attributes provided: 16GB of memory available on 4 DIMMS
- Attributes required:
 - 4 empty memory slots (4 slots per #5695)
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5696) 0/32GB DDR2 Memory (4X8GB) DIMMS- 400 MHz- POWER6 CoD Memory

This CoD memory feature makes available 4 DIMMS each with 8 GB of memory for a total feature size of 32 GB of DDR2, 400 MHz POWER6 system memory. None of the memory in this feature is active. Feature 5680 or 5681 must be purchased to activate the memory in this feature.

- Attributes provided: 32GB of memory available on 4 DIMMS
- Attributes required: 4 empty memory slots (4 slots per #5696)
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5699) - System Ship Group

Miscellaneous one per system items that will ship with all initial order systems.

- Attributes provided: Ship Group Parts
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5700) - IBM Gigabit Ethernet-SX PCI-X Adapter

The IBM Gigabit Ethernet-SX PCI-X Adapter provides a 1 Gbps (1000 Base-SX) full-duplex Ethernet LAN connection with throughput on a standard shortwave multimode optical cable which conforms to the IEEE 802.3z standard. The adapter supports distances of 260m for 62.5 micron Multi Mode Fiber (MMF) and 550m for 50.0 micron MMF. AIX Network Install Manager (NIM) boot capability is supported with this adapter.

Note: For optimum performance, the adapter should be placed in a 64 bit PCI-X card slot.

Note: The IBM Gigabit Ethernet-SX PCI-X Adapter (#5700) incorporates an LC type connector on the card. This new, smaller form factor connector is being used by the industry for the next generation of fiber optic networks. If connecting into an older, existing SC type connector network, an LC-SC 62.5 Micron Fiber Converter Cable (#2459) or LC-SC 50 Micron Fiber Converter Cable (#2456) is required.

Limitation: Half Duplex (HDX) mode is not supported.

- Attributes provided: One full-duplex 1000Base-SX fiber connection to a Gigabit Ethernet LAN.
- Attributes required: One available PCI or PCI-X card slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5701) - IBM 10/100/1000 Base-TX Ethernet PCI-X Adapter

The IBM 10/100/1000 Base-TX Ethernet PCI-X Adapter is a Full Duplex Gigabit Ethernet adapter designed with highly integrated components. This adapter can be configured to run at 10, 100, or 1000 Mbps data rates. The adapter interfaces to the system via the PCI-X bus and connects to the network using a 4-pair CAT-5 Unshielded Twisted Pair (UTP) cable for distances of up to 100m. AIX Network Install Manager (NIM) boot capability is supported with this adapter. The adapter conforms to the IEEE 802.3ab 1000Base-T standard. The adapter also supports jumbo frames when running at the 1000 Mbps speed.

Note: For optimum performance, adapter should be placed in a 64 bit PCI-X card slot.

Limitations: The 1000 Mbps speed is not supported in Half Duplex (HDX) mode.

IOP and IOPless version

- Attributes provided: One full-duplex 10/100/1000Base-TX UTP connection to a Gigabit Ethernet LAN.
- Attributes required: One available PCI or PCI-X card slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5702) - PCI-X Ultra Tape Controller

#5702 provides two SCSI busses for PCI-X attachment of external tape devices and external removable media devices. #5702 has two ports with VHDCI connectors.

- Attributes provided: Two SCSI VHDCI ports
- Attributes required: One PCI or PCI-X slot
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5704) - PCI-X Fibre Channel Tape Controller

Provides Fibre Channel attachment for external tape devices. #5704 supports point-to-point and arbitrated loop topologies and has an LC-type cable connector. Each #5704 is shipped with a wrap connector (P/N 05N6767).

The following adapter kits are required when connecting SC type cables to the #5704:

- #0371 -- LC-SC Adapter Kit (50um)
- #0372 -- LC-SC Adapter Kit (62.5um)

An optics cleaning kit (P/N 46G6844) and instruction sheet (P/N 21P6238, SY27-2604) is shipped with the #5704. The customer supplies all Fibre Channel cables for this controller.

- Attributes provided: Attachment of external tape devices
- Attributes required: Primary OS indicator #2145 and partition indicator 0265 or 0266. Placement with a controlling IOP is required
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5706) - IBM 2-Port 10/100/1000 Base-TX Ethernet PCI-X Adapter

(No Longer Available as of May 31, 2017)

The IBM 2-Port 10/100/1000 Base-TX Ethernet PCI-X Adapter is a Full Duplex, dual ported, Gigabit Ethernet adapter designed with highly integrated components. This adapter can be configured to run each port at 10, 100, or 1000 Mbps data rates. The adapter interfaces to the system via a PCI or PCI-X bus and connects to a network using a 4-pair CAT-5 Unshielded Twisted Pair (UTP) cable for distances of up to 100m. AIX Network Install Manager (NIM) boot capability is supported with this adapter. The adapter conforms to the IEEE 802.3ab 1000Base-T standard. The adapter also supports jumbo frames when running at the 1000 Mbps speed.

A function called 'Large Send' or sometimes known as TCP Segmentation is also provided by this adapter. This function offloads the TCP segmentation operation from the AIX IP layer to the adapter for outgoing (transmit side) TCP segments. Another function known as "Checksum Offload" which offloads the TCP/UDP Checksum Operation or workload from the CPU to the adapter is also provided.

The IBM 2-Port 10/100/1000 Base-TX Ethernet PCI-X Adapter (#5706) should be considered where maximum port density is required per I/O card slot. For a suggested maximum number of adapters taking performance into consideration, refer to the PCI Adapter Placement Reference SA38-0538. If card slots are not the limiting factor and maximum throughput is required, the single port IBM 10/100/1000 Base-TX Ethernet PCI-X Adapter (#5701) is the preferred solution. Note: For optimum performance, the adapter should be placed in a 64 bit PCI-X card slot whenever possible.

Limitations: The 1000 Mbps speed is not supported in Half Duplex (HDX) mode.

- Attributes provided: Two full-duplex 10/100/1000Base-TX UTP connections to Gigabit Ethernet LAN(s).
- Attributes required: One available PCI or PCI-X card slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 192)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5707) - IBM 2-Port Gigabit Ethernet-SX PCI-X Adapter

The IBM 2-Port Gigabit Ethernet-SX PCI-X Adapter provides two 1 Gbps (1000 Base-SX) full-duplex Ethernet LAN connections with throughput on a standard shortwave multimode optical cable that conforms to the IEEE 802.3z standard. The adapter supports distances of 260m for 62.5 micron Multi Mode Fiber (MMF) and 550m for 50.0 micron MMF. AIX Network Install Manager (NIM) boot capability is supported with this adapter.

A function called 'Large Send' or sometimes known as TCP Segmentation is also provided by this adapter. This function offloads the TCP segmentation operation from the AIX IP layer to the adapter for outgoing (transmit side) TCP segments. Another function known as "Checksum Offload" which offloads the TCP/UDP Checksum Operation or workload from the CPU to the adapter is also provided.

The IBM 2-Port Gigabit Ethernet-SX PCI-X Adapter (#5707) should be considered where maximum port density is required per I/O card slot. For a suggested maximum number of adapters taking performance into consideration, refer to the RS/6000 and pSeries PCI Adapter Placement Reference SA38-0538. If card slots are not the limiting factor and maximum throughput is required, the single port IBM Gigabit Ethernet-SX PCI-X Adapter (#5700) is the preferred solution. Note: For optimum performance, the adapter should be placed in a 64 bit PCI-X card slot whenever possible. Note: The 2-Port IBM Gigabit Ethernet-SX PCI-X Adapter incorporates an LC type connector on the card. This new, smaller form factor connector is being used by the industry for the next generation of fiber optic networks. If connecting into an older, existing SC type connector network, an LC-SC 62.5 Micron Fiber Converter Cable (#2459) or LC-SC 50 Micron Fiber Converter Cable (#2456) is required.

Limitation: Half Duplex (HDX) mode is not supported.

- Attributes provided: Two full-duplex 1000Base-SX fiber connections to a Gigabit Ethernet LAN(s).
- Attributes required: One available PCI or PCI-X card slot
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5708) - 10Gb FCoE PCIe Dual Port Adapter

(No Longer Available as of January 22, 2016)

10 Gb FCoE PCIe Dual Port Adapter (#5708) is a high-performance, 10 Gb, dual port, PCIe Converged Network Adapter (CNA) utilizing SR optics. Each port can provide NIC (Network Interface Card) traffic and Fibre Channel functions simultaneously. CCIN is 2B3B See also feature #5270 for the identical adapter except it has a low profile tail stock.

Highlights

- PCIe 2.0 adapter with x8 Gen 1
- Convergence Enhanced Ethernet (CEE) supported
- SR optical transceiver with LC connection provides up to 300m cable length
- Non-volatile error log on the adapter
- Supported with AIX and Linux and VIOS for FC and Ethernet NIC.
- Supported with IBM i under VIOS for FC and Ethernet NIC
- SAN and Network boot support for AIX, Linux
- Requires FCoCEE capable switches for full FC+Ethernet capability. Ethernet only functionality if attached to ordinary Ethernet switch.
- Utilizes existing cabling that supports 10 Gb SR
- Based on Qlogic Converged Network Adapter (CNA)
- NPIV support requires VIOS for all OS environments

Configuration maximum when used for NIC traffic (not Fibre Channel usage)

- Recommended performance Max assuming high utilization, One adapter per four active processors cores.
- Recommended connectivity Max assuming high utilization, two adapters per one physical processor core.
- Attributes provided: 10 Gb FCoE PCIe Dual Port Adapter
- Attributes required: Open PCIe slot
- Minimum required: 0
- Maximum allowed: 184 (Initial order maximum: 184)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX.
 - AIX - supported
 - IBM i - not supported
 - Linux - SUSE Enterprise Server 10 Service Pack 3
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5712) - PCI-X Dual Channel Ultra320 SCSI Adapter

The PCI-X Dual Channel Ultra320 SCSI Adapter (#5712) is a 64-bit 3.3 volt adapter and is an excellent solution for high-performance SCSI applications. The PCI-X Dual Channel Ultra320 SCSI Adapter provides two SCSI channels (busses), each capable of running 320 MBps (max.), up to twice the maximum data transfer rate of the previous Dual Channel Ultra3 SCSI adapter (160 MBps). Each SCSI bus can either be internal (on systems that support internal SCSI device or backplane attachments) or external. Internally attached Ultra320 devices are designed to run at a data rate of up to 320 MB per second on systems that have internal backplanes that are capable of supporting Ultra320 speeds.

In order to achieve an Ultra320 SCSI bus data rate of up to 320 MB per second and also maintain a reasonable drive distance, the adapter utilizes Low Voltage Differential (LVD) drivers and receivers. To fully utilize this 320 MB per second performance, all attaching devices should also be Ultra320 LVD devices. But, if Ultra2, Ultra3, or Ultra320 devices coexist on the same bus, each device will operate at its rated speed. For lower speed single-ended (SE) devices, the SCSI bus will switch to single-ended (SE) performance and interface to all devices on that SCSI bus at the lower SE bus data rate of the device.

Two industry standard VHDCI 68-pin connectors are mounted on the adapter's end bracket allowing attachment of various LVD and SE external subsystems. A 0.3 meter converter cable, VHDCI to P, Mini-68 pin to 68-pin, (#2118) can be used with older external SE devices or subsystems to allow connection to the VHDCI connector on the PCI-X Dual Channel Ultra320 SCSI Adapter.

The two external ports provide connectivity to an IBM 2104-DS4 Expandable Storage Plus Drawer or 2104-TS4 Expandable Storage Plus Tower at up to 320 MB/s SCSI bus data rate. The two external ports also provide connectivity to an IBM 2104-DU3 Expandable Storage Plus Drawer or 2104-TU3 Expandable Storage Plus Tower at up to 160 MB/s SCSI bus data rate and to an IBM 2104-DL1 Expandable Storage Plus Drawer or 2104-TL1 Expandable Storage Plus Tower at up to 80 MB/s SCSI bus data rate. Also the two external ports provide connectivity to numerous other SCSI external subsystems. Check the external subsystem sales/web pages for verification of connectivity support with this adapter.

The PCI-X Dual Channel Ultra320 SCSI Adapter (#5712) is a native boot adapter with AIX 5.1 or AIX 5.2 software in a supported pSeries or RS/6000 systems. The adapter also supports target mode.

Limitations:

- The two external ports do not support the connection to the IBM 7131-105 IBM Multi-Storage Tower Model 105.
- Even though the Dual Channel Ultra320 SCSI RAID Adapter has ports that run at ultra320 SCSI speeds (up to 320 MBytes/s), the internally attached disk drives will run at a maximum SCSI bus data rate specified by that supporting system disk backplane.
- Disk drives internal to the pSeries system shipped prior to September 1, 2003 require a disk drive microcode update to run at Ultra320 speed. To obtain the appropriate microcode update, go to the following Web page URL:
<http://techsupport.services.ibm.com/server/mdownload/>
- Attributes provided: Attachment of internal SCSI devices (on systems that support an internal SCSI device or backplane attachment with this adapter) and external SCSI devices
- Attributes required: One available 3.3 volt PCI or PCI-X slot
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5713) - 1 Gigabit iSCSI TOE PCI-X on Copper Media Adapter

(No Longer Available as of August 31, 2017)

The 1 Gigabit iSCSI TOE PCI-X adapter encapsulates SCSI Commands and data into TCP and transports them over the Ethernet via IP packets. The adapter operates as an iSCSI TOE (TCP/IP Offload Engine). This offload function eliminates host protocol processing and reduces CPU interrupts. Adapter uses RJ45 Gigabit Ethernet connector.

- Attributes provided: Offload of host protocol processing
- Attributes required: Available PCI-X Slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 192)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5714) - 1 Gigabit iSCSI TOE PCI-X on Optical Media Adapter

The 1 Gigabit iSCSI TOE PCI-X adapter encapsulates SCSI Commands and data into TCP and transports them over the Ethernet via IP packets. The adapter operates as an iSCSI TOE (TCP/IP Offload Engine). This offload function eliminates host protocol processing and reduces CPU interrupts. Adapter uses Small form factor LC type fiber optic connector.

- Attributes provided: Offload of host protocol processing
- Attributes required: Available PCI-X Slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5716) - 2 Gigabit Fibre Channel PCI-X Adapter

The 2 Gigabit Fibre Channel PCI-X Adapter is a 64-bit address/data, short form factor PCI-X adapter with an LC type external fiber connector. With the use of appropriate optical fiber cabling, this adapter provides the capability for a network of high speed local and remote located storage. The 2 Gigabit Fibre Channel PCI-X Adapter will auto-negotiate for the highest data rate (either 1 Gbps or 2 Gbps) of which the device or switch is capable. Distances of up to 500 meters running at 1 Gbps data rate and up to 300 meters running at 2 Gbps data rate are supported between the adapter and an attaching device or switch. When used with IBM supported Fibre Channel storage switches supporting long-wave optics, distances of up to 10 kilometers are capable running at either 1 Gps or 2 Gps data rates.

The 2 Gigabit Fibre Channel PCI-X Adapter can be used to attach devices either directly, or by means of Fibre Channel Switches. If attaching a device or switch with a SC type fiber onnector(s), use of an LC-SC 50 Micron Fiber Converter Cable (#2456) or a LC-SC 62.5 Micron Fiber Converter Cable (#2459) is required.

Refer to the following IBM storage subsystem Web page for additional supported server attachment information for IBM devices.

http://www.ibm.com/servers/storage/product/products_p_series.html

Consult with your IBM representative or Business Partner for additional information relative to any third party attachment.

- Attributes provided: 1 Fibre Channel/FC-AL interface
- Attributes required: 1 empty PCI or PCI-X slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5717) - 4-Port 10/100/1000 Base-TX PCI Express Adapter

(No Longer Available as of January 1, 2014)

The 4-Port 10/100/1000 Base-TX PCI Express Adapter is short/ low- profile, full duplex, four-ported Gigabit Ethernet adapter that can be configured to run any of the ports at 1000,100 or 10 Mbps data rate. This adapter interfaces to the system via a PCIe bus and connects to a network using a 4-pair CAT-5 Unshielded Twisted Pair (UTP) cable for distance of up to 100m. Each port is independent of one another and is boot capable under AIX Network install manager (NIM). The adapter conforms to the IEEE 802.3ab 1000Base-T standard. The #5717 supports jumbo frames when running at the 1000 Mbps speed.

The 4-Port 10/100/1000 Base-TX PCI Express adapter (#5717) should be considered where maximum port density is required per I/O card slot. For a suggested maximum number of adapters considering performance, see the IBM System p PCI placement guide (SA76-0090) for information about the PCIe slots on your system unit.

Limitations: The 1000 Mbps speed is not supported in Half Duplex (HDX) mode.

- Attributes provided: Four-ported Gigabit Ethernet
- Attributes required: One available PCIe card slot
- Minimum required: 0
- Maximum allowed: 184 (Initial order maximum: 184)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5718) - 10 Gigabit Ethernet -SR PCI-X Adapter

Provides 10 Gigabit Ethernet PCI-X based server connections. Supports distances of up to 33m using 62.5 um multimode fiber or 300m using 50 um multimode fiber with 2000MHz km minimum model bandwidth at 850 nm. Adapter connector type is LC.

- Attributes provided: Provides highend bandwidth for networking
- Attributes required: Supported on PCI-X slots only
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5719) - IBM 10 Gigabit Ethernet-LR PCI-X Adapter

Offers 10 Gigabit Ethernet PCI-X based server connections over a maximum of 10 kilometers of 1310nm single-mode fiber optic cable. The adapter conforms to the IEEE 802.3ae standard. The adapter requires 9um single-mode fiber optic cables and uses a SC connector type for connecting into net-work infrastructure components like 10 Gigabit Ethernet switch/router with SC connectors.

- Attributes provided: 10 Gigabit Ethernet connections
- Attributes required: Available PCI-X slot
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5721) - 10 Gb Ethernet-SR PCI-X 2.0 DDR Adapter

The adapter supports distances of up to 33m using 62.5 um multimode fiber or 300m using 50 um multimode fiber with 2000 MHz*km minimum model bandwidth at 850 nm wavelength. The fiber cable connects to the adapter with LC type connector. The adapter conforms to the IEEE 802.3ae standard.

- Attributes provided: Provides high-end bandwidth for networking
- Attributes required: PCI-X slot or for improved bandwidth plug into PCI-X 2.0 DDR slot.
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5722) - 10 Gb Ethernet-LR PCI-X 2.0 DDR Adapter

The adapter supports a maximum of 10 kilometers of 1310nm 9um single- mode fiber optic cable. The adapter conforms to the IEEE 802.3ae standard. The adapter requires 9um single-mode fiber optic cables and uses a SC connector to facilitate connecting into network infrastructure components like 10 Gigabit Ethernet switch/router with SC connectors.

- Attributes provided: 10 Gigabit Ethernet connections
- Attributes required: PCI-X slot or for improved bandwidth plug in PCI-X 2.0 DDR slot.
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5723) - 2-Port Asynchronous EIA-232 PCI Adapter

Connection for 2 Asynchronous EIA-232 devices. Ports are Programmable to support EIA-232 protocols, at a line speed of 128K bps.

- Attributes provided: 2 Asynchronous Ports
- Attributes required: One PCI Slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5732) - 10 Gigabit Ethernet-CX4 PCI Express Adapter

(No Longer Available as of July 19, 2013)

The 10 Gigabit Ethernet-CX4 PCI Express Adapter is a low profile high performance adapter that transfers data over 4-lanes in each direction over copper cabling supporting a distance up to 15m. The product conforms to the IEEE, 802.3ae 10GBASE-CX4 specification for Ethernet transmission.

Highlights:

- Implements iWARP RDMA/RDDP (Remote Direct Data Placement) which adheres to IETF (Internet Engineering Task Force) standards. (Linux Only)
- RDMA-enabled NIC (RNIC) specifically optimized for cluster computing (Linux Only)

Full iSCSI software and hardware initiator support. (Linux Only)

- Hardware PDU Offload (Linux Only)
- iSCSI Header & Data Digest (CRC) generation & checking (Linux Only)

Attributes provided:

- PCIe-V1.1 x8
- MSI-X, MSI and support of legacy pin interrupts
- 10GBASE-CX short-reach copper
- IEEE 802.3ae (10 GbE)
- IEEE 802.1p priority and 802.1Q VLAN tagging
- IEEE 802.3x flow control
- Link aggregation, 802.3ad 802.3 compliance
- IEEE 802.3ad load-balancing and failover
- Ether II and 802.3 encapsulated frames
- Multiple MAC addresses per interface
- Jumbo frames up to 9.6 Kbytes
- TCP checksum offload for IPv4 and IPv6
- TCP segmentation Offload (TSO) for IPv4 and IPv6
- UDP checksum offload for IPv4 and IPv6
- Receive side scaling and packet steering
- Line rate packet filtering and attack protection
- IETF RDDP and RDMAC iWARP compliance (Linux Only)
- APIs: RNIC-PI, kDAPL and Open Fabrics Enterprise Distribution(OFED) 1.4 (Linux Only)
- Attributes provided: PCIe-V1.1 x8 Ethernet
- Attributes required: PCIe Express Slot, Copper CX4 Cables, 4x wrap plug
- Minimum required: 0
- Maximum allowed: 128 (Initial order maximum: 128)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5735) - 8 Gigabit PCI Express Dual Port Fibre Channel Adapter

(No Longer Available as of August 31, 2017)

The 8 Gigabit PCI Express Dual Port Fibre Channel Adapter is a high-performance 8x short form adapter based on the Emulex LPe12002 PCIe Host Bus Adapter (HBA). Each port provides single initiator capability over a fibre link. The ports have LC type connectors and utilize shortwave laser optics. The adapter operates at link speeds of 2, 4, and 8 Gbps and will automatically negotiate to the highest speed possible. LEDs on each port provide information on the status and link speed of the port.

The adapter connects to a Fibre Channel switch (AIX, IBM i, Linux, VIOS). If in an IBM i environment, devices can also be directly attached.

N_Port ID Virtualization (NPIV) capability is supported through VIOS.

Cables are the responsibility of the customer. Use multimode fibre optic cables with short-wave lasers that adhere to the following specifications:

OM3 - multimode 50/125 micron fibre, 2000 MHz*km bandwidth
 OM2 - multimode 50/125 micron fibre, 500 MHz*km bandwidth
 OM1 - multimode 62.5/125 micron fibre, 200 MHz*km bandwidth

Because core sizes are different, OM1 cables can only be connected to other OM1 cables. For best results, OM2 cables should not be connected to OM3 cables. However, if an OM2 cable is connected to an OM3 cable, the characteristics of the OM2 cable apply to the entire length of the cables.

The following table shows the supported distances for the three different cable types at the three different link speeds.

Cable	2.125 Gbps	4.25 Gbps	8.5 Gbps
OM3	.5m - 500m	.5m - 380m	.5m - 150m
OM2	.5m - 300m	.5m - 150m	.5m - 50m
OM1	.5m - 150m	.5m - 70m	.5m - 21m

#5735 feature indicates a full high adapter. #5273 feature indicates a low profile adapter which is electronically identical. CCIN is 577D. Consult with your IBM representative or Business Partner for additional information relative to any third party attachment.

See also optional wrap plug feature #ECW0 which is:

- a) Required to run some diagnostic procedures and
- b) in some cases may speed system boot when placed in empty ports as well as avoid useless messages pointing to a planned empty port.
- Attributes provided: Dual Port Fibre Channel
- Attributes required: 1 Empty PCIe slot
- Minimum required: 0
- Maximum allowed: 184 (Initial order maximum: 184)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5736) - PCI-X DDR Dual Channel Ultra320 SCSI Adapter

(No Longer Available as of July 11, 2014)

The PCI-X DDR Dual Channel Ultra320 SCSI Adapter (#5736) is a 64-bit 3.3-volt adapter and is an excellent solution for high-performance SCSI applications. The PCI-X Dual Channel Ultra320 SCSI Adapter provides two SCSI channels (busses), each capable of running 320 MBps (max.). Each SCSI bus can only support external attach SCSI devices.

In order to achieve an Ultra320 SCSI bus data rate of up to 320 MB per second and maintain a reasonable drive distance, the adapter utilizes Low Voltage Differential (LVD) drivers and receivers. To utilize the 320 MB per second performance, all attaching devices should also be Ultra320 LVD devices; however, if Ultra2, Ultra3, or Ultra320 devices coexist on the same bus, each device will operate at its rated speed. For lower speed single-ended (SE) devices, the SCSI bus will switch to single-ended (SE) performance and interface to all devices on that SCSI bus at the lower SE bus data rate of the device.

Two VHDCI 68-pin connectors are mounted on the adapter's end bracket allowing attachment of various LVD and SE external subsystems. A 0.3-meter converter cable, VHDCI to P, Mini-68 pin to 68-pin, (#2118) can be used with older external SE devices or subsystems to allow connection to the VHDCI connector on the PCI-X DDR Dual Channel Ultra320 SCSI Adapter.

Two external ports provide connectivity to numerous other SCSI external subsystems. Check the external subsystem sales/web pages for verification of connectivity support with this adapter.

The PCI-X Dual Channel Ultra320 SCSI Adapter (#5736) is a native boot adapter. The adapter also supports target mode.

Feature #5736 and #5806 are physically identical cards with the same 571A CCIN. Different features are used to help IBM configurator tool understand whether or not an IOP is being used with the adapter. #5806 indicates an IOP is present.

Limitations:

- The two external ports do not support the connection to the IBM 7131-105 IBM Multi-Storage Tower Model 105.
- The Dual Channel Ultra320 SCSI nonRAID Adapter has ports that are capable at running at ultra320 SCSI speeds (up to 320 MBytes/s).
- Attributes provided: Attachment of external SCSI devices only on Power7 Servers.
- Attributes required: One available 3.3 volt PCI or PCI-X slot or PCI-X 2.0 DDR slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 192)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5740) - 4-Port 10/100/1000 Base-TX PCI-X Adapter

(No Longer Available as of July 11, 2014)

The 4-Port 10/100/1000 Base -TX PCI-X adapter is a full height PCI-X 1.0a Ethernet adapter which supports four Gigabit ports on a single adapter, delivers increased bandwidth for slot-constrained servers, and is designed to provide high connectivity and reliability using two integrated, dual-port Gigabit Ethernet controllers.

- Four RJ-45 ports
- 3.3 volts, 64-bit 133 MHz with 64-bit Bus Mastering on the PCI-X bus
- IEEE 802.3ab 1000Base-T compliant
- IEEE 802.3u 100Base-T compliant
- IEEE 802.3 10Base-T compliant
- 802.1q VLAN tagging
- Interrupt Moderation
- TCP Segmentation offload and encapsulation in hardware
- Checksum offloading of IP, TCP, and UDP frame
- Increased connectivity while significantly reducing CPU utilization
- Two LED adapter status indicators per port for link activity and speed
- NIM is supported on all 4 ports
- RoHS compliant

Limit Full bandwidth performance may not be achieved with more than one adapter per PCI Host Bridge (PHB) or more than one CPU.

- Attributes provided: Four 10/100/1000 RJ-45 ports
- Attributes required: One available PCI-X card slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 192)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5741) - IBM Single Bus Ultra 320 SCSI Repeater Card

The Single Bus Ultra 320 SCSI repeater card provides the paths to transmit the differential SCSI signal from a cable to the DASD backplanes contained in the IBM 7031 Model D24 Ultra 320 Expandable Disk Storage Drawer and in the #5786 TotalStorage EXP24 Dis Drawer.

The Ultra 320 SCSI Repeater Card provides the following functions:

- Provide SCSI enclosure services for all disk drives
- Read power supply unit Vital Product Data (VPD)
- Monitor power line voltage EPOW (Early Power Off Warning) signals from the power supplies and assert SCSI reset to prevent data corruption during power failures.
- Detect hot plugged disk drives and power them on automatically
- Separate power partitions to each individual drive preventing cage power faults for a single drive fault
- Provide cage power on commands when any attached host adapter is active
- Redrive the SCSI bus to allow SCSI cable lengths up to 20 meters
- Provide SCSI bus terminations for host and drive busses
- Attributes provided: SCSI Bus connection
- Attributes required: IBM 7031 Model D24 SCSI Disk StorageDrawer or a #5786 TotalStorage EXP24 Disk Drawer.
- Minimum required: 0
- Maximum allowed: 240 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5742) - IBM Dual Bus Ultra 320 SCSI Repeater Card

The Dual Bus Ultra 320 SCSI repeater card provides the paths to transmit the differential SCSI signal from a cable to the DASD backplanes contained in the IBM 7031 Model D24 Ultra 320 Expandable Disk Storage Drawer or the #5786 TotalStorage EXP24 Disk Drawer. This high availability dual initiator feature allows the connection of two adapter cards to a SCSI group. The high availability SCSI connection feature can be used on any or all of the drive groups in the 7031 Model D24 and feature #5786 in conjunction with other drive groups in the enclosure using the standard IBM Single Bus Ultra 320 SCSI Repeater Card (FC #5741). The Dual repeater option can also be used to connect all 12 of the front drives or all 12 of the rear drives into a single SCSI bus of 12 drives.

The Ultra 320 SCSI Repeater Card provides the following functions:

- Provide SCSI enclosure services for all disk drives
- Read power supply unit Vital Product Data (VPD)
- Monitor power line voltage EPOW (Early Power Off Warning) signals from the power supplies and assert SCSI reset to prevent data corruption during power failures.
- Detect hot plugged disk drives and power them on on automatically
- Separate power partitions to each individual drive preventing cage power faults for a single drive fault
- Provide cage power on commands when any attached host adapter is active
- Redrive the SCSI bus to allow SCSI cable lengths up to 20 meters
- Provide SCSI bus terminations for host and drive busses
- Attributes provided: SCSI Bus connection
- Attributes required: IBM 7031 Model D24 SCSI Disk StorageDrawer or a #5786 TotalStorage EXP24 Disk Drawer.
- Minimum required: 0
- Maximum allowed: 120 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5743) - SATA Slimline DVD-ROM Drive

The 8X/24X(max) Slimline SATA DVD-ROM Drive is an internal tray loading DVD-ROM drive providing up to 3600KB/sec MAX (CD-ROM) and 10.3MB/sec MAX (DVD-ROM) data transfer rates. It is a 12.7mm Slimline form factor multi-session capable, DVD-ROM drive which provides state of the art performance and supports reading DVD-RAM and a multitude of other optical media discs. This drive also reads Type II (removable from cartridge) DVD-RAM discs. System boot and install functions are supported with CD-ROM, DVD and DVD-RAM media.

Characteristics:

- Low Profile 12.7mm
- SATA Interface
- Industry standard Slimline SATA connectors
- Supports 8cm and 12cm disk
- Tray Loading
- CD/DVD-ROM/RAM Read 24X/8X/5X
- Buffer size 2MB
- 1 Laser Diode 2 wavelengths for CD/DVD
- Power +5V/1.8A

Limitations:

- DVD video is not supported.
- DVD-ROM only reads CD-type formatted media with AIX 5.1 or later.
- Attributes provided: SATA DVD-ROM Drive
- Attributes required: 1 Slimline media bay
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5748) - POWER GXT145 PCI Express Graphics Accelerator

(No Longer Available as of August 31, 2017)

The POWER GXT145 is a versatile, low-priced 2D graphics accelerator. It can be configured to operate in either 8-bit or 24-bit color modes. This adapter supports both analog and digital monitors. The adapter requires a PCI Express slot. If attaching a device that requires a 15 pin D-Shell receptacle for a VGA connection (eg. when the graphic adapter output is routed directly to a 7316-TF3 display or indirectly through a KVM switch), order a VGA to DVI Connection Converter, feature number 4276 to accommodate the attaching device.

- Hardware Description
 - 128-bit graphics processor
 - 8-bit indexed, 8-bit true color, or 24-bit true color
 - 32 MB SDRAM
 - x1 PCI Express interface
 - 2 DVI-I (analog/digital video) connectors
- Features Supported
 - Up to approximately 16.7 million colors
 - Rectangular clipping
 - 1 monitor connected analog at up to 2048 x 1536 resolution
 - 1 monitor connected digital at up to 1280 x 1024 resolution
 - 2nd monitor supported on secondary connector at up to 1600 x 1200 analog or 1280 x 1024 digital
 - 2nd monitor support in AIX is only in clone mode with an analog connection
- APIs Supported
 - X-Windows and Motif
- Software Requirements
 - The total number of Graphics Adapters in any one partition may not exceed four.
- Attributes provided: 2D Graphics Adapter
- Attributes required: 1 PCI Express Slot
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5749) - 4Gbps Fibre Channel (2-Port)

(No Longer Available as of August 31, 2017)

The 4 Gigabit Dual-Port Fibre Channel PCI-X 2.0 DDR Adapter is a 64-bit address/data, short form factor PCI-X adapter with an LC type external fiber connector that provides single or dual initiator capability over an optical fiber link or loop. With the use of appropriate optical fiber cabling, this adapter provides the capability for a network of high-speed local and remote located storage. The adapter will auto-negotiate for the highest data rate between adapter and an attaching device at 1 Gbps, 2 Gbps, or 4 Gbps of which the device or switch is capable. Distances of up to 500 meters running at 1 Gbps data rate, up to 300 meters running at 2 Gbps data rate, and 4 Gbps data rate up to 150 meters are supported between the adapter and an attaching device or switch. When used with IBM Fibre Channel storage switches supporting long-wave optics, distances up to 10 kilometers are capable running at either 1 Gbps, 2 Gbps, or 4 Gbps data rates.

The adapter can be used to attach devices either directly, or by means of Fibre Channel Switches. If attaching a device or switch with a SC type fiber connector(s), use of an LC-SC 50 Micron Fiber Converter Cable (#2456) or a LC-SC 62.5 Micron Fiber Converter Cable (#2459) is required.

Refer to the following IBM storage subsystem Web page for additional supported server attachment information for IBM devices.

http://www.ibm.com/servers/storage/product/products_i_series.html

Consult with your IBM representative or Business Partner for additional information relative to any third party attachment.

- Attributes provided: 2 Fibre Channel Ports
- Attributes required: 1 empty PCI or PCI-X 2.0 slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 192)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5756) - IDE Slimline DVD-ROM Drive

The 8X/24X(max) Slimline IDE DVD-ROM Drive is an internal tray loading DVD-ROM drive providing up to 3600KB/sec MAX (CD-ROM) and 10.3MB/sec MAX (DVD-ROM) data transfer rates. It is a 12.7mm Slimline form factor multi-session capable, DVD-ROM drive which provides state of the art performance and supports existing 650MB CD-ROM, 4.7 GB DVD-ROM, and 9.4 GB DVD-ROM (double-sided) discs. This drive also reads Type II (removable from cartridge) DVD-RAM discs at DVD-ROM speeds. System boot and install functions are supported with CD-ROM and DVD-RAM media.

Characteristics:

- Media Data Transfer Rate: CD-ROM=3600 KB/sec (max) DVD-ROM=10.3MB/sec (max). Read operations at outer diameter of disc.
- Interface: IDE/ATAPI
- Avg. Random Access Time: CD-ROM=95ms(typical) DVD-ROM=150ms(typical)
- Buffer Memory: 256KB
- Media capacity: CD-ROM=650MB; DVD-ROM= 4.7 GB(single sided); 9.4 GB(double-sided)
- Supports major CD-ROM formats including Mode 1, Mode 2, XA, CDDA and audio. +R and +RW not supported.
- Reads CD-ROM, CD-R, CD-RW, DVD-ROM, & DVD-RAM discs. +R and +RW not supported.
- Reads 2.6GB, 4.7GB and 9.4GB doublesided) DVD-RAM media
- Multisession capable (Reads CD/R & CD-R/W media)
- 12.7mm Slimline form factor
- Operates in either vertical or horizontal positions
- Interface supports standard and extended XA formats
- Loading tray supports 12cm and 8cm disks (Horizontal only) and 12cm

Limitations:

- DVD video is not supported.
- DVD-ROM only reads CD-type formatted media with AIX 5.1 or later.
- Attributes provided: 8X/24X(max) IDE DVD-ROM Drive
- Attributes required: 1 Slimline media bay
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5757) - IBM 4.7 GB IDE Slimline DVD-RAM Drive

The IBM 4.7 GB IDE Slimline DVD-RAM Drive is an internal tray loading, multifunction storage device capable of reading and writing 4.7GB DVD-RAM discs as well as reading a multitude of other optical media discs. This drive also reads Type II (removable from cartridge) DVD-RAM discs. It is a 12.7mm high Slimline form factor, multi-session capable, DVD-RAM drive which provides state of the art performance. System boot and install functions are supported with CD-ROM and DVD-RAM media.

Characteristics:

- Media Data Transfer Rate: 3600KB/sec CD-ROM (24X) MAX; 10.8MB/ sec read MAX (8X DVD-ROM); 2.7MB/sec write MAX (2X DVD-RAM) and 2.7MB/sec read MAX (2X DVD-RAM). Read/Write operations at outer diameter of disc.

- Interface: Parallel IDE
- Average Random Access Time: CD-ROM= 150ms (Typical); DVD-ROM= 180ms (Typical); DVD-RAM= 229ms (Typical)
- Buffer Memory: 2MB
- Media capacity: CD-ROM=650MB; DVD-ROM= 4.7 GB(single sided); 9.4 GB (double-sided)
- Supports major CD-ROM formats including Mode 1, Mode 2, XA, CDDA and audio. +R and +RW not supported.
- Reads CD-ROM, CD-R, CD-RW, DVD-ROM, & DVD-RAM discs. +R and +RW not supported.
- Multisession capable (Reads CD/R & CD-R/W media)
- Reads 2.6GB DVD-RAM media; reads and writes 4.7GB and 9.4GB double sided) DVD-RAM media
- Loading tray accommodates both 8cm discs and 12cm discs.
- Operates in either vertical or horizontal position
- Reads CD-ROM, CD-R, CD-RW, DVD-ROM, & DVD-RAM discs.
- High-speed burst rate of 16/16/33 MB/second for PIO / MDMA / UDMA
- Operates in either vertical or horizontal position.
- Loading tray accommodates both 8cm discs (Horizontal Only) and 12cm discs.
- 12.7mm Slimline form factor

Limitations:

- DVD video is not supported.
- Drive only reads CD-type formatted media with AIX 5.1.
- Attributes provided: One 4.7GB IDE Slimline DVD-RAM Drive
- Attributes required: One IDE 12.7mm high media bay
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5758) - 4 GB Single-Port Fibre Channel PCI-X 2.0 DDR Adapter

The 4 Gigabit Single-Port Fibre Channel PCI-X 2.0 DDR Adapter is a 64-bit address/data, short form factor PCI-X adapter with an LC type external fiber connector. With the use of appropriate optical fiber cabling, this adapter provides the capability for a network of high-speed local and remote located storage. The 4 Gigabit Single-Port Fibre Channel PCI-X Adapter will auto-negotiate for the highest data rate between adapter and an attaching device at 1 Gbps, 2 Gbps or 4 Gbps of which the device or switch is capable. Distances of up to 500 meters running at 1 Gbps data rate, up to 300 meters running at 2 Gbps data rate, and 4 Gbps data rate up to 150 meters are supported between the adapter and an attaching device or switch. When used with IBM Fibre Channel storage switches supporting long-wave optics, distances of up to 10 kilometers are capable running at either 1 Gbps, 2 Gbps, or 4 Gbps data rates.

The 4 Gigabit Single-Port Fibre Channel PCI-X Adapter can be used to attach devices either directly, or by means of Fibre Channel Switches. If attaching a device or switch with a SC type fiber connector(s), use of an LC-SC 50 Micron Fiber Converter Cable (#2456) or a LC-SC 62.5 Micron Fiber Converter Cable (#2459) is required.

There are two maximum quantities for High Bandwidth adapters, one for performance, and one for connectivity. Adapter performance may be limited by bandwidth constraints in a network. To maximize High Bandwidth adapter performance in the server the performance maximum quantity should not be exceeded. In applications where the end-to-end network cannot sustain high performance and or connectivity is more important than overall bandwidth performance the performance maximum quantity can be exceeded up to the connectivity maximum quantity.

Refer to the following IBM storage subsystem Web page for additional supported server attachment information for IBM devices.

http://www.ibm.com/servers/storage/product/products_p_series.html

Consult with your IBM representative or Business Partner for additional information relative to any third party attachment.

- Attributes provided: 1 Fibre Channel
- Attributes required: 1 empty PCI or PCI-X 1.0 / 2.0 slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5759) - 4 Gb Dual-Port Fibre Channel PCI-X 2.0 DDR Adapter

(No Longer Available as of July 11, 2014)

The 4 Gigabit Dual-Port Fibre Channel PCI-X 2.0 DDR Adapter is a 64-bit address/data, short form factor PCI-X adapter with an LC type external fiber connector. With the use of appropriate optical fiber cabling, this adapter provides the capability for a network of high-speed local and remote located storage. The adapter will auto-negotiate for the highest data rate between adapter and an attaching device at 1 Gbps, 2 Gbps, or 4 Gbps of which the device or switch is capable. Distances of up to 500 meters running at 1 Gbps data rate, up to 300 meters running at 2 Gbps data rate, and 4 Gbps data rate up to 150 meters are supported between the adapter and an attaching device or switch. When used with IBM Fibre Channel storage switches supporting long-wave optics, distances up to 10 kilometers are capable running at either 1 Gbps, 2 Gbps, or 4 Gbps data rates.

The adapter can be used to attach devices either directly, or by means of Fibre Channel Switches. If attaching a device or switch with a SC type fiber connector(s), use of an LC-SC 50 Micron Fiber Converter Cable (#2456) or a LC-SC 62.5 Micron Fiber Converter Cable (#2459) is required.

There are two maximum quantities for High Bandwidth adapters, one for performance, and one for connectivity. Adapter performance may be limited by bandwidth constraints in a network. To maximize High Bandwidth adapter performance in the server the performance maximum quantity should not be exceeded. In applications where the end-to-end network cannot sustain high performance and or connectivity is more important than overall bandwidth performance the performance maximum quantity can be exceeded up to the connectivity maximum quantity.

Refer to the following IBM storage subsystem Web page for additional supported server attachment information for IBM devices.

http://www.ibm.com/servers/storage/product/products_p_series.html

Consult with your IBM representative or Business Partner for additional information relative to any third party attachment.

- Attributes provided: 2 Fibre Channel
 - Attributes required: 1 empty PCI or PCI-X 2.0 slot
 - Minimum required: 0
 - Maximum allowed: 192 (Initial order maximum: 192)
 - OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
 - Initial Order/MES/Both/Supported: Both
 - CSU: Yes
 - Return parts MES: No
- Note: Please carefully consider the usage of this card. If placed in a PCI-X slot rated as SDR compatible and/or has the slot speed of 133 MHz, the AIX value of the max_xfer_size must be kept at the default setting of 0x100000 (1 megabyte) when both ports are in use. The architecture of the DMA buffer for these slots does not accommodate larger max_xfer_size settings.

(#5760) - PCI-X Fibre Chan Disk Controller

Provides a 4Gbps Single Port Fibre Channel PCI-X 2.0 Adapter, which attaches external DASD devices. #5760 is a 64-bit address/ data, short form factor PCI-X adapter with an LC type external fiber connector that provides single initiator capability over an optical fiber link or loop. With the use of appropriate optical fiber cabling, this adapter provides the capability for a network of high-speed local and remote located storage.

The #5760 will auto-negotiate for the highest data rate between adapter and an attaching device at 1Gbps, 2Gbps or 4Gbps of which the device or switch is capable. Distances of up to 500 meters running at 1Gbps data rate and up to 300 meters running at 2Gbps data rate and 4Gbps data rate up to 150 meters are supported between the adapter and an attaching device or switch. When used with IBM supported Fibre Channel storage switches supporting long-wave optics, distances of up to 10 kilometers are capable running at either 1Gbps or 2Gbps or 4Gbps data rates.

The #5760 can be used to attach devices either directly, or by means of Fibre Channel Switches. If attaching a device or switch with a SC type fiber connector, use of a #2456-2M LC-SC 50 Micron Fiber Converter Cable or a #2459-2M LC-SC 62.5 Micron Fiber Converter Cable is required.

The #5760 requires a PCI IOP.

Refer to the following IBM storage subsystem Web page for additional supported server attachment information for IBM devices.

http://www.ibm.com/servers/storage/product/products_i_series.html

Consult with your IBM representative or Business Partner for additional information relative to any third party attachment.

- Attributes provided: One Port Fibre Channel Adapter that attaches External DASD
- Attributes required: One empty PCI-X 1.0 / 2.0 slot and a PCI IOP
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5761) - PCI-X Fibre Chan Tape Controller

Provides a 4Gbps Single Port Fibre Channel PCI-X 2.0 Adapter, which attaches external tape devices. #5761 is a 64-bit address/ data, short form factor PCI-X adapter with an LC type external fiber connector that provides single initiator capability over an optical fiber link or loop. With the use of appropriate optical fiber cabling, this adapter provides the capability for a network of high-speed local and remote located storage.

The #5761 will auto-negotiate for the highest data rate between adapter and an attaching device at 1Gbps, 2Gbps or 4Gbps of which the device or switch is capable. Distances of up to 500 meters running at 1Gbps data rate and up to 300 meters running at 2Gbps data rate and 4Gbps data rate up to 150 meters are supported between the adapter and an attaching device or switch. When used with IBM supported Fibre Channel storage switches supporting long-wave optics, distances of up to 10 kilometers are capable running at either 1Gbps or 2Gbps or 4Gbps data rates.

The #5761 can be used to attach devices either directly, or by means of Fibre Channel Switches. If attaching a device or switch with a SC type fiber connector, use of a #0371 LC-SC Adapter Kit (50um) or a #0372 LC-SC Adapter Kit (62.5um) is required.

Features #5761 and #5758 are physically the same card, but have different feature numbers that denote to IBM configurator tools whether or not an IOP is required.

Refer to the following IBM storage subsystem Web page for additional supported server attachment information for IBM devices.

http://www.ibm.com/servers/storage/product/products_i_series.html

Consult with your IBM representative or Business Partner for additional information relative to any third party attachment.

- Attributes provided: One Port Fibre Channel Adapter that attaches External Tape Devices
- Attributes required: One empty PCI-X 1.0 / 2.0 slot and a PCI IOP
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5762) - SATA Slimline DVD-RAM Drive

(No Longer Available as of June 28, 2013)

The IBM SATA Slimline DVD-RAM Drive is an internal tray loading, multifunction storage device capable of reading and writing 4.7GB DVD-RAM discs as well as reading a multitude of other optical media discs. This drive also reads Type II (removable from cartridge) DVD-RAM discs. It is a 12.7mm high Slimline form factor, multi-session capable, DVD-RAM drive which provides state of the art performance. System boot and install functions are supported with CD-ROM, DVD and DVD-RAM media.

Characteristics:

- Low Profile 12.7mm
- SATA Interface
- Industry standard Slimline SATA connectors
- Supports 8cm and 12cm disk
- Tray Loading
- CD/DVD-ROM/RAM Read 24X/8X/5X
- DVD-RAM Write 5X
- Buffer Size 2MB
- 1 Laser Diode 2 wavelengths for CD/DVD
- Power +5V/1.8A

Limitations:

- DVD video is not supported.
 - Drive only reads CD-type formatted media with AIX 5.1 or later.
 - Attributes provided: One 4.7GB SATA Slimline DVD-RAM Drive
 - Attributes required: One SATA 12.7mm high media bay
 - Minimum required: 0
 - Maximum allowed: 4 (Initial order maximum: 4)
 - OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
 - Initial Order/MES/Both/Supported: Both
 - CSU: Yes
 - Return parts MES: No
- Note: One maximum in each CEC enclosure. A minimum of one #5762 is require per system for IBM i.

(#5767) - 2-Port 10/100/1000 Base-TX Ethernet PCI Express Adapter

(No Longer Available as of May 31, 2017)

The IBM 2-Port 10/100/1000 Base-TX Ethernet PCI Express (PCIe) Adapter is a Full Duplex, dual ported, Gigabit Ethernet adapter designed with highly integrated components. This adapter can be configured to run each port at 10, 100, or 1000 Mbps data rates. The adapter interfaces to the system via a PCIe bus. It is PCIe x4 capable and conforms to the PCIe 1.0a standard. The adapter connects to a network using a 4-pair CAT-5 Unshielded Twisted Pair (UTP) cable for distances of up to 100m. AIX Network Install Manager (NIM) boot capability is supported with this adapter. The adapter conforms to the IEEE 802.3ab 1000Base-T standard. The adapter also supports jumbo frames when running at the 1000 Mbps speed.

A function called 'Large Send' or sometimes known as TCP Segmentation is also provided by this adapter. This function offloads the TCP segmentation operation from the AIX IP layer to the adapter for outgoing (transmit side) TCP segments. Another function known as "Checksum Offload" which offloads the TCP Checksum Operation or workload from the CPU to the adapter is also provided.

The IBM 2-Port 10/100/1000 Base-TX Ethernet PCIe Adapter (#5767) should be considered where maximum port density is required per I/O card slot. For a suggested maximum number of adapters taking performance into consideration, see the IBM System p PCI placement guide (SA76-0090) for information about the PCIe slots on your system unit.

Limitations: The 1000 Mbps speed is not supported in Half Duplex (HDX) mode.

- Attributes provided: Two full-duplex 10/100/1000Base-TX UTP connections to Gigabit Ethernet LAN(s).
 - Attributes required: One available PCIe card slot
 - Minimum required: 0
 - Maximum allowed: 184 (Initial order maximum: 184)
 - OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
 - Initial Order/MES/Both/Supported: Both
 - CSU: Yes
 - Return parts MES: No
- Note: The maximum is 184 for AIX and Linux. The maximum is 64 for IBM i.

(#5768) - 2-Port Gigabit Ethernet-SX PCI Express Adapter

(No Longer Available as of August 31, 2017)

The IBM 2-Port Gigabit Ethernet-SX PCI Express (PCIe) Adapter provides two 1 Gbps (1000 Base-SX) full-duplex Ethernet LAN connections. The adapter interfaces to the system via a PCIe bus. It is PCIe x4 capable and conforms to the PCIe 1.0a standard. The adapter connects to a network using a 50/62.5 micron shortwave (850 nm) multimode optical cable that conforms to the IEEE 802.3z standard. The adapter supports distances of 260m for 62.5 micron Multi Mode Fiber (MMF) and 550m for 50.0 micron MMF. AIX Network Install Manager (NIM) boot capability is supported with this adapter.

A function called 'Large Send' or sometimes known as TCP Segmentation is also provided by this adapter. This function offloads the TCP segmentation operation from the AIX IP layer to the adapter for outgoing (transmit side) TCP segments. Another function known as "Checksum Offload" which offloads the TCP Checksum Operation or workload from the CPU to the adapter is also provided.

The IBM 2-Port Gigabit Ethernet-SX PCIe Adapter (#5768) should be considered where maximum port density is required per I/O card slot. For a suggested maximum number of adapters taking performance into consideration, see the IBM System p PCI placement guide (SA76-0090) for information about the PCIe slots on your system unit.

Note: The 2-Port IBM Gigabit Ethernet-SX PCIe Adapter incorporates an LC type connector on the card. This new, smaller form factor connector is being used by the industry for the next generation of fiber optic networks. If connecting into an older, existing SC type connector network, an LC-SC 62.5 Micron Fiber Converter Cable (#2459) or LC-SC 50 Micron Fiber Converter Cable (#2456) is required.

Limitation: Half Duplex (HDX) mode is not supported.

- Attributes provided: Two full-duplex 1000Base-SX fiber connections to a Gigabit Ethernet LAN(s).
- Attributes required: One available PCIe card slot
- Minimum required: 0
- Maximum allowed: 184 (Initial order maximum: 184)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: The maximum is 184 for AIX and Linux. The maximum is 64 for IBM i.

(#5769) - 10 Gigabit Ethernet-SR PCI Express Adapter

(No Longer Available as of July 14, 2017)

The 10 Gigabit Ethernet-SR PCI Express Adapter is a full-high, high performance adapter that uses a LC Duplex type connector and is capable of transferring data a distance of 300m over MMF-850nm Fiber cable. The product conforms to the IEEE, 802.3ae 10GBASE-SR specification for Ethernet transmission.

Highlights

- Implements iWARP RDMA/RDDP (Remote Direct Data Placement) which adheres to IETF (Internet Engineering Task Force) standards. (Linux Only)
- RDMA-enabled NIC (RNIC) specifically optimized for cluster computing (Linux Only)
- Full iSCSI initiator and target mode stack (Linux Only)
 - iSCSI Header & Data Digest (CRC) generation & checking (Linux Only)
 - PDU recovery (Linux Only)

Attributes

- MSI-X, MSI and support of legacy pin interrupts
- 10GBASE-SR short-reach optics
- IEEE 802.3ae (10 GbE)
- IEEE 802.1p priority and 802.1Q VLAN tagging
- IEEE 802.3x flow control
- Link aggregation, 802.3ad 802.3 compliance
- IEEE 802.3ad load-balancing and failover
- Ether II and 802.3 encapsulated frames
- Multiple MAC addresses per interface
- Jumbo frames up to 9.6 Kbytes
- TCP checksum offload for IPv4 and IPv6
- TCP segmentation Offload (TSO) for IPv4 and IPv6
- UDP checksum offload for IPv4 and IPv6
- Receive side scaling and packet steering
- Line rate packet filtering and attack protection
- IETF RDDP and RDMAC iWARP compliance (Linux Only)
- APIs: RNIC-PI, kDAPL and OpenFabrics 1.4 (Linux Only)
- Attributes provided: PCIe-V1.1 x8 10GBASE-SR short -reach optics adapter
- Attributes required: PCI Express slot, Fiber Cable (Optional LC-SC 62.5 micron converter cable, 50 micron LC-SC connections), LC wrap plug-d
- Minimum required: 0
- Maximum allowed: 128 (Initial order maximum: 128)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5772) - 10 Gigabit Ethernet-LR PCI Express Adapter

(No Longer Available as of April 23, 2017)

The 10GbE Fiber Optic Server Adapter, is 10 Gigabit Ethernet (GbE) Fiber NIC for PCI Express (PCIe) capable systems. The adapter is a high- performance, highly integrated 10 Gigabit Ethernet LAN adapters with PCIe host interface and fiber LAN connectors on the optical modules.

Feature 5772 conforms to the 802.3ae 10GBASE-LR specification for Ethernet transmissions over 1310nm single-mode fiber optic cable for distances up to 10 kilometers.

Highlights

- 10GBASE-LR fiber optic LAN connections
- Eight (8) lane PCIe Host Connector
- PCIe Low-Profile add-in card dimensions (68.9mm x 167.65mm)
- Uses Intel 82598EB MAC
- PCI Express bus interface 1.1 and v.2.0 (Gen 1 only)
- PCIe Hot Plug/Active PCI
- Controller EEPROM and FLASH ROM
- Status LED (Link/Activity)
- Low power PCIe Gen 1 MAC
- *Support either MSI or MSI-X depending on system/OS support for multi-CPU and multi-core systems.
- Dynamic interrupt moderation for lower latency
- Supports 10Gb, full duplex
- Supports EtherChannel with the existing software
- Supports IEEE 802.3ad (link aggregation control protocol)
- IEEE 802.1Q VLANs
- IEEE 802.3x
- IEEE 802.1p
- Transmission Control Protocol (TCP)/User Datagram Protocol (UDP) Checksum Offloading
- Internet Protocol ver 4 (IPv4) Checksum Offloading
- Transmit Checksum Offloading with TCP Segmentation Offload (TSO)/ Large Send Offload

Note: * Supported by SUSE Linux Enterprise Server 10 SP3 for POWER Systems, or later and Red Hat Enterprise Linux for POWER, version 5.4, or later.

- Attributes provided: One 10 Gigabit Ethernet port
- Attributes required: One x8 lane or x16 PCI Express slot
- Minimum required: 0
- Maximum allowed: 48 (Initial order maximum: 48)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5773) - 4 Gigabit PCI Express Single Port Fibre Channel Adapter

The 4 Gigabit Single Port Fibre Channel Adapter is a 64-bit address/data, short form factor PCIe adapter with an LC type external fiber connector. With the use of appropriate optical fiber cabling, this adapter provides the capability for a network of high-speed local and remote located storage. The adapter will auto-negotiate for the highest data rate between adapter and an attaching device at 1 Gbps, 2 Gbps or 4 Gbps of which the device or switch is capable. Distances up to 500 meters running at 1 Gbps data rate, up to 300 meters running at 2 Gbps data rate, and 4 Gbps data rate up to 150 meters are supported between the adapter and an attaching device or switch. When used with IBM Fibre Channel storage switches supporting long-wave optics, distances up to 10 kilometers are capable running at either 1 Gbps, 2 Gbps, or 4 Gbps data rates.

The 4 Gigabit PCIe Single Port Fibre Channel Adapter can be used to attach devices either directly, or by means of Fibre Channel Switches. If attaching a device or switch with a SC type fiber connector(s), use of an LC-SC 50 Micron Fiber Converter Cable (#2456) or a LC-SC 62.5 Micron Fiber Converter Cable (#2459) is required.

Refer to the following IBM storage subsystem web page for additional supported server attachment information for IBM devices.

http://www.ibm.com/servers/storage/product/products_p_series.html

Consult with your IBM representative or Business Partner for additional information relative to any third party attachment.

See also optional wrap plug feature #ECW0 which is:

- a) Required to run some diagnostic procedures and
- b) in some cases may speed system boot when placed in empty ports as well as avoid useless messages pointing to a planned empty port.
- Attributes provided: 1 Fibre Channel
- Attributes required: 1 Empty PCIe slot
- Minimum required: 0
- Maximum allowed: 184 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5774) - 4 Gigabit PCI Express Dual Port Fibre Channel Adapter

(No Longer Available as of August 31, 2017)

The 4 Gigabit Dual Port Fibre Channel Adapter is a 64-bit address/data, short form factor PCIe adapter with an LC type external fiber connector. With the use of appropriate optical fiber cabling, this adapter provides the capability for a network of high-speed local and remote located storage. The adapter will auto-negotiate for the highest data rate between adapter and an attaching device at 1 Gbps, 2 Gbps or 4 Gbps of which the device or switch is capable. Between the adapter and an attaching device or switch, the distances supported are up to: 500 meters running at 1 Gbps data rate, 300 meters running at 2 Gbps data rate, and 150 meters running at 4 Gbps data rate. When used with IBM Fibre Channel storage switches supporting long-wave optics, distances of up to 10 kilometers are capable running at either 1 Gbps, 2 Gbps, or 4 Gbps data rates.

The 4 Gigabit PCIe Dual Port Fibre Channel Adapter can be used to attach devices either directly, or by means of Fibre Channel Switches. If attaching a device or switch with a SC type fiber connector(s), use of an LC-SC 50 Micron Fiber Converter Cable (#2456) or a LC-SC 62.5 Micron Fiber Converter Cable (#2459) is required.

Refer to the following IBM storage subsystem Web page for additional supported server attachment information for IBM devices.

http://www.ibm.com/servers/storage/product/products_p_series.html

Consult with your IBM representative or Business Partner for additional information relative to any third party attachment.

See also optional wrap plug feature #ECW0 which is:

- a) Required to run some diagnostic procedures and
- b) in some cases may speed system boot when placed in empty ports as well as avoid useless messages pointing to a planned empty port.
- Attributes provided: 2 Fibre Channel
- Attributes required: 1 Empty PCIe slot
- Minimum required: 0
- Maximum allowed: 184 (Initial order maximum: 184)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5776) - PCI-X Disk Controller-90MB No IOP

Provides a PCI-X SCSI disk controller that has a 90MB write cache and can provide RAID-5 or RAID-6 protection of disk units.

The #5776 has two U320 SCSI buses each with a bus data rate of up to 320MBs. A maximum of 12 or 24 disk drives and up to two internal removable media devices (tape, DVD-ROM, or DVD-RAM) are supported on the #5776. The maximum is 12 drives in a #0595 I/O drawer. The maximum is 10 drives in a #5094/5294. The maximum is 24 drives in an EXP24 Disk Enclosure. The #5776 can attach to disk drives within an expansion tower and also attach to disk units in an EXP24 Disk Enclosure. The #0301 specify indicates to the IBM Configurator tool that one port of the #5776 is attaching to disk units in an EXP24 Disk Enclosure.

A minimum of three disk drives are required for RAID-5, providing protection against a single drive failure in an array. A minimum of four disk drives are required for RAID-6, providing protection against up to two drives failing in an array.

Note the 757MB write cache and 1.5GB write cache disk controllers provide greater disk performance and have an auxiliary write cache IOA to protect the write cache contents.

- Attributes provided: Two Ultra320 SCSI VHDCI ports
- Attributes required: One available 3.3V long PCI or PCI-X slot
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5777) - PCI-X Disk Controller-1.5GB No IOP

Provides a high-performance PCI-X Ultra320 SCSI disk controller with a maximum compressed write cache of 1.5GB and read cache of 1.6GB. #5777 will support i5/OS mirroring protection for internal disk drives using the write cache, but will not use the write cache to run RAID-5 or RAID-6 unless an auxiliary write cache IOA is attached. Running RAID-5 or RAID-6 without write cache very significantly reduces its performance. (When an auxiliary write cache IOA is attached, the pair of cards is denoted by feature code #5583.) Concurrent battery maintenance is supported. The controller also supports internal tape units, CD-ROM units, and DVD units. The #5777 has four internal Ultra320 SCSI buses and does not require an IOP.

- Attributes provided: High performance disk controller
- Attributes required: A single long PCI-X slot
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5778) - PCI-X EXP24 Ctl-1.5GB No IOP

Provides an EXP24 disk controller with PCI-X DDR technology, a maximum of 1.5GB compressed write cache and a maximum 1.6GB compressed read cache. The controller supports RAID-5 and RAID-6 and mirroring is supported via i5/OS. Embedded auxiliary write cache and concurrent battery maintenance are provided. The controller is implemented using two physical cards that are firmly connected and requires two adjacent PCI slots. It provides three Ultra320 SCSI ports/buses for the attachment of disk drives located in a #5786 TotalStorage EXP24 Disk Drawer. #5782 is the same adapter card, but with the #5782 the adapter is placed in a double-wide blind swap cassette.

- Attributes provided: High performance RAID disk controller
- Attributes required: Two adjacent long PCI-X slots
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5782) - PCI-X EXP24 Ctl-1.5GB No IOP

Provides an EXP24 disk controller with PCI-X DDR technology, a maximum of 1.5GB compressed write cache and a maximum 1.6GB compressed read cache. The controller supports RAID-5 and RAID-6 and mirroring is supported via IBM i. Embedded auxiliary write cache and concurrent battery maintenance are provided. The controller is implemented using two physical cards that are firmly connected and requires two adjacent PCI slots. It provides three Ultra320 SCSI ports/buses for the attachment of disk drives located in a #5786 TotalStorage EXP24 Disk Drawer or #5796 PCI-DDR 12X Expansion Drawer.

This feature includes a double-wide blind swap cassette in which the disk controller is placed. The cassette is required to locate the disk controller in a Power 570, 770, 780 system unit or #5790 I/O drawer. #5782 indicates an IOP is not used.

- Attributes provided: High-performance SCSI RAID controller in a double wide blind swap cassette.
- Attributes required: Two adjacent PCI-X long card slots, in a blind swap capable system unit or expansion unit.
- Minimum required: 0
- Maximum allowed: 64 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5785) - 4 Port Async EIA-232 PCIe Adapter

(No Longer Available as of August 31, 2017)

Connection for 4 asynchronous EIA-232 devices. Ports are programmable to support EIA-232 protocols, at a line speed of 128K bps. One connector on the rear of the adapter provides attachment for a fan-out cable (provided) which provides four EIA-232 ports. Note #5785 and # 5277 are physically and electrically identical adapters, except for the type of PCIe slot used (full-height or low-profile). Note also the 4-port #5289/5290 is functionally nearly identical to the 2-port #5289/5290 except for the number and type of connectors.

- Attributes provided: 4-Port Asynchronous EIA-232 via 4-Port DB9 DTE Fan-Out Cable 1.2 M (4 ft.), 4 x 9-pin D-Sub (Male DB-9) and 1 x 68-pin D-Sub (HD-68)
- Attributes required: 1 full high PCIe Slot
- Minimum required: 0
- Maximum allowed: 184 (Initial order maximum: 184)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
 - IBM i 7.1 TR11, or later
 - IBM i 7.2 TR4, or later
 - IBM i 7.3, or later

Note: This adapter is supported by IBM i only when the adapter is in a PCIe I/O drawer. This adapter is not supported by IBM i when the adapter is in the CEC.
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5786) - TotalStorage EXP24 Disk Dwr

Provides disk slots for up to 24 disk units in a 19-inch, 4 EIA high rack drawer. The #5786 provides redundant power, redundant cooling, and Ultra 320 SCSI interface connections for 24 Ultra 320 SCSI disk units that are organized in four independent groups of six disk units.

#5741 and/or #5742 EXP24 Disk Slot Enablers (SCSI repeaters) enable these groups of six disk unit slots. The enabled disk slots are driven by SCSI disk controllers located outside the #5786 and connected by a SCSI cable. One to four Disk Slot Enablers are required, depending on the number of disk unit groups populated with disk units.

One external port on a disk controller such as a #5736/#5776/ #5782 is required for each #5741 installed. Likewise, one external disk controller port is required for each #5742 installed and cabled to run one group of six disk slots. Alternately, two #5742s can be cabled such that a single disk controller can run two groups of six disk slots. Or, one #5741 plus one #5742 can also be cabled such that a single disk controller can run two groups of six disk slots.

The following SCSI cables are available:

- #2138 0.55m SCSI Cable
- #2124 1m SCSI Cable
- #2125 3m SCSI Cable
- #2126 5m SCSI Cable
- #2127 10m SCSI Cable
- #2128 20m SCSI Cable
- Attributes provided: 24 Ultra 320 SCSI disk unit slots
- Attributes required: Disk controller with external Ultra 320 SCSI port and 4 EIA units of space in a 19-inch rack
- Minimum required: 0
- Maximum allowed: 60 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5790) - PCI Expansion Drawer

The #5790 is a four EIA unit I/O expansion drawer that provides six full length ,64-bit, 3.3-V, 133 MHz hot-plug PCI-X slots and can ammodate up to six blind swap I/O adapters. The I/O Expansion drawer is attached to the system using a RIO-2 bus interface adapter. The #5790 includes redundant concurrently maintainable power and cooling and the blind swap PCI mechanism allows for PCI card servicing without removing the I/O expansion drawer

The #5790 mounts in a 19-inch rack using a #7307 Dual I/O Unit Enclosure or a #7311 Dual I/O Unit Enclosure. Two #5790 drawers can be mounted side by side in a single #7307 or #7311 and are not required to be attached to the same system

- Attributes provided: 6 PCI-X slots for blind swap I/O adapters
- Attributes required:
 - Rack space in a #7307 Dual I/O Unit Enclosure or a #7311 Dual I/O Unit Enclosure.
 - One RIO-2 Remote I/O Loop Adapter, #6438
 - Two RIO-2 cables (#3168 recommended)
 - Two SPCN cables (#6006 recommended).
 - Two Power cable, drawer to IBM PDU (#6459 recommended)
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5796) - PCI-DDR 12X Expansion Drawer

(No Longer Available as of July 27, 2012)

The #5796 is a four EIA unit I/O expansion drawer providing six full length, 64 bit, 3.3 volt, 266MHz PCI-X DDR slots. Blind swap cassettes are used to insert or remove the PCI-X cards. The #5796 is attached to a system using a GX Dual Port 12X Channel Attach adapter in a 12X loop. Either a 12X Short Run adapter (6446) or 12X Long Run adapter (6457) must be selected on each #5796. Up to four #5796 can be attached on the same 12X loop using a mixture of Short Run and Long Run adapters.

The #5796 includes redundant hot-swap power and cooling. The blind swap PCI mechanism allows for PCI card concurrent maintenance without removing the I/O expansion drawer. The #5796 mounts in a 19-inch rack using a #7314 I/O Drawer Mounting Enclosure. Two #5796 drawers can be mounted side by side in a single #7314 using a total of four EIA. The #5796 are not required to be attached to the same system. Each #5796 requires two power cords

When placed in an IBM i partition, these PCI-X DDR slots support only smart IOAs and do not support an IOP or an IOA which requires an IOP.

- Attributes provided: 6 PCI-X DDR slots for blind swap I/O adapters
- Attributes required: Rack space in a #7314 I/O Drawer Mounting Enclosure. 12X cable(s). 12X Short Run or Long Run card, and SPCN cable(s).
- Minimum required: 0
- Maximum allowed: 32 (Initial order maximum: 32)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5802) - 12X I/O Drawer PCIe, SFF disk

(No Longer Available as of August 31, 2017)

This feature provides a 4U high I/O drawer containing ten PCIe slots and eighteen SAS hot-swap Small Form Factor disk bays. This drawer attaches to the central electronics complex via 12X DDR cables (#1862, #1864, or #1865). When SFF Disk are installed, they are driven by at least one SAS PCIe adapter and SAS AT cable (#3688). Using a mode switch the 18 SFF slots can be configured as one group of 18 slots (AIX/Linux) or two groups of 9 slots (AIX/IBM i/Linux) or four groups of 4 or 5 slots (AIX/Linux).

- Attributes provided: 10 PCIe Slots, 18 SFF SAS disk bays
- Attributes required: Available 12X connection ports.
- Minimum required: 0
- Maximum allowed: 16 (Initial order maximum: 16)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5805) - PCIe 380MB Cache Dual - x4 3 Gb SAS RAID Adapter

(No Longer Available as of May 13, 2016)

The #5805 PCIe 380 MB Cache Dual - x4 3 Gb SAS RAID Adapter is a short, full high form factor adapter that supports the attachment of SAS disk and SAS solid state drives (SSD) using a pair of mini SAS 4x connectors. Write cache can provide an I/O performance boost even if RAID 5/6/10 is not used. From a high-level perspective, except for having a larger write cache, it is very similar to the feature 5902 PCI-X SAS adapter and provides a high-performance connection to SAS devices. Two of feature 5805 provides for mirrored write cache data and mirrored RAID parity footprints between the adapters for superior availability. Feature 5805 is installed in pairs, allowing for redundancy of the write cache. If the feature 5805 pairing is broken, then write cache is disabled. The #5805 can also be paired with a #5903 adapter.

Feature 5805 supports SAS disk drives (HDD) and SAS-bay-based SSD located in a PCIe 12X I/O Drawer or drives located in an EXP 12S Disk Drawer or EXP24S Disk Drawer. AIX/Linux formatted SAS drives can be attached, and RAID 0, RAID 5, RAID 6, and RAID 10 are supported. Similarly, IBM i RAID formatted HDD and SSD can also be attached, and RAID 5 and RAID 6 is support. AIX, IBM i and Linux also support The #5805 is electronically identical to the #5903 and both the 5903 and 5805 use CCIN number is 574E. The #5805 adapter is slightly more narrow than the #5903 due to the placement of its cache batteries.

With proper cabling and configuration, multiple wide ports are used to provide redundant paths to each dual port SAS disk or SSD.. The adapter manages SAS path redundancy and path switching should a SAS drive failure occur. The pairing of #5805 provides a high availability I/O configuration to protect against the failure of a SAS adapter. SAS X cables attach SAS disk drives in an EXP 12S and/ or EXP24S Disk Drawer. SAS #3688 cables attach SFF SAS drives in an PCIe 12X I/O Drawer. The high availability I/O configuration connection is provided via the internal wiring within the PCIe 12X I/ O drawer itself.

Limitation: 4k byte sector HDD/SSD are not supported. Only 5xx byte sector drives are supported on this generation of PCIe adapter.

Highlights:

- Supports up to 48 SAS disks, when configured with four #5886 EXP 12S Disk Drawers or two #5887/EL1S EXP24S Disk Drawer
 - SAS speed = 3 Gbs
 - SAS Serial SCSI Protocol (SSP)and Serial Management Protocol (SMP)
 - 380 MB of non-volatile fast write cache can increase disk subsystem performance
 - Dual controller supports mirrored write cache data and mirrored RAID parity footprints
 - Concurrent Firmware Update
 - Attributes provided: Eight physical links via two mini SAS 4x connectors
 - Attributes required: Configuration always requires even pairs of #5805 (or #5903/5805). SAS Media devices are not supported. When attaching #5886 EXP12S or #5887/EL1S EXP24S at least one of the following SAS (X) cables #3661, #3662 or #3663 must be used
 - Minimum required: 0
 - Maximum allowed: 184 (Initial order maximum: 184)
 - OS level required:
 - AIX 5.3 with the 5300-11 Technology Level and Service Pack 2, or later
 - AIX 5.3 with the 5300-10 Technology Level and Service Pack 4, or later
 - AIX 5.3 with the 5300-09 Technology Level and Service Pack 7, or later
 - AIX 6.1 with the 6100-04 Technology Level and Service Pack 3, or later
 - AIX 6.1 with the 6100-03 Technology Level and Service Pack 5, or later
 - AIX 6.1 with the 6100-02 Technology Level and Service Pack 8, or later
 - AIX Version 7.1 supported
 - IBM i 6.1 with 6.1.1 machine code, or later
 - IBM i 7.1 or later
 - Red Hat Enterprise Linux 5.5 or later
 - SUSE Linux Enterprise Server 10 Service Pack 3 or later, with current maintenance updates available from Novell to enable all planned functionality.
 - SUSE Linux Enterprise Server 11 or later, with current maintenance updates available from Novell to enable all planned functionality.
 - Initial Order/MES/Both/Supported: Both
 - CSU: Yes
 - Return parts MES: No
- Note: Assignment to the VIOS requires VIOS 2.1.1.0 or later

(#5806) - PCI-X DDR Dual Channel Ultra320 SCSI Adapter

This feature is provided for driving a SCSI Tape Drive in an i5OS environment. An IOP is required when this feature is selected.

The PCI-X DDR Dual Channel Ultra320 SCSI Adapter (#5806) is a 64-bit 3.3-volt adapter and is an excellent solution for high-performance SCSI applications. The PCI-X Dual Channel Ultra320 SCSI Adapter provides two SCSI channels (busses), each capable of running 320 MBps (max.). Each SCSI bus can either be internal (on systems that support internal SCSI device or backplane attachments) or external. Internally attached Ultra320 devices are designed to run at a data rate of up to 320 MB per second on systems that have internal backplanes that are capable of supporting Ultra320 speeds.

In order to achieve an Ultra320 SCSI bus data rate of up to 320 MB per second and maintain a reasonable drive distance, the adapter utilizes Low Voltage Differential (LVD) drivers and receivers. To utilize the 320 MB per second performance, all attaching devices should also be Ultra320 LVD devices; however, if Ultra2, Ultra3, or Ultra320 devices coexist on the same bus, each device will operate at its rated speed. For lower speed single-ended (SE) devices, the SCSI bus will switch to single-ended (SE) performance and interface to all devices on that SCSI bus at the lower SE bus data rate of the device.

Two VHDCI 68-pin connectors are mounted on the adapter's end bracket allowing attachment of various LVD and SE external subsystems. A 0.3-meter converter cable, VHDCI to P, Mini-68 pin to 68-pin, (#2118) can be used with older external SE devices or subsystems to allow connection to the VHDCI connector on the PCI-X DDR Dual Channel Ultra320 SCSI Adapter.

Two external ports provide connectivity to numerous other SCSI external subsystems. Check the external subsystem sales/web pages for verification of connectivity support with this adapter.

The PCI-X Dual Channel Ultra320 SCSI Adapter (#5806) is a native boot adapter. The adapter also supports target mode.

Feature #5736 and #5806 are physically identical cards with the same 571A CCIN. Different features are used to help IBM configurator tool understand whether or not an IOP is being used with the adapter. #5806 indicates an IOP is present.

Limitations:

- The two external ports do not support the connection to the IBM 7131-105 IBM Multi-Storage Tower Model 105.
- Even though the Dual Channel Ultra320 SCSI nonRAID Adapter has ports that run at ultra320 SCSI speeds (up to 320 MBytes/s), the internally attached disk drives will run at a maximum SCSI bus data rate specified by that supporting system disk backplane.
- Attributes provided: Attachment of a SCSI Tape drive
- Attributes required: One available 3.3 volt PCI or PCI-X slot or PCI-X 2.0 DDR slot and a PCI IOP.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5877) - 12X I/O Drawer PCIe, No Disk

(No Longer Available as of August 31, 2017)

This feature provides a 4U high I/O drawer containing ten PCIe slots. This drawer attaches to the central electronics complex via 12X DDR cables (#1862, #1864 or #1865).

- Attributes provided: 10 PCIe Slots
- Attributes required: Available 12X connection ports.
- Minimum required: 0
- Maximum allowed: 16 (Initial order maximum: 16)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5878) - SAS Disk Backplane -6 slot

This feature provides 6 SAS DASD slots. These slots support Hot Pluggable SAS DASD drives.

- Attributes provided: 6 SAS DASD slots, compatability with SATA DVD drive backplane
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5886) - EXP 12S Expansion Drawer

(No Longer Available as of January 6, 2012)

The EXP 12S is an expansion drawer with twelve 3.5-inch form factor SAS bays. #5886 supports up to 12 hot-swap SAS Hard Disk Drives (HDD) or up to 8 hot-swap Solid State Drives (SSD). The EXP 12S includes redundant AC power supplies and two power cords. Though the drawer is one set of 12 drives which is run by one SAS controller or one pair of SAS controllers, it has two SAS attachment ports and two Service Managers for redundancy. The EXP 12S takes up a 2 EIA space in a 19-inch rack. The SAS controller can be a SAS PCI-X or PCIe adapter or pair of adapters or can be an imbedded SAS controller in a server with an imbedded SAS port such as the 8203 or 8204. Attachment to the controller is via the appropriate external SAS cables. A pair of #5886 EXP12S drawers can be attached together with SAS cables allowing the SAS controller(s) to access 24 SAS bays.

- Attributes provided: 12 SAS bays, slot filler panels are provided for empty bays when initially shipped from IBM.
- Attributes required:
 - Available SAS controller (PCI or imbedded server controller)
 - Power System server, POWER5 or later
 - Available 2U 19-inch rack space
- Minimum required: 0
- Maximum allowed: 110 (Initial order maximum: 110)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
 Note: System Maximum of 110 is achievable with SAS adapters in remote I/O drawers. Up to 4 #5886 can be supported on a #5900 or 5912 adapter. Up to 4 #5886 can be supported on a pair of 5902 adapters.

(#5887) - EXP24S SFF Gen2-bay Drawer

(No Longer Available as of August 31, 2017)

The EXP24S SFF Gen2-bay Drawer is an expansion drawer with twenty-four 2.5-inch form factor SAS bays. #5887 supports up to 24 hot-swap SFF SAS Hard Disk Drives (HDD). It uses only 2 EIA of space in a 19-inch rack. The EXP24S includes redundant AC power supplies and two power cords. The EXP24S SFF bays use Gen-2 or SFF-2 SAS bays that are not compatible with CEC SFF Gen-1 SAS bays or with #5802/ 5803 SFF SAS bays.

With AIX/Linux/VIOS, the EXP24S can be configured as four sets of 6 bays, two sets of 12 bays or one set of 24 bays. IBM i can configure the EXP24S as one set of 24 bays. Configured as one set of 24 bays, two SAS ports on the EXP24S are used for redundancy. Configured as two sets of 12 bays, four SAS ports on the EXP24S are used for redundancy. Configured as four sets of 6 bays, four SAS ports on the EXP24S are used.

With AIX/Linux/VIOS, the EXP24S can be ordered with four sets of 6 bays, two sets of 12 bays or one set of 24 bays (mode 4, 2 or 1). With IBM i the EXP24S can be ordered as one set of 24 bays (mode 1).

In mode 1 (one set of 24 bays) two EXP24S SAS connectors are used. In mode 2 (two sets of 12 bays) four EXP24S SAS connectors are used. In mode 4 (four sets of 6 bays) four EXP24S SAS connectors are used.

The EXP24S SAS ports are attached to SAS controller(s) which can be a SAS PCI-X or PCIe adapter or pair of adapters. The EXP24S can also be attached to an imbedded SAS controller in a server with an imbedded SAS port. Attachment between the SAS controller and the EXP24S SAS ports is via the appropriate SAS Y or X cables.

- Attributes provided: 24 SFF SAS bays, slot filler panels are provided for empty bays when initially shipped from IBM. #5887 rails have some adjustability for depth - 25.25 to 29.875 inches.
 - Attributes required:
 - Available SAS controller (PCI or imbedded server controller)
 - Power System server, POWER6 or later
 - Available 2U 19-inch rack space
 - Appropriate SAS cables for configuration mode selected
 - Minimum required: 0
 - Maximum allowed: 56 (Initial order maximum: 56)
 - OS level required:
 - AIX Version 7.1 with Service Pack 3, or later
 - AIX Version 6.1 with the 6100-06 Technology Level and Service Pack 5, or later
 - AIX Version 6.1 with the 6100-05 Technology Level and Service Pack 6, or later (planned availability: June 3, 2011)
 - AIX Version 6.1 with the 6100-04 Technology Level and Service Pack 10, or later (planned availability: June 3, 2011)
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 4, or later (planned availability: June 30, 2011)
 - AIX Version 5.3 with the 5300-11 Technology Level and Service Pack 7, or later (planned availability: June 30, 2011)
 - IBM i 6.1 with machine code 6.1.1, or later
 - IBM i 7.1, or later
 - Red Hat Enterprise Linux 5.6 for POWER, or later
 - Novel SUSE Linux Enterprise 10 Service Pack 4, or later
 - Novel SUSE Linux Enterprise 11 Service Pack 1, or later
- Please find the required driver update for SLES11 SP1 under the following URL:

<http://drivers.suse.com/driver-process/pub/update/IBM/>

- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
 Note: VIOS support requires VIOS 2.2.0.12-FP24 SP02 or later

(#5899) - PCIe2 4-port 1GbE Adapter

(No Longer Available as of August 31, 2017)

This short PCIe Gen2 adapter provides four 1Gb Ethernet ports that can be configured to run at 1000, 100 or 10 Mbps. 4-pair CAT-5 Unshielded Twisted Pair (UTP) cables up to 100 meters in length are attached to the copper RJ45 connectors. Each port is independent of one another and supports full-duplex or half-duplex. 1000 Mbps speed is not supported in Half Duplex (HDX) mode.

Feature #5260 and #5899 are electronically identical and have the same CCIN of 576F. #5260 indicates a low profile tail stock while #5899 indicates a full high tail stock.

Details for the ports include:

- AIX NIM support
 - IEEE 802.3ab (1 GbE), 802.1p priority, 802.1Q VLAN tagging, 802.3x flow control, 802.3ad load-balancing and failover,
 - Link aggregation, IEEE 802.3ad 802.3
 - Multiple MAC addresses per interface
 - MSI-X, MSI and support of legacy pin interrupts
 - Ether II and IEEE 802.3 encapsulated frames
 - Jumbo frames up to 9.6 Kbytes
 - TCP checksum offload for IPv4 and IPv6
 - TCP segmentation Offload (TSO) for IPv4 and IPv6
 - UDP checksum offload for IPv4 and IPv6
 - AIX, IBM i and Linux provide software iSCSI support through the adapter. Linux can also leverage adapter hardware support including initiator and header & data digest (CRC) generation and checking
 - Attributes provided: Four-port 1 Gb Ethernet
 - Attributes required: 1 Full High Profile PCIe slot (Gen1 or Gen2)
 - Minimum required: 0
 - Maximum allowed: 184 (Initial order maximum: 184)
 - OS level required:
 - AIX Version 7.1 with the 7100-01 Technology level and Service pack 4 or later
 - AIX Version 7.1 with the 7100-00 Technology Level and Service Pack 6 or later (planned availability 6/29/2012)
 - AIX Version 6.1 with the 6100-07 Technology Level and Service Pack 4 or later
 - AIX Version 6.1 with the 6100-06 Technology Level and service Pack 8 or later (planned availability 6/29/2012)
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 6 or later (planned availability 6/29/2012)
Note: AIX 5.3 service extension is required
 - IBM i 7.1, or later
 - IBM i 6.1 with 6.1.1 machine code, or later
 - Red Hat Enterprise Linux 5.8 for POWER with all available service updates, or later
 - Red Hat Enterprise Linux 6.2 for POWER, or later
 - Novel SUSE Linux Enterprise 11 Service Pack 2, or later
- Please find the required driver update for Linux under the following URL.
- http://www14.software.ibm.com/webapp/set2/sas/f/lopdi_ags/info/LinuxAlerts.html
- Initial Order/MES/Both/Supported: Both
 - CSU: Yes
 - Return parts MES: No
Note: VIOS 2.2.1.4 or later

(#5900) - PCI-X DDR Dual -x4 SAS Adapter

The PCI-X DDR Dual Connector x4 SAS Adapter is a low-profile short form factor adapter and is an excellent solution for high-performance applications. The Adapter provides two SAS channels (busses). In a wide configuration, providing redundant ports to the devices, 1 Gbs throughput is supported. In the non-redundant configuration up to 3 Gbs is supported. The adapter supports RAID level 0 (with mirroring) and 10

Highlights

- Wide Configuration supports addressing up to 512 SAS devices with eight ports
- Non-Redundant configuration supports addressing 128 SAS devices per port
- SAS speed = 3Gbs
- SATA speed = 1.5 Gbs
- SAS Serial SCSI Protocol (SSP) , Serial ATA Tunneling Protocol (STP) and Serial Management Protocol (SMP)
- RAID 0 (with mirroring), 10
- Concurrent Firmware Update
- Removable Media Device Supported
- Attributes provided: Eight SAS Ports through two x4 SAS channels.
- Attributes required: One PCI-X 2.0 DDR slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5901) - PCIe Dual-x4 SAS Adapter

(No Longer Available as of August 31, 2017)

The #5901 PCIe Dual-4x SAS Adapter is a low-profile short form factor adapter which supports the attachment of SAS disk, tape, and DVD using a pair of mini SAS 4x connectors. From a high level perspective, it is functionally equivalent to the #5912 PCI-X SAS adapter and provides a high-performance connection to SAS devices.

The #5901 supports external SAS tape drives such as the 36/72 GB DAT72, 80/160 GB DAT160, and 800/1600 GB LTO-4 found in the IBM tape units such as the 7214-1U2, TS2240, TS2340, TS3100, TS3200, and TS3310. Other removable media devices supported include IBM SAS/SATA DVD-ROM/RAM drives. SAS adapter-to-enclosure (AE) cables are used to attach these drives.

The #5901 supports SAS SFF disk drives located in a PCIe 12X I/O Drawer or SAS disk drives located in an EXP 12S or EXP24S Disk Drawer or drives in a Power6 system CEC (split DASD backplane). AIX/ Linux formatted SAS drives are supported with RAID 0 (with mirroring) and RAID 10. IBM i formatted SAS drives are supported and data spreading and mirroring functions are provided by IBM i. RAID-5 or RAID-6 are not supported on the #5901. #5901 has zero write cache. CCIN for #5901 is 57B3.

With proper cabling and configuration, multiple wide ports are used to provide redundant paths to each dual port SAS disk. The adapter manages SAS path redundancy and path switching should a SAS drive failure occur. SAS Y cables attach SAS disk drives in an EXP12S or EXP24S Disk Drawers. SAS #3688 cables attach SFF SAS drives in an PCIe 12X I/O Drawer. With the EXP12S or EXP24S Drawer, a high availability I/O configuration can be created using a pair of #5901 adapters and SAS X cables to protect against the failure of a SAS adapter. In the PCIe 12X I/O Drawer, this function is provided via the internal wiring within the drawer itself.

Limitation: 4k byte sector HDD/SSD are not supported. Only 5xx byte sector drives are supported on this generation of PCIe adapter.

Highlights:

- Supports up to 48 SAS disks, when configured with four #5886 EXP12S Disk Drawers or two #5887/#EL1S EXP24S Disk Drawers
- Supports up to 42 disk (18 SFF disk plus up to 24 3.5-inch SAS disk) when configured with a #5802/#EL36 19-inch PCIe 12X I/O Drawer and two #5886 EXP 12S Disk Drawers or configured with a #5802/#EL36 and one #5887/#EL1S EXP24S
- Supports up to 50 disk (26 SFF disk plus up to 24 3.5-inch SAS disk) when configured with a #5803 24-inch PCIe 12X I/O Drawer and two #5886 EXP 12S Disk Drawers or configured with a #5803 and one #5887/#EL1S EXP24S
- SAS speed = 3 Gbs
- SATA speed = 1.5 Gbs
- SAS Serial SCSI Protocol (SSP), Serial ATA Tunneling Protocol (STP) and Serial Management Protocol (SMP)
- Dual controller supports mirrored RAID parity footprints
- Concurrent firmware update
- Attributes provided: Eight physical links via two mini SAS 4x connectors
- Attributes required: One PCI Express slot
- Minimum required: 0
- Maximum allowed: 184 (Initial order maximum: 184)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5902) - PCI-X DDR Dual - x4 3Gb SAS RAID Adapter

The PCI-X DDR Dual - x4 3Gb SAS RAID Adapter is a long form factor adapter and is an excellent solution for high-performance applications requiring two adapters. Two #5902 provides for mirrored write cache data and mirrored RAID parity footprints between the adapters for superior availability. With proper cabling, multiple wide ports are used to provide redundant paths to each dual port SAS disk. The adapter manages SAS path redundancy and path switching should a SAS failure occur. RAID levels 0, 5, 6, and 10 are supported. It is used with FC 5886 EXP 12S SAS disk expansion drawers. FC 5902 is always to be in used in a High Availability configuration using two adapters.

Highlights

- Supports up to 48 SAS disks, when configured with four FC 5886 12S disk expansion drawers
- SAS speed = 3Gbs
- SAS Serial SCSI Protocol (SSP)and Serial Management Protocol (SMP)
- RAID 0, 5, 6, and 10
- 175MB of NV Fast Write Cache
- Dual controller supports mirrored write cache data and mirrored RAID parity footprints
- Concurrent Firmware Update
- Attributes provided: Eight physical links via two mini SAS 4x connectors.
- Attributes required: One PCI-X 2.0 DDR slot per #5902. Configuration always requires even pairs of #5902. SAS Media devices are not supported. When attaching #5886 EXP 12S use one of the following SAS (X) cables #3661, #3662 or #3663 must be used.
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5903) - PCIe 380MB Cache Dual - x4 3 Gb SAS RAID Adapter

(No longer available as of January 07, 2011)

The #5903 PCIe 380 MB Cache Dual - x4 3 Gb SAS RAID Adapter is a short, full high form factor adapter that supports the attachment of SAS disk and SAS solid state drives (SSD) using a pair of mini SAS 4x connectors. Write cache can provide an I/O performance boost even if RAID 5/6/10 is not used. From a high-level perspective, except for having a larger write cache, it is very similar to the feature 5902 PCI-X SAS adapter and provides a high-performance connection to SAS devices. Two of feature 5903 provides for mirrored write cache data and mirrored RAID parity footprints between the adapters for superior availability. Feature 5903 is installed in pairs, allowing for redundancy of the write cache. If the feature 5903 pairing is broken, then write cache is disabled. The #5903 can also be paired with a #5805 adapter.

Feature 5903 uses SAS disk drives (HDD) and SAS-bay-based SSD located in a PCIe 12X I/O Drawer or drives located in an EXP 12S Disk Drawer or EXP24S Disk Drawer. AIX/Linux formatted SAS drives can be attached, and RAID 0, RAID 5, RAID 6, and RAID 10 are supported. Similarly, IBM i RAID formatted HDD and SSD can also be attached, and RAID 5 and RAID 6 is support. AIX, IBM i and Linux also support The #5805 is electronically identical to the #5903 and both the 5903 and 5805 use CCIN number is 574E. The #5805 adapter is slightly more narrow than the #5903 due to the placement of its cache batteries.

With proper cabling and configuration, multiple wide ports are used to provide redundant paths to each dual port SAS disk or SSD.. The adapter manages SAS path redundancy and path switching should a SAS drive failure occur. The pairing of #5903 provides a high availability I/O configuration to protect against the failure of a SAS adapter. SAS X cables attach SAS disk drives in an EXP12S and/or EXP24S Disk Drawers. SAS #3688 cables attach SFF SAS drives in an PCIe 12X I/O Drawer. The high availability I/O configuration connection is provided via the internal wiring within the PCIe 12X I/O drawer itself.

Limitation: 4k byte sector HDD/SSD are not supported. Only 5xx byte sector drives are supported on this generation of PCIe adapter.

Highlights:

- Supports up to 48 SAS disks, when configured with four #5886 EXP 12S Disk Drawers or with two #5887 EXP24S Disk Drawers
- SAS speed = 3 Gbs
- SAS Serial SCSI Protocol (SSP) and Serial Management Protocol (SMP)
- 380 MB of non-volatile fast write cache can increase disk subsystem performance
- Dual controller supports mirrored write cache data and mirrored RAID parity footprints
- Concurrent Firmware Update
- Attributes provided: Eight physical links via two mini SAS 4x connectors
- Attributes required: Configuration always requires even pairs of #5903 (or #5903/5805). SAS Media devices are not supported. When attaching #5886 EXP12S or #5887 EXP24S at least one of the following SAS (X) cables #3661, #3662 or #3663 must be used
- Minimum required: 0
- Maximum allowed: 184 (Initial order maximum: 184)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5904) - PCI-X DDR 1.5GB Cache SAS RAID Adapter

PCI-X DDR 1.5GB Cache SAS RAID Adapter provides disk drive or SSD controller function using PCI-X DDR technology, a maximum of 1.5GB compressed write cache and a maximum 1.6GB compressed read cache. Auxiliary write cache and concurrent battery maintenance are provided. The controller is implemented using two physical cards that are firmly connected and requires two adjacent PCI slots. It provides three mini-SAS 4x connectors for the attachment of SAS drives located in a #5886 EXP12S/#5887 EXP24S Expansion Drawers or supported Power system CEC. The controller supports a maximum of five SAS #5886 EXP12S Expansion Drawers. The controller supports a maximum of two #5887 EXP24S drawers, but can also support a #5886 I/O drawer in addition to the two #5887. It supports up to 8 drive slots in the CEC of a supported system. With proper cabling and configuration, multiple wide ports are used to provide redundant paths to each dual port SAS disk or SSD. The adapter manages SAS path redundancy and path switching should a SAS drive failure occur. CCIN is 572F/575C.

The adapter provides RAID 0, RAID 5, RAID 6 and RAID 10 for AIX and Linux. Under IBM i OS, mirroring and data spreading is provided by the operating system and RAID 5 and RAID6 is provided by the adapter.

#5904, #5906 and #5908 are all feature codes representing the same physical cards, but different feature codes are used to indicate if a blind swap cassette is used and its type. #5904 indicates no blind swap cassette and is used in enclosures such as a Power 550 CEC or Power 750 CEC.

With the optional pairing of adapters, an even higher level of protection beyond, auxiliary cache is provided via a dual controller I/O configuration to protect against the failure of an entire adapter. In such a high availability I/O configuration, SAS X cables are used to attach #5886 EXP12S/#5887 EXP24S Expansion Drawers and the 4th mini-SAS connector (top) is used with an adapter to adapter (AA) SAS CABLE, (3M #3681, 6M #3682), to directly connect the card sets. Paired adapters must reside on the same server/partition for IBM i, but can be in the same or separate servers/partitions for AIX/Linux.

Highlights

- SAS speed = 3Gb/s
- SAS-SSP, SMP are supported
- Supports Single controller with SAS y cables(#3692, #3693, #3694) for #5886 EXP 12S, or with SAS AI cable for Power 520/550 CEC
- Supports Dual controller with SAS x cables (#3661, #3662, #3663) and SAS (AA) cable(#3681 or #3682).
- Built-in auxiliary cache mirrors write cache for redundancy
- Attributes provided: PCI-X DDR 1.5 GB cache SAS RAID Adapter
- Attributes required: two adjacent PCI-X slots. #5922 if single controller, if paired controller use either #3681 or #3682 (AA) cables
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5908) - PCI-X DDR 1.5GB Cache SAS RAID Adapter (BSC)

(No Longer Available as of July 11, 2014)

PCI-X DDR 1.5GB Cache SAS RAID Adapter provides disk controller drive or SSD controller function using PCI-X DDR technology, a maximum of 1.5GB compressed write cache and a maximum 1.6GB compressed read cache. Auxiliary write cache and concurrent battery maintenance are provided. The controller is implemented using two physical cards that are firmly connected and requires two adjacent PCI slots. It provides three mini-SAS 4x connectors for the attachment of SAS drives located in a #5886 EXP12S/#5887 EXP24S Expansion Drawers. The controller supports a maximum of five SAS #5886 EXP 12S Expansion Drawers. The controller supports a maximum of two #5887 EXP24S drawers, but can also support a #5886 I/O drawer in addition to the two #5887 providing a total of 60 SAS bays. It supports up to 6 drive slots in one POWER6 560/570/770 CEC drawers and up to three POWER6 560/570/770 drawers in the same server. With proper cabling and configuration, multiple wide ports are used to provide redundant paths to each dual port SAS disk or SSD. The adapter manages SAS path redundancy and path switching should a SAS drive failure occur. CCIN is 572F/575C.

The adapter provides RAID 0, RAID 5, RAID 6 and RAID 10 for AIX/Linux. Under IBM i OS, mirroring and data spreading is provided by the operating system and RAID 5 and RAID 6 is provided by the adapter. #5904, #5906 and #5908 are all feature codes representing the same physical cards, but different feature codes are used to indicate if a blind swap cassette is used and its type. #5908 indicates a Gen-3 blind swap cassette used in enclosures such as the 19-inch #5790, 5796 or Power 570 CEC.

With the optional pairing of adapters, an even higher level of protection beyond, auxiliary cache is provided via a dual controller I/O configuration to protect against the failure of an entire adapter. In such a high availability I/O configuration, SAS X cables are used to attach #5886 EXP 12S/#5887 EXP24S Expansion Drawers and the 4th mini-SAS connector (top) is used with an adapter to adapter (AA) SAS CABLE, (3M #3681, 6M #3682), to directly connect the card sets. Paired adapters must reside on the same server/partition for IBM i, but can be in the same or separate servers/partitions for AIX/Linux.

Highlights

- SAS speed = 3Gb/s
- SAS-SSP, SMP are supported
- Supports Single controller with SAS y cables(#3692, #3693, #3694) for #5886 EXP 12S/#5887 EXP24S or with SAS AI cables for Power 560/570 CEC
- Supports Dual controller with SAS x cables (#3661, #3662, #3663) and SAS (AA) cable(#3681 or #3682).
- Built-in auxiliary cache mirrors write cache for redundancy
- Attributes provided: PCI-X DDR 1.5GB Cache SAS RAID Adapter
- Attributes required: two adjacent PCI-X slots, #5922 if single controller, if paired controller use either #3681 or #3682 (AA) cables.
- Minimum required: 0
- Maximum allowed: 64 (Initial order maximum: 64)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5909) - Alternate SAS controller for 3 of 6 internal SAS Disk Slots

This feature allows 3 of the internal SAS disk slots (SAS disks slots 4, 5, and 6) in a CEC enclosure to be controlled by an alternate SAS controller. With this feature the connection to the 3 internal SAS disk slots is transferred from the internal controller to a Mini SAS 4x receptacle on the rear bulkhead of the CEC enclosure at adapter slot location P1-C3. This feature is contained entirely within slot location P1-C3. There are three port openings on the bulkhead delivered with this feature. The top port/connector (upper most) is linked to the 3 internal SAS disk slots. The middle port is covered with a label and is not supported for use. The bottom port/connector (lower most) is linked to the PCIe 4x SAS Controller included as part of this feature. An external cable, feature 3679 (or similar cable) is required to connect the Mini SAS 4x connector (top) linked to the internal slots with the Mini SAS 4x connector (bottom) linked to the PCIe 4x SAS Controller.

- Attributes provided: Alternate SAS controller for 3 of 6 internal SAS Disk slots.
- Attributes required: Slot P1-C3 in the CEC enclosure to which this feature is being added.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5911) - SAS adapter for internal Split DASD option

This feature allows half of the internal SAS disk slots in a Power 560 or Power 570 CEC enclosure to be controlled by an alternate SAS controller and provides another SAS connection for disk or removable media external to the CEC enclosure. With #5911, the connection to disk slots 4, 5 and 6 is transferred from the imbedded internal controller of the CEC to the #5911. The #5911 is located in PCIe slot location P1-C3 and is contained entirely within one PCIe slot. #5911 provides a functional superset of the earlier #5909.

#5911 has three mini SAS 4x connectors on its tailstock. The top connector (upper most) is linked to the CEC SAS disk backplane. The other two connectors are linked to the PCIe SAS adapter packaged/ included within the #5911 assembly. The 1 meter SAS cable #3679 is required to connect the top mini SAS 4x connector to either of the lower Mini SAS 4x connectors. The remaining mini SAS 4x connector (either of the lower connectors) can be attached to an EXP 12S Disk Drawer or a SAS removable media expansion unit.

Highlights

- Supports up to 27 SAS disks, when configured with two #5886 EXP 12S Disk Drawers and the internal disk slots.
- Removable Media Device Supported
- SAS speed = 3Gbs
- SATA speed = 1.5Gbs
- SAS Serial SCSI Protocol (SSP) , Serial ATA Tunneling Protocol (STP) and Serial Management Protocol (SMP)
- RAID 0 (with mirroring) and 10
- Concurrent Firmware Update

Limitation: IBM i does not support the direct use of this adapter, but can indirectly use it through VIOS. The 8234-EMA does not support VIOS.

- Attributes provided:
- Alternate SAS controller for 3 of 6 internal SAS Disk slots and another SAS connector for additional attachment
- Eight physical links via three mini SAS 4x connectors, one for connection to internal SAS disk slots
- Attributes required: Slot P1-C3 in the CEC enclosure to which this feature is being added.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5912) - PCI-X DDR Dual - x4 SAS Adapter

(No Longer Available as of July 11, 2014)

The PCI-X DDR Dual Connector x4 SAS Adapter is a low-profile short form factor adapter and is an excellent solution for high-performance applications. With proper cabling, multiple wide ports are used to provide redundant paths to each dual port SAS disk. The adapter manages SAS path redundancy and path switching should a SAS failure occur. RAID levels 0 and 10 are supported. FC 5912 may also be used in a High Availability configuration using two adapters.

Highlights

- Supports up to 48 SAS disks, when configured with four FC 5886 12S disk expansion drawers
- Removable Media Device Supported
- SAS speed = 3Gbs
- SATA speed = 1.5Gbs
- SAS Serial SCSI Protocol (SSP) , Serial ATA Tunneling Protocol (STP) and Serial Management Protocol (SMP)
- RAID 0 and 10
- Dual controller supports mirrored RAID parity footprints
- Concurrent Firmware Update
- Attributes provided: Eight physical links via two mini SAS 4x connectors
- Attributes required: One PCI-X 2.0 DDR slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5913) - PCIe2 1.8 GB Cache RAID SAS Adapter Tri-port 6 Gb

(No Longer Available as of December 31, 2016)

The PCIe2 1.8 GB Cache RAID SAS Adapter Tri-port 6 Gb (#5913) provides high performance HDD or SSD controller function using PCIe Gen2 technology. HDD and SSD can be either SFF or 3.5-inch drives (or both). A pair of adapters are required to provide mirrored write cache data and adapter redundancy. Integrated flash memory provides protection of the write cache without batteries in case of power failure.

The #5913 provides three Mini-SAS HD (high density) connectors for the attachment of SAS drives located in the #5887/EL1S EXP24S, #5886 EPX12S, or #5802/5803/EL36 12X PCIe I/O drawers. X, YO or AT SAS cables with HD connectors are used to attach to these drawers. A max of 3 EXP24S or 6 EXP12S can be attached. If controlling drives in a #5802/5803/EL36 the #5913 pairs must be located in that #5802/ 5803/EL36. An AA SAS cable with HD connectors is attached to the #5913 pair to communicate status and cache content information and is required unless all three ports are being used to attach I/O drawers.

The #5913 provides RAID 0, RAID 5, RAID 6 and RAID 10 for AIX and Linux and VIOS. The adapter provides RAID 5 and RAID 6 for IBM i. IBM i provides both OS mirroring and data spreading. AIX/Linux/VIOS provide OS mirroring (LVM). The adapter's CCIN is 57B5.

Limitation: 4k byte sector HDD/SSD are not supported. Only 5xx byte sector drives are supported on this generation of PCIe adapter

- Attributes provided: PCIe2 1.8 GB Cache RAID SAS Adapter
- Attributes required: One PCIe slot per #5913
- Minimum required: 0
- Maximum allowed: 136 (Initial order maximum: 136)
- OS level required:
 - AIX Version 7.1 with the 7100-01 Technology level or later
 - AIX Version 7.1 with Service Pack 3, or later
 - AIX Version 6.1 with the 6100-07 Technology Level or later
 - AIX Version 6.1 with the 6100-06 Technology Level, and Service Pack 5, or later
 - AIX Version 6.1 with the 6100-05 Technology Level, and Service Pack 6, or later
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 4, or later
 - IBM i 7.1, or later
 - IBM i 6.1 with 6.1.1 machine code 6.1.1 or later
 - Red Hat Enterprise Linux 5.7 for POWER, or later
 - Red Hat Enterprise Linux 6.1 for POWER, or later
 - Novel SUSE Linux Enterprise 10, Service Pack 4, or later
 - Novel SUSE Linux Enterprise 11 Service Pack 1, or later

Please find the required driver update for Linux under the following URL.

- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note:
 - Max of two per CEC
 - VIOS support requires VIOS 2.2.0.12-FP24 SP02 or later
 - For performance when more than four are in a #5803 or #5873, double looping is recommended.

Note: Although this adapter is supported on IBM i in a VIOS configuration, caution is recommended with workloads that are heavy writes, including system functions such as load/restore.

(#5915) - SAS AA Cable 3m - HD 6Gb Adapter to Adapter

This 3 meter SAS cable connects a pair of SAS adapters to each other. This AA cable has two Mini-SAS HD (High Density)connectors which connect the top connectors of two #5913 1.8GB RAID SAS Adapters. The cable provides a high performance path of all the dual controller communication including mirroring the write cache and status awareness of each card. This cable can support up to 6Gb throughput.

An AA cable is always required between a pair of #5913 adapters unless all six (three pair) of ports are used to attach I/O drawers. If an AA cable fails or is disconnected, then the information it was carrying is then sent over the cables attached to the I/O drawers, sharing their bandwidth.

Multiple cable length feature codes are available. Choose the cable length that best matches the distance between the two adapters.

- Attributes provided: high speed connection between two #5913 SAS adapters
- Attributes required: available top connectors on pair of #5913 SAS adapters
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5916) - SAS AA Cable 6m - HD 6Gb Adapter to Adapter

This 6 meter SAS cable connects a pair of SAS adapters to each other. This AA cable has two Mini-SAS HD (High Density)connectors which connect the top connectors of two #5913 1.8GB RAID SAS Adapters. The cable provides a high performance path of all the dual controller communication including mirroring the write cache and status awareness of each card. This cable can support up to 6Gb throughput.

An AA cable is always required between a pair of #5913 adapters unless all six (three pair) of ports are used to attach I/O drawers. If an AA cable fails or is disconnected, then the information it was carrying is then sent over the cables attached to the I/O drawers, sharing their bandwidth.

Multiple cable length feature codes are available. Choose the cable length that best matches the distance between the two adapters.

- Attributes provided: high speed connection between two #5913 SAS adapters
- Attributes required: available top connectors on pair of #5913 SAS adapters
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5917) - SAS AA Cable 1.5m - HD 6Gb Adapter to Adapter

This 1.5 meter SAS cable connects a pair of SAS adapters to each other. This AA cable has two Mini-SAS HD (High Density)connectors which connect the top connectors of two #5913 1.8GB RAID SAS Adapters. The cable provides a high performance path of all the dual controller communication including mirroring the write cache and status awareness of each card. This cable can support up to 6Gb throughput.

An AA cable is always required between a pair of #5913 adapters unless all six (three pair) of ports are used to attach I/O drawers. If an AA cable fails or is disconnected, then the information it was carrying is then sent over the cables attached to the I/O drawers, sharing their bandwidth.

Multiple cable length feature codes are available. Choose the cable length that best matches the distance between the two adapters.

- Attributes provided: high speed connection between two #5913 SAS adapters
- Attributes required: available top connectors on pair of #5913 SAS adapters
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: N/A
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5918) - SAS AA Cable 0.6m - HD 6Gb Adapter to Adapter

This 0.6 meter SAS cable connects a pair of SAS adapters to each other. This AA cable has two Mini-SAS HD (High Density)connectors which connect the top connectors of two #5913 1.8GB RAID SAS Adapters. The cable provides a high performance path of all the dual controller communication including mirroring the write cache and status awareness of each card. This cable can support up to 6Gb throughput.

An AA cable is always required between a pair of #5913 adapters unless all six (three pair) of ports are used to attach I/O drawers. If an AA cable fails or is disconnected, then the information it was carrying is then sent over the cables attached to the I/O drawers, sharing their bandwidth.

Multiple cable length feature codes are available. Choose the cable length that best matches the distance between the two adapters.

- Attributes provided: high speed connection between two #5913 SAS adapters
- Attributes required: available top connectors on pair of #5913 SAS adapters
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: N/A
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5921) - Non-paired PCIx SAS RAID Indicator

Add feature 5921 for every instance of a non-paired PCI-X DDR 1.5GB Cache SAS RAID Adapter (#5904, #5906, or #5908). IBM i does not support paired adapter on different servers.

- Attributes required: For each non-paired PCI-X DDR 1.5GB Cache SAS RAID Adapter #5921 is required.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5922) - Non-paired SAS RAID indicator

Feature 5922 must be added for every instance of a non-paired SAS RAID adapter #5902. It identifies a specific high availability configuration supported by AIX or Linux which has one #5902 on one system and the paired #5902 located on a second system.

Limitation: IBM i systems must have both adapters on the same server.

- Attributes provided: SAS RAID adapter firmware disables write cache until a second SAS RAID adapter is recognized.
- Attributes required: Every #5922 requires a SAS RAID adapter on both this server and on another server that will pair up the SAS RAID adapter and enable the onboard caches to function.
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#5923) - Non-paired PCIe SAS RAID Indicator

(No longer available as of April 24, 2020)

Feature 5923 must be added for every instance of a non-paired SAS RAID adapter #5903. It identifies a specific high availability configuration supported by AIX or Linux which has one #5903 on one system and the paired #5903 located on a second system. IBM i does not support paired adapter on different servers.

- Attributes provided: SAS RAID adapter firmware disables write cache until a second SAS RAID adapter is recognized.
- Attributes required: Every #5923 requires a SAS RAID adapter (#5903) on both this server and on another server that will pair up the SAS RAID adapter and enable the onboard caches to function.
- Minimum required: 0
- Maximum allowed: 184 (Initial order maximum: 184)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5924) - Non-paired Indicator 5913 PCIe SAS RAID Adapter

(No longer available as of April 24, 2020)

Feature 5924 must be added for every instance of a non-paired SAS RAID adapter #5913. It identifies a specific high availability configuration supported by AIX or Linux which has one #5913 on one system and the paired #5913 located on a second system. IBM i does not support paired adapter on different servers.

- Attributes provided: SAS RAID adapter firmware disables write cache until a second SAS RAID adapter is recognized.
- Attributes required: Every #5924 requires a 6Gb/s SAS RAID adapter (#5913) on both this server and on another server that will pair up the SAS RAID adapter and enable the onboard caches to function.
- Minimum required: 0
- Maximum allowed: 136 (Initial order maximum: 136)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5951) - Full Width Keyboard -- USB, US English, #103P

(No Longer Available as of August 31, 2012)

This feature provides a USB attached US English #103P Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5952) - Full Width Keyboard -- USB, French, #189

(No Longer Available as of August 31, 2012)

This feature provides a USB attached French #189 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5953) - Full Width Keyboard -- USB, Italian, #142

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Italian #142 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5954) - Full Width Keyboard -- USB, German/Austrian, #129

(No Longer Available as of August 31, 2012)

This feature provides a USB attached German/Austrian #129 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5955) - Full Width Keyboard -- USB, UK English, #166P

(No Longer Available as of August 31, 2012)

This feature provides a USB attached UK English #166 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5956) - Full Width Keyboard -- USB, Spanish, #172

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Spanish #172 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5957) - Full Width Keyboard -- USB, Japanese, #194

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Japanese #194P Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5958) - Full Width Keyboard -- USB, Brazilian Portuguese, #275

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Brazilian Portuguese #275 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5959) - Full Width Keyboard -- USB, Hungarian, #208

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Hungarian #208 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5960) - Full Width Keyboard -- USB, Korean, #413

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Korean #413 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5961) - Full Width Keyboard -- USB, Chinese, #467

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Chinese #467 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5962) - Full Width Keyboard -- USB, French Canadian, #445

(No Longer Available as of August 31, 2012)

This feature provides a USB attached French Canadian #445 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5963) - Full Width Keyboard -- USB, Canadian French, #058

This feature provides a USB attached Canadian French #058 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#5964) - Full Width Keyboard -- USB, Belgian/UK, #120

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Belgian/UK #120 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5965) - Full Width Keyboard -- USB, Swedish/Finnish, #153

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Swedish/Finnish #153 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5966) - Full Width Keyboard -- USB, Danish, #159

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Danish #159 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5967) - Full Width Keyboard -- USB, Bulgarian, #442

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Bulgarian #442 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5968) - Full Width Keyboard -- USB, Swiss/French/German, #150

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Swiss, French/German #150 /F/G Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5969) - Full Width Keyboard -- USB, Norwegian,#155

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Norwegian #155 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5970) - Full Width Keyboard -- USB, Dutch, #143

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Dutch #143 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5971) - Full Width Keyboard -- USB, Portuguese, #163

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Portuguese #163 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5972) - Full Width Keyboard -- USB, Greek, #319

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Greek #319 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5973) - Full Width Keyboard -- USB, Hebrew, #212

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Hebrew #212 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5974) - Full Width Keyboard -- USB, Polish, #214

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Polish #214 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5975) - Full Width Keyboard -- USB, Slovakian, #245

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Slovakian #245 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5976) - Full Width Keyboard -- USB, Czech, #243

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Czech #243 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5977) - Full Width Keyboard -- USB, Turkish, #179

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Turkish #179 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5978) - Full Width Keyboard -- USB, LA Spanish, #171

(No Longer Available as of August 31, 2012)

This feature provides a USB attached LA Spanish #171 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5979) - Full Width Keyboard -- USB, Arabic, #253

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Arabic #253 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5980) - Full Width Keyboard -- USB, Thai, #191

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Thai #191 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5981) - Full Width Keyboard -- USB, Russian, #443

(No Longer Available as of August 31, 2012)

Downloaded from Arrow.com

This feature provides a USB attached Russian #443 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5982) - Full Width Keyboard -- USB, Slovenian, #234

(No Longer Available as of August 31, 2012)

This feature provides a USB attached Slovenian #234 Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#5983) - Full Width Keyboard -- USB, US English Euro, #103P

(No Longer Available as of August 31, 2012)

This feature provides a USB attached US English EURO #103P Quiet Touch keyboard with a 3m cable. The two built-in USB ports conveniently provide for additional expansion.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6001) - Power Control Cable (SPCN) - 2 meter

This feature provides a two-meter power control cable.

- Attributes provided: 2M power control cable
- Attributes required: I/O drawer
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6006) - Power Control Cable (SPCN) - 3 meter

(No longer available as of April 19, 2019)

This feature provides a three-meter power control cable.

- Attributes provided: 3M power control cable.
- Attributes required: two drawers in the same rack.
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

Note: Each system with two or more CEC enclosures requires one SPCN cable to connect the Service Interface Card in the first enclosure (uppermost enclosure in the stack) with the Service Interface Card in the second enclosure.

(#6007) - Power Control Cable (SPCN) - 15 meter

(No longer available as of April 19, 2019)

This feature provides a fifteen-meter power control cable.

- Attributes provided: 15M power control cable.
- Attributes required: I/O drawer
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6008) - Power Control Cable (SPCN) - 6 meter

This feature provides a six-meter power control cable.

- Attributes provided: 6M power control cable
- Attributes required: I/O drawer
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6029) - Power Control Cable (SPCN) - 30 meter

This feature provides a thirty-meter power control cable.

- Attributes provided: 30M power control cable.
- Attributes required: two drawers in the same rack.
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6068) - Opt Front Door for 1.8m Rack

#6068 provides an attractive black full height rack door on the #0551 19 Inch 1.8m Rack. The door is steel, with a perforated flat front surface. The perforation pattern extends from the bottom to the top of the door to enhance ventilation and provide some visibility into the rack.

- Attributes provided: Front Door
- Attributes required: #0551 19 inch 1.8m Rack
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#6069) - Opt Front Door for 2.0m Rack

#6069 provides an attractive black full height rack door on the #0553 19 inch 2.0m Rack. The door is steel, with a perforated flat front surface. The perforation pattern extends from the bottom to the top of the door to enhance ventilation and provide some visibility into the rack.

- Attributes provided: Front Door
- Attributes required: #0553 19 inch 2.0 meter Rack
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#6246) - 1.8m Rack Trim Kit

#6246 provides a decorative trim kit for the front of an #0551 19 inch 1.8m Rack.

- Attributes provided: Decorative trim kit
- Attributes required: #0551 19 inch 1.8m Rack
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No
Note: Feature code #6246 is supported on 1-drawer 9117-MMB configurations only. Configurations with 2, 3, or 4-drawers should use feature code #6263.

(#6247) - 2.0m Rack Trim Kit

#6247 provides a decorative trim kit for the front of a #0553 19 inch 2.0m Rack.

- Attributes provided: Decorative trim kit
- Attributes required: #0553 19 inch 2.0 meter Rack
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No
Note: Feature code #6247 is supported on 1-drawer 9117-MMB configurations only. Configurations with 2, 3, or 4-drawers should use feature code #6272.

(#6248) - 1.8m Rack Acoustic Doors

#6248 provides front and rear doors for use with the #0551 19 inch 1.8m Rack. This door kit provides additional acoustic dampening for use where a quieter environment is desired. #6248 results in a larger footprint and requires additional space.

- Attributes provided: Acoustic Door Kit
- Attributes required: #0551 19 inch 1.8m Rack
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#6249) - 2.0m Rack Acoustic Doors

#6249 provides front and rear doors for use with the #0553 19 inch 2.0m Rack. This door kit provides additional acoustic dampening for use where a quieter environment is desired. #6249 results in a larger footprint and requires additional space.

- Attributes provided: Acoustic Door Kit
- Attributes required: #0553 19 inch 2.0 meter Rack
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#6263) - 1.8m Rack Trim Kit

This feature provides a decorative trim kit for the front of feature number 0551 (19 inch 1.8m Rack).

- Attributes provided: Decorative trim kit
- Attributes required: #0551 19 inch 1.8m Rack
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No
Note: 1x6263 per 0551 Feature #6263 will be needed when upgrading from a 9117-MMA to a multi-enclosure 9117-MMB.

(#6272) - 2.0m Rack Trim Kit

This feature provides a decorative trim kit for the front of feature number 0553 (19 inch 2.0m Rack).

- Attributes provided: Decorative trim kit
 - Attributes required: #0553 19 inch 2.0 meter Rack
 - Minimum required: 0
 - Maximum allowed: 999 (Initial order maximum: 0)
 - OS level required: n/a
 - Initial Order/MES/Both/Supported: MES
 - CSU: Yes
 - Return parts MES: No
- Note: 1x6272 per 0551 Feature #6272 will be needed when upgrading from a 9117-MMA to a multi-enclosure 9117-MMB.

(#6417) - RIO-2 Bus Adapter

The #6417 feature allows existing HSL and optical HSL connected towers the option of switching to copper RIO-2 connectivity. The #6417 has two RIO-2 ports and provides connectivity for #0595, #5094, and #5294 PCI expansion towers and expansion units.

- Attributes provided: Two ports of RIO-2 connectivity
- Attributes required: Bus adapter slot in PCI expansion tower/unit
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#6438) - RIO-2 Remote I/O Loop Adapter for #5790

This feature provides two RIO-2 Remote I/O ports for attaching the I/O drawer to a server. Up to four I/O drawers can be included in a single loop.

- Attributes provided: Two RIO-2 Remote I/O ports
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#6446) - Dual-port 12X Channel Attach- Short Run

(No Longer Available as of July 27, 2012)

This Adapter is the interface for attachment of the I/O Drawer to a 12X Channel loop. The adapter includes two 12X Channel connectors to support attachment of the I/O drawer into the loop. This adapter does not include the repeater function and is intended to support configurations where the Host system and the external I/O drawers in the loop are located in the same rack.

Cables attached to this adapter have the following restrictions. Cables between this adapter and a host system may not exceed 3.0 Meters in length. Cables between two I/O Drawers may not exceed 1.5 Meters if both I/O drawers include this Short Run adapter feature #6446. Cables between two I/O Drawers may not exceed 3.0 Meters if either of the I/O drawers includes this Short Run adapter feature #6446. The required 12X Cables are ordered under a separate feature number.

- Attributes provided: 12X Channel Interface Connection
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 32 (Initial order maximum: 32)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6451) - 4.3m (14-Ft) 250V/10A Power Cord

#6451 is a 14-foot 250V/10A power cord that distributes power from a wall outlet to a system unit. #6451 has a type 69 plug and a right-angle IEC320 C13 connector.

- Attributes provided: Power cord
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6455) - 4.3m (14-Ft) 250V/10A Power Cord

#6455 is a 14-foot 250V/10A power cord that distributes power from a wall outlet to a system unit. #6455 has a type 5 plug and a right-angle IEC320 C13 connector.

- Attributes provided: Power cord
- Attributes required: N/A
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6457) - Dual-port 12X Channel Attach- Long Run

(No Longer Available as of July 27, 2012)

This Adapter is the interface for attachment of the I/O Drawer to a 12X Channel loop. The adapter includes two 12X channel connectors to support attachment of the drawer into the loop. This adapter includes the repeater function and can support longer cable loops allowing drawers to be located in adjacent racks. 12X Cables up to 8 Meters in length can be attached to this adapter. The required 12X Cables are ordered under a separate feature number.

- Attributes provided: 12X Channel Interface Connection
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 32 (Initial order maximum: 32)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6458) - Power Cable -- Drawer to IBM PDU, 14-foot, 250V/10A

Standard IBM rack power cable that goes from the system or I/O drawer to the rack power distribution unit (PDU).

- Attributes provided: Power cable
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6459) - 3.7m (12-Ft) 250V/10A RA Pwr Cd

(No Longer Available as of November 26, 2010)

#6459 is a 12-foot 250V/10A power cord that distributes power from a Power Distribution Unit to a drawer in an expansion tower/ rack. #6459 has an IEC320 C14 plug and a right-angle IEC320 C13 connector.

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6460) - Power Cord 4.3m (14-ft), Drawer To OEM PDU (125V, 15A)

This power cord goes from the system or I/O drawer to the rack power distribution unit or wall socket outlet. Plug type #4 (NEMA 5-15). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. 14-foot length. The following countries/regions use the #6460 power cord to power the system and/or peripheral features requiring a power cord: United States, Antigua & Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Bonaire, Calicos Islands, Canada, Cayman Islands, Colombia, Costa Rica, Cuba, Curacao, Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Guyana, Haiti, Honduras, Jamaica, Japan, Mexico, Micronesia, Montserrat, Netherlands Antilles, Nicaragua, Panama, Peru, Philippines, St. Kitts/Nevis, St. Martin, Taiwan, Tortola (BVI), Trinidad/Tobago, Venezuela.

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

#6461 is a 14-foot 250V/10A power cord that distributes power from a wall outlet to a system unit. #6461 has a type 18 plug and a right-angle IEC320 C13 connector.

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6462) - 4.3m (14-Ft) 250V/10A Power Cord

#6462 is a 14-foot 250V/10A power cord that distributes power from a wall outlet to a system unit. #6462 has a type 19 plug and a right-angle IEC320 C13 connector.

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6463) - 4.3m (14-Ft) 250V/10A Power Cord

#6463 is a 14-foot 250V/10A power cord that distributes power from a wall outlet to a system unit. #6463 has a type 23 plug and a right-angle IEC320 C13 connector.

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6464) - 4.3m (14-Ft) 250V/10A Power Cord

#6464 is a 14-foot 250V/10A power cord that distributes power from a wall outlet to a system unit. #6464 has a type 32 plug and a right-angle IEC320 C13 connector.

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6465) - 4.3m (14-Ft) 250V/10A Power Cord

#6465 is a 14-foot 250V/10A power cord that distributes power from a wall outlet to a system unit. #6465 has a type 24 plug and a right-angle IEC320 C13 connector.

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6466) - 4.3m (14-Ft) 250V/10A Power Cord

#6466 is a 14-foot 250V/10A power cord that distributes power from a wall outlet to a system unit. #6466 has a type 22 plug and a right-angle IEC320 C13 connector.

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6467) - 4.3m (14-Ft) 250V/10A Power Cord

#6467 is a 14-foot 250V/10A power cord that distributes power from a wall outlet to a system unit. #6467 has a type 25 plug and a right-angle IEC320 C13 connector.

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6469)-Power Cord 4.3m (14-ft), Drawer to Wall/OEM PDU, (250V, 15A), U.S.

This power cord goes from system or I/O drawer to the wall or rack power distribution unit. Plug type #5 (NEMA 6-15). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. 14-foot length. The following countries/regions use the #6469 power cord to power the system and/or peripheral features requiring a power cord: United States, Anguilla, Antigua & Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Bonaire, Caicos Is., Canada, Cayman Islands, Colombia, Costa Rica, Cuba, Curacao, Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Jamaica, Japan, Micronesia, Montserrat, Netherlands Antilles, Nicaragua, Panama, Peru, Philippines, St. Marten NA, Taiwan, Tortola (BVI), Thailand, Venezuela.

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6470) - Power Cord 1.8m(6-foot), To Wall (125V, 15A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #4 (NEMA 5-15). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. 6-foot length. The following countries/regions use the #6470 power cord to power the system and/or peripheral features requiring a power cord: United States, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Bonaire, Calicos Islands, Canada, Cayman Islands, Colombia, Costa Rica, Cuba, Curacao, Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Guyana, Haiti, Honduras, Jamaica, Japan, Mexico, Micronesia, Montserrat, Netherlands Antilles, Nicaragua, Panama, Peru, Philippines, St. Kitts/Nevis, St. Martin, Taiwan, Tortola (BVI), Trinidad/Tobago, Venezuela.

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6471) - Power Cord 2.7m (9-foot), To Wall/OEM PDU, (125V, 15A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #70 (iNMETRO NBR 6147, NEMA 5-15). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6471 power cord to power the system and/or peripheral features requiring a power cord: Brazil

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6472) - Power Cord 2.7m (9-foot), To Wall/OEM PDU, (250V, 16A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #18 (CEE 7 VII). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6472 power cord to power the system and/or peripheral features requiring a power cord: Afghanistan, Albania, Algeria, Andorra, Angola, Armenia, Austria, Belarus, Belgium, Benin, Bosnia/Herzegovina, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Croatia, Czech Republic, Dahomey, Djibouti, Egypt, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Finland, France, French Polynesia, French Guyana, Gabon, Georgia, Germany, Greece, Guadeloupe, Guinea, Guinea-Bissau, Hungary, Iceland, Indonesia, Iran, Ivory Coast, Kazakhstan, Kyrgyzstan, Laos, Latvia, Lebanon, Lithuania, Luxembourg, Macau, Macedonia, Mali, Martinique, Mauritania, Mauritius, Mayotte, Moldova, Monaco, Mongolia, Morocco, Mozambique, Netherlands, New Caledonia, Niger, North Korea (C19 only), Norway, Poland, Portugal, Principe, Reunion, Romania, Russia, Rwanda, St. Thomas, Saudi Arabia, Senegal, Serbia, Slovenia, Somalia, South Korea (C19 only), Spain, Surinam, Sweden, Syria, Tahiti, Tajikistan, Togo, Tunisia, Turkey, Turkmenistan, Ukraine, Upper Volta, Uzbekistan, Vanuatu, Vietnam, Wallis & Futuna, Zaire, Zimbabwe.

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6473) - Power Cord 2.7m (9-foot), To Wall/OEM PDU, (250V, 10A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #19 (CEE). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6473 power cord to power the system and/or peripheral features requiring a power cord: Denmark

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6474) - Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 13A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #23 (BS 1364A). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6474 power cord to power the system and/or peripheral features requiring a power cord: Abu Dhabi, Bahrain, Botswana, Brunei, Channel Islands, Cyprus, Dominica, Gambia, Grenada, Grenadines, Guyana, Hong Kong, Iraq, Ireland, Jordan, Kenya, Kuwait, Liberia, Malawi, Malaysia, Malta, Myanmar, Nigeria, Oman, Qatar, Sierra Leone, Singapore, St. Kitts, St. Lucia, Seychelles, Sudan, Tanzania, Trinidad & Tobago, United Arab Emirates, United Kingdom, Yemen, Zambia

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6475) - Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 16A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #32 (SII 32-1971). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6475 power cord to power the system and/or peripheral features requiring a power cord: Israel

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6476) - Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 10A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #24 (SEV 24507). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6476 power cord to power the system and/or peripheral features requiring a power cord: Lichtenstein Switzerland

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #22 (SABS 164). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6477 power cord to power the system and/or peripheral features requiring a power cord: Bangladesh LeSotho Maceo Maldives Nambia Pakistan Samoa South Africa Sri Lanka Swaziland Uganda

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6478) - Power Cord 2.7 M(9-foot), To Wall/OEM PDU, (250V, 16A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #25 (CEI 23-16). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6478 power cord to power the system and/or peripheral features requiring a power cord: Chile Italy Libya

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6479) - Power Cord (9-foot) , To Wall/OEM PDU, (250V, 10A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #6 (AS 3112-1964 NZS 198). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6479 power cord to power the system and/or peripheral features requiring a power cord: Australia Fiji Islands Kiribati Nauru New Zealand Papua New Guinea W. Samoa

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6487) Power Cord 1.8M (6-foot),To Wall, (250V, 15A), United States

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #5 (NEMA 6-15). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. 6-foot length. The following countries/regions use the #6487 power cord to power the system and/or peripheral features requiring a power cord: United States, Anguilla, Antigua & Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Bonaire, Caicos Is., Canada, Cayman Islands, Colombia, Costa Rica, Cuba, Curacao, Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Jamaica, Japan, Micronesia, Montserrat, Netherlands Antilles, Nicaragua, Panama, Peru, Philippines, St. Marten NA, Taiwan, Tortola (BVI), Thailand, Venezuela.

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6488) Power Cord 2.7M (9-foot), To Wall/OEM PDU, (125V, 15A or 250V, 10A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. 125V, 15A or 250V, 10A, Plug Type #2. Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6488 power cord to power the system and/or peripheral features requiring a power cord: Argentina Paraguay Uruguay

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6489) - 4.3m (14-Ft) 3PH/24A Power Cord

#6489 is a 14-FT/4.3m 3PH/24A power cable with a Type 46 plug which distributes power from a power source to a Power Distribution Unit.

- Attributes provided: power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#6491) - 4.3m (14-Ft) 1PH/48A Pwr Cord

#6491 is a 14-FT/4.3m 200-240V/48A power cord with a Type 46 plug which distributes power from a power source to a Power Distribution Unit.

- Attributes provided: power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#6492) - 4.3m (14-Ft) 1PH/48-60A Pwr Cord

#6492 is a 14-FT/4.3m 200-240V/48A power cord with a Type 46 plug which distributes power from a power source to a Power Distribution Unit.

- Attributes provided: power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#6493) - Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 10A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #62 (GB 1053). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6493 power cord to power the system and/or peripheral features requiring a power cord: People's Republic of China

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6494) - Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 10A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #69 (IS 6538). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6494 power cord to power the system and/or peripheral features requiring a power cord: India

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6495) - Power Cord (9-foot), To Wall/OEM PDU, (250V, 10A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #73. Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6495 power cord to power the system and/or peripheral features requiring a power cord: Brazil

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6496) - Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 10A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #66 (KETI). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6496 power cord to power the system and/or peripheral features requiring a power cord: North Korea South Korea

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6497) - Power Cord (6-foot), To Wall/OEM PDU, (250V, 10A)

(No longer available as of April 19, 2019)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #10 (NEMA L6-15). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6497 power cord to power the system and/or peripheral features requiring a power cord: Canada Colombia Japan Mexico United States

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6498) - Power Cord (6-foot), To Wall/OEM PDU, (250V, 15A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #34 (RS 3720U-2). Refer to Corporate Bulletin C-B-2-43700-009 for a description of plug types. The following countries/regions use the #6498 power cord to power the system and/or peripheral features requiring a power cord: Canada Japan United States

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6577) - Power Cable - Drawer to IBM PDU, 200-240V/10A

This feature permits manufacturing to select the optimum PDU cable length (1.5M, 2.7M or 4.2M) for rack integration. This feature is mandatory on initial order with 7014-T00 or T42 racks. Feature is not valid on initial order with non-factory integrated feature 4650.

- Attributes provided: Power cable
- Attributes required: At least one Rack and the absence of #4650.
- Minimum required: 0
- Maximum allowed: 390 (Initial order maximum: 390)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: 1 or 2 per I/O drawer or CEC. MES orderable for SDI's only. The MES order will ship the 14 foot cable equivalent to feature number 6458.

(#6580) - Optional Rack Security Kit

This feature provides hardware that can be added to a rack to prevent unauthorized access. It includes keyed front and rear locks for the #0553 rack doors. It also includes two sliding bars that mount inside the left and right rack side panels. The sliding bars are accessible when the rack rear door is open. They can be moved to a position that disables the external latches on the rack side panels, and prevents removal of the side panels.

- Attributes provided: Locking hardware for rack doors and sidepanels
- Attributes required: #0553 19-Inch Rack
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#6586) - Modem Tray for 19-Inch Rack

(No Longer Available as of December 29, 2017)

This feature provides hardware for installing one or two modems in a 19-inch rack. The modem tray occupies 1U of rack space when it is mounted in the front of the rack. It provides a secure location in the rack for external modems such as the ones attached to the Hardware Management Console.

- Attributes provided: Hdw. to support two modems
- Attributes required: 19-inch rack with 1U rack space available
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#6651) - Power Cord 2.7M (9-foot), To Wall/OEM PDU, (125V, 15A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #75 (KETI). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6651 power cord to power the system and/or peripheral features requiring a power cord: Taiwan

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6654) - 4.3m (14-Ft) 1PH/24-30A Pwr Cord

#6654 is a 14-FT/4.3m 200-240V/24A locking power cord with a Type 12 plug which distributes power from a power source to a Power Distribution Unit.

- Attributes provided: power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#6655) - 4.3m (14-Ft) 1PH/24-30A WR Pwr Cord

#6655 is a 14-FT/4.3m 200-240V/24A water-resistant power cord with a Type 40 plug which distributes power from a power source to a Power Distribution Unit.

- Attributes provided: power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#6656) - 4.3m (14-Ft) 1PH/24A Power Cord

#6656 is a 14-FT/4.3m 200-240V/24A power cord with a Type 46 plug which distributes power from a power source to a Power Distribution Unit.

- Attributes provided: power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#6659) - Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 15A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #76 (KETI). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6659 power cord to power the system and/or peripheral features requiring a power cord: Taiwan

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6660) - Power Cord (14-foot), Drawer To OEM PDU (125V, 15A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #59 (NEMA 5-15). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. 14-foot length. This power cord meets the DENAN marking requirement in Japan.

- Attributes provided: Power Cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#6664) - 2.1m (7-Ft) 200V PDU Power Cable

This feature provides a power cord for connecting an I/O drawer to an IBM PDU within a rack. The power connector to the drawer is at a 90 degree angle to the power cord. The length of this cable (7 feet) may not meet cabling requirements in all rack locations.

- Attributes provided: Right Angle power cable
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6665) - Power Cord 3 M (10 ft), Drawer to IBM PDU, 250V/10A

Standard IBM rack power cable that goes from the system or I/O drawer to the rack power distribution unit (PDU). 3 M (10-foot) length. Use this cord with PDUs that have IEC320/C19 connectors.

- Attributes provided: Power Cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6669) - Power Cord 4.3M (14-foot), Drawer to OEM PDU, (250V, 15A)

This power cord goes from the system or I/O drawer to the rack power distribution unit. Plug type #57 (NEMA 6-15). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. 14-foot length. This power cord meets the DENAN marking requirement in Japan.

- Attributes provided: Power Cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6670) - Power Cord (6-foot), To Wall (125V, 15A),

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #59 (NEMA 5-15). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. 6-foot length. This power cord meets the DENAN marking requirement in Japan.

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6671) - Power Cord 2.7M (9-foot), Drawer to IBM PDU, 250V/10A

Standard IBM rack power cable that goes from the system or I/O drawer to the rack power distribution unit (PDU). 9-foot length.

- Attributes provided: Power Cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6672) - Power Cord 2M (6.5-foot), Drawer to IBM PDU, 250V/10A

Standard rack power cable that goes from the system or I/O drawer to the rack power distribution unit (PDU). 6.5-foot length.

- Attributes provided: Power Cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6680) - Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 10A)

This insulated power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #6 (AS 3112-1964 NZS 198). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. The following countries/regions use the #6680 power cord to power the system and/or peripheral features requiring a power cord: Australia Fiji Islands Kiribati Nauru New Zealand Papua New Guinea W. Samoa

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6687) - Power Cord (6-foot), To Wall, (250V, 15A)

This power cord goes from the system and/or peripheral features to a wall-type outlet. Plug type #57 (NEMA 6-15). Refer to Corporate Bulletin C-B-2-4700-009 for a description of plug types. 6-foot length. This power cord meets the DENAN marking requirement in Japan.

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6699) - RIO-2 Bus Adapter

The #6699 feature allows RIO-2 connectivity for #0595. The #6699 has two RIO-2 ports and provides connectivity for #0595 PCI/SCSI Disk expansion drawers.

- Attributes provided: Two ports of RIO-2 connectivity
- Attributes required: Bus adapter slot in #0595 PCI/SCSI Disk expansion drawer
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#6805) - PCI 2-Line WAN IOA No IOP

Feature #6805 is a 2 RVX port WAN IOA that supports multiple protocols on Asynchronous and Synchronous Mode connections

On the IBM i Operating system, the #6805 may be used either with or without an IOP.

- When under an IOP, #6805 supports PPP (Point to Point Protocol), ASC (Async), and Fax protocols on an Asynchronous Connection, and PPP, BSC (Bisync), SDLC , X.25, and FR (Frame Relay) protocols on a Synchronous Connection
- When the #6805 is IOPlless, it supports PPP, ASC, and Fax protocols on an Asynchronous Connection, but only supports Synchronous PPP, and BSC (Bisync) protocols on a Synchronous Connection.

Connection	With an IOP	IOPlless
Asynchronous Connection:		
PPP (Point to Point Protocol)	Yes	Yes
ASC (Async)	Yes	Yes
FAX	Yes	Yes
Synchronous Connection:		
Sync PPP	Yes	Yes
BSC (Bisync)	Yes	Yes
SDLC	Yes	No
X.25	Yes	No
FR (Frame Relay)	Yes	No

The #6805 supports SNA only if configured with an IOP. If SNA is required in an IOPlless environment, IBM i Enterprise Extender supports SNA over a LAN Connection and encapsulates the SNA frame within a TCP/IP frame.

The following self-configuring cables provide the physical connections to #6805:

- #0348 - V.24/EIA232 20-Ft PCI Cable
- #0349 - V.24/EIA232 50-Ft PCI Cable (support only, not orderable)
- #0353 - V.35 20-Ft PCI Cable
- #0354 - V.35 50-Ft PCI Cable (support only, not orderable)
- #0356 - V.36 20-Ft PCI Cable
- #0358 - V.36 80-Ft PCI Cable (support only, not orderable)
- #0359 - X.21 20-Ft PCI Cable
- #0360 - X.21 50-Ft PCI Cable (support only, not orderable)
- #0365 - V.24/EIA232 80-Ft PCI Cable (support only, not orderable)
- #0367 - Operations Console PCI Cable

Note: The #0367 cable ships with a 25 pin to 9 pin adapter. Multiple #0367 cables may be ordered (but only one per #6805) to serve as consoles for secondary partitions when Logical Partitioning is utilized.

When #6805 is selected to support ECS, one of following cables must be specified:

- #0348 V.24/EIA232 20-Ft PCI Cable
- #0349 V.24/EIA232 50-Ft PCI Cable (support only, not orderable)
- #0365 V.24/EIA232 80-Ft PCI Cable (support only, not orderable)

#6805 does not support remote power-on.

IOPs are not supported on POWER7 systems.

- Attributes provided: two RVX comm ports
- Attributes required: one 3V PCI/PCI-X slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for Linux.
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#6808) - PCI 4-Modem WAN IOA No IOP

(No Longer Available as of April 29, 2011)

The #6808 is a four-line WAN modem adapter, with four RJ-11 ports, it supports V.92 56K Async SLIP/PPP and V.34 Fax applications at data rates up to 33.6K via integrated modems. Connection to the V.92 ports is via telephone cable. The V.92 functions offer increased upload throughput, improved V.44 data compression, and shortened modem synchronization periods.

The call waiting and modem on hold functions associated with V.92 are not supported.

Remote power on via ring-indicator and SDLC are not supported.

#6808 does not support SNA communications except through the IBM i V5R4 Enterprise Extender function.

#6808 does not have complex impedance matching (CIM).

This version of the four-line WAN modem adapter does not require an I/O processor.

#6808 does not make use of an IOP.

A minimum of one modem cable must be ordered for each #6808. All modem cables installed on a system must be the same feature number.

- #1010 Modem Cable - Austria
- #1011 Modem Cable - Belgium
- #1012 Modem Cable - Africa
- #1013 Modem Cable - Israel (supported only, not orderable)
- #1014 Modem Cable - Italy
- #1015 Modem Cable - France
- #1016 Modem Cable - Germany
- #1017 Modem Cable - UK
- #1018 Modem Cable - Iceland/Sweden
- #1020 Modem Cable - HK/NZ
- #1021 Modem Cable - Fin/Nor
- #1022 Modem Cable - Netherlands
- #1023 Modem Cable - Swiss
- #1024 Modem Cable - Denmark
- #1025 Modem Cable - US/Canada
- Attributes provided: four WAN ports
- Attributes required: one PCI slot
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 192)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for Linux.
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#6833) - PCI 2-Line WAN w/Modem NoIOP

The #6833 is a 2-line/port WAN w/modem adapter. This feature is the non-CIM (Complex Impedance Matching) version offered in all countries except Australia and New Zealand.

Port 0 is the modem port and supports V.92 56K Async PPP, V.92 data modem, V.44 data compression, V.34 FAX modem and FAX functions, such as ECM and 2D/1D conversion. Port 0 does not provide Sync modem capabilities (SDLC and Sync PPP).

Port 1 is the RVX port and supports multiple communications protocols, including synchronous operations.

Select one of the following cables to attach to port 0(modem port):

- #1010 Modem Cable - Austria
- #1011 Modem Cable - Belgium
- #1012 Modem Cable - Africa
- #1013 Modem Cable - Israel (supported not orderable)
- #1014 Modem Cable - Italy
- #1015 Modem Cable - France
- #1016 Modem Cable - Germany
- #1017 Modem Cable - UK
- #1018 Modem Cable - Iceland/Sweden
- #1020 Modem Cable - HK/NZ
- #1021 Modem Cable - Fin/Nor
- #1022 Modem Cable - Netherlands
- #1023 Modem Cable - Swiss
- #1024 Modem Cable - Denmark
- #1025 Modem Cable - US/Canada

Select one of the following cables to attach to port 1(RVX port):

- #0348 - V.24/EIA232 20-Ft PCI Cable
- #0353 - V.35 20-Ft PCI Cable
- #0356 - V.36 20-Ft PCI Cable (supported only, not orderable)
- #0359 - X.21 20-Ft PCI Cable
- #0367 - Operations Console PCI Cable (ships with a 25 pin to 9 pin adapter)
 - Multiple #0367 cables can be ordered (but only one per #6833) to serve as consoles for secondary partitions when Logical Partitioning is utilized.

ECS is supported from both the modem port, and the RVX port. The following cable is required to support ECS from the RVX port:

- #0348 - V.24/EIA232 20-Ft PCI Cable

The #6833 does not support the remote ring indicate function.

#6833 does not support SNA communications except through IBM i V5R4 Enterprise Extender function.

- Attributes provided: One RVX port and one integrated modem port
- Attributes required: One PCI slot (3 volt)
- Minimum required: 0
- Maximum allowed: 192 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for Linux.
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#7099) - Cable Restraint Hardware- excess Service Interface Cable

This feature provides the hardware necessary to secure the Service Interface Cable connectors that are not attached to a CEC enclosure. This feature is required when a system is ordered with a Service Interface Cable that is larger than the system configuration that is being ordered. If this feature is ordered on an Initial System order with a rack, an equal quantity of feature #9570 must be ordered with this feature to secure space to mount the cable restraint hardware. If this feature is ordered on a system order without a rack, 4 EIA of space must be reserved in the customers rack to mount this feature.

- Attributes provided: Service Interface Cable restraint hardware
- Attributes required: Service Interface Cable larger than the System Configuration
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7109) - Intelligent PDU+, 1 EIA Unit, Universal UTG0247 Connector

(No longer available as of April 24, 2020) This feature is for an intelligent AC power distribution unit (PDU+) that will allow the user to monitor the amount of power being used by the devices that are plugged in to this PDU+. This AC power distribution unit provides twelve C13 power outlets. It receives power through a UTG0247 connector. It can be used for many different countries and applications by varying the PDU to Wall Power Cord, which must be ordered separately. Each PDU requires one PDU to Wall Power Cord. Supported power cords include the following features: #6489, #6491, #6492, #6653, #6654, #6655, #6656, #6657, and #6658.

- Attributes provided: Twelve C13 outlets with Power Monitoring Capability
 - Attributes required: none
 - Minimum required: 0
 - Maximum allowed: 999 (Initial order maximum: 0)
 - OS level required: n/a
 - Initial Order/MES/Both/Supported: MES
 - CSU: Yes
 - Return parts MES: No
- Note: When purchased on an MES order with a feature code rack. This PDU will be mounted in the rear side pockets until all 4 side pockets on the rack have been filled. Any additional PDUs on the order will be mounted in 1 unit of EIA rack space. When purchased as an MES order for addition to a rack in the field. This PDU may not fit in the side pockets of your rack due to a hardware interference with the rack, and may require mounting in 1 unit of rack EIA space. Insure rack space is available before placing the MES order for this PDU when it is being ordered for field installation.

(#7118) - Environmental Monitoring Probe

The Environmental Monitoring Probe (EMP) enables you to remotely monitor environmental conditions. Using a standard Web browser, you can view the ambient temperature and humidity of the remote environment, as well as the status of two additional contact devices, such as a smoke detector or open-door sensor. The temperature/humidity probe plugs into a RJ45 connector on a PDU+. The EMP can be used with any Powerware UPS equipped with a 10/100 Mb ConnectUPS Web/SNMP Card (firmware 3.01 or higher). The EMP can be located up to 20m (65.6 feet) away.

- Attributes provided: Monitoring of temperature, humidity, and status of two contacts/ sensors. A one meter cat5 Ethernet cable, double sided hook and loop fabric, often called VELCRO(R) tape, two tie-wraps, and screw with wall anchor for mounting.
 - Attributes required: None
 - Minimum required: 0
 - Maximum allowed: 999 (Initial order maximum: 250)
 - OS level required: n/a
 - Initial Order/MES/Both/Supported: Both
 - CSU: Yes
 - Return parts MES: No
- Note: Maximum support is 8x 7118 per 0553 rack and 8x 7118 per 0551 rack. Maximum of one 7118 per 7109 is supported.

(#7164) - IBM/OEM Rack-mount Drawer Rail Kit- Adjustable Depth

This feature provides a rack rail kit used to install a rack-mount system in an IBM 19 inch rack or some OEM 19-inch racks. Adjustable mounting range of the rail is 20.5 inches (521 mm) to 30 inches (762 mm).

- Attributes provided: Rack rail kit
- Attributes required: Rack mountable system
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7165) - OEM Rack-mount Drawer Rail Kit

This feature provides a adjustable depth rack rail kit used to install a rack-mount system in an OEM 19-inch rack.

- Attributes provided: Rack rail kit
- Attributes required: Rack-mountable system
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7188) - Power Distribution Unit

An AC Power Distribution Unit (PDU) which mounts in a 19" rack and provides twelve C13 power outlets. The #7188 has six 16A circuit breakers, with two power outlets per circuit breaker. System units and/or expansion units must use a power cord with a C14 plug to connect to the #7188.

One of the following line cords must be used to distribute power from a wall outlet to the #7188;

- #6489 - 14-Ft 3PH/24A Power Cord
- #6491 - 14-Ft 1PH/63A Pwr Cord
- #6492 - 14-Ft 1PH/48-60A Pwr Cord
- #6653 - 14-Ft 3PH/16A Power Cord
- #6654 - 14-Ft 1PH/24-30A Pwr Cord
- #6655 - 14-Ft 1PH/24-30A WR Pwr Cord
- #6656 - 14-Ft 1PH/32A Power Cord
- #6657 - 14-Ft 1PH/24A Power Cord
- #6658 - 14-Ft 1PH/24A Pwr Cd-Korea
- Attributes provided: Power Distribution Unit with Twelve C13 power outlets.
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#7204) - Quantity 150 of #2124

Ships a quantity of 150 #2124 1m SCSI Cables. The configurator may either generate this feature or allow users to select this feature as they would any other single SCSI cable feature. This feature remains on the inventory records.

- Attributes provided: Quantity 150 of #2124 1m SCSI Cable
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 57 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#7205) - Quantity 150 of #2125

Ships a quantity of 150 #2125 3m SCSI Cables. The configurator may either generate this feature or allow users to select this feature as they would any other single SCSI cable feature. This feature remains on the inventory records.

- Attributes provided: Quantity 150 of #2125 3m SCSI Cable
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 57 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#7206) - Quantity 150 of #2126

Ships a quantity of 150 #2126 5m SCSI Cables. The configurator may either generate this feature or allow users to select this feature as they would any other single SCSI cable feature. This feature remains on the inventory records.

- Attributes provided: Quantity 150 of #2126 5m SCSI Cable
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 57 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#7207) - Quantity 150 of #2127

Ships a quantity of 150 #2127 10m SCSI Cables. The configurator may either generate this feature or allow users to select this feature as they would any other single SCSI cable feature. This feature remains on the inventory records.

- Attributes provided: Quantity 150 of #2127 10m SCSI Cable
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 57 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#7208) - Quantity 150 of #2128

Ships a quantity of 150 #2128 20m SCSI Cables. The configurator may either generate this feature or allow users to select this feature as they would any other single SCSI cable feature. This feature remains on the inventory records.

- Attributes provided: Quantity 150 of #2128 20m SCSI Cable
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 57 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#7213) - Quantity 150 of #2138

Ships a quantity of 150 #2138 0.55m SCSI Cables. The configurator may either generate this feature or allow users to select this feature as they would any other single SCSI cable feature. This feature remains on the inventory records.

- Attributes provided: Quantity 150 of #2138 0.55m SCSI Cable
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 57 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#7272) - 2GB CUoD Memory Activation

This feature provides 2GB permanent memory activations for POWER6 DDR2 memory on a Power 570. Memory activations are stored in the system, not on the memory card providing system configuration flexibility. If memory is moved to a different system, the activations remain with the original system.

- Attributes provided: 2GB memory activation
- Attributes required: inactive DDR2 POWER6 Memory.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7273) - 4GB CUoD Memory Activation

This feature provides 4GB permanent memory activations for POWER6 DDR2 memory on a Power 570. Memory activations are stored in the system, not on the memory card providing system configuration flexibility. If memory is moved to a different system, the activations remain with the original system.

- Attributes provided: 4GB memory activation
- Attributes required: inactive DDR2 POWER6 Memory.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7274) - 8GB CUoD Memory Activation

This feature provides 8GB permanent memory activations for POWER6 DDR2 memory on a Power 570. Memory activations are stored in the system, not on the memory card providing system configuration flexibility. If memory is moved to a different system, the activations remain with the original system.

- Attributes provided: 8GB memory activation
- Attributes required: inactive DDR2 POWER6 Memory.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7275) - 16GB CUoD Memory Activation

This feature provides 16GB permanent memory activations for POWER6 DDR2 memory on a Power 570. Memory activations are stored in the system, not on the memory card providing system configuration flexibility. If memory is moved to a different system, the activations remain with the original system.

- Attributes provided: 16GB memory activation
- Attributes required: inactive DDR2 POWER6 Memory.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7276) - 32GB CUoD Memory Activation

This feature provides 32GB permanent memory activations for POWER6 DDR2 memory on a Power 570. Memory activations are stored in the system, not on the memory card providing system configuration flexibility. If memory is moved to a different system, the activations remain with the original system.

- Attributes provided: 32GB memory activation
- Attributes required: inactive DDR2 POWER6 Memory.
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7305) - SDI Software Pre-Install Indicator

(No Longer Available as of August 31, 2012)

Software pre-install indicator for SDI

- Attributes provided: Software Preinstall
- Attributes required: SDI Order
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#7306) - One Processor Activation for Processor Feature #7388

Each occurrence of this feature will permanently activate one processor on Processor Card #7388.

- Attributes provided: Activation of one processor on FC #7388
- Attributes required: Processor feature #7388
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7307) - Dual I/O Unit Enclosure

The #7307 enclosure provides the mounting hardware, with adjustable rails, required to install a #5790 I/O drawer in a #0551, #0553, #0554, or #0555 rack. The enclosure can accommodate two #5790 drawers, side by side, but it may also be used with only one #5790 drawer installed.

The #7307 and #7311 are functionally equivalent except the #7307 can be used in the #0554 and #0555 racks and has rails adjustable to 29.25 inches depth.

- Attributes provided: Rack mounting for two #5790 drawers
- Attributes required: Four EIA units of rack space in a #0551, #0553, #0554 or #0555 rack
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7311) - Dual I/O Unit Enclosure

(No Longer Available as of June 1, 2006)

The #7311 enclosure provides the mounting hardware required to install a #5790 I/O drawer in a #0551 or #0553 rack. The enclosure can accommodate two #5790 drawers, side by side, but it may also be used with only one #5790 drawer installed.

- Attributes provided: Rack mounting for two #5790 drawers
- Attributes required: Four EIA units of rack space in a #0551 or #0553 rack
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7314) - I/O Drawer Mounting Enclosure

(No Longer Available as of August 31, 2012)

This enclosure is required to mount the #5796 I/O drawer or 7314-G30 I/O drawer in a 19" rack. It will accommodate one or two #5796/ 7314-G30 I/O drawers side by side in the same 4 EIA space in the rack. This feature contains the hardware required for mounting in a 7014 rack or in a 0551, 0553, 0555 feature number rack.

- Attributes provided: 19" rack mounting hardware and I/O module enclosure.
- Attributes required: 4 EIA of space in a 19 inch-rack.
- Minimum required: 0
- Maximum allowed: 16 (Initial order maximum: 16)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7332) - Utility Billing for Processor #7388- 100 processor minutes

Provides payment for temporary use of processor feature #7388 with supported AIX or Linux operating systems. Each occurrence of this feature will pay for 100 minutes of use. The purchase of this feature typically occurs after the customer has 100 minutes of use on processors in the shared processor pool that are not permanently active.

- Attributes provided: 100 minutes use of a processor on feature #7388 (AIX or Linux)
- Attributes required: Processor feature #7388
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7333) - On/Off Processor Day Billing for Processor #7388

Once an On/Off Processor Enablement feature is ordered and the associated enablement code is entered into the system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is then provided to your sales channel. The sales channel will place an order for a quantity of On/ Off Processor Day Billing features and bill you. One #7333 should be ordered for each billable processor day use of processor #7388 used by a supported AIX or Linux operating system.

- Attributes provided: One processor day use for feature #7388 (AIX or Linux)
- Attributes required: On/Off processor enablement. Processor feature #7388
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#733) Utility Billing for Processor #7388 with IBM i - 100 processor minutes

Provides payment for temporary use of processor feature #7388 with the IBM i operating system. Each occurrence of this feature will pay for 100 minutes of processor use. The purchase of this feature typically occurs after the customer has 100 minutes of use on processors in the shared processor pool that are not permanently active.

- Attributes provided: 100 minutes use of a processor on feature #7388 (IBM i)
- Attributes required: Processor feature #7388
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7346) On/Off Processor Billing for Processor #7388 with IBM i - 1 processor day

Once an On/Off Processor Enablement feature is ordered and the associated enablement code is entered into the system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is then provided to your sales channel. The sales channel will place an order for a quantity of On/ Off Processor Day Billing features and bill you. One #7346 should be ordered for each billable processor days use of processor #7388 with the IBM i operating system.

- Attributes provided: One processor day use for feature #7388 (IBM i)
- Attributes required: On/Off Processor Enablement. Processor feature #7388
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7377) - On/Off, 1GB-1Day, Memory Billing POWER7

After the ON/OFF Memory function is enabled in a system you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is provided to your sales channel. The sales channel will place an order on your behalf for the quantity of this feature that matches your reported use. One #7377 feature should be ordered for each billable day for each 1GB increment of POWER7 memory that was used.

- Attributes provided: Payment for 1GB-DAY of ON/OFF memory use
- Attributes required: Inactive Memory available for temporary use.
- Minimum required: 0
- Maximum allowed: 99,990 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#7380) - 4.7 GHz Proc Card, 0/2 Core POWER6, 12 DDR2 Memory Slots

Dual-core 4.7 GHz POWER6 CUoD processor card. The two processors in this feature each have 4 MB of L2 cache and share 32 MB of L3 cache. There are 12 DDR2 DIMM slots on the processor card which may be used without activating the processors. Permanent activation of the processors requires purchase of the activation FC 5403.

- Attributes provided: Two 4.7 GHz Processors (inactive) on 1 Card
- Attributes required: Available processor slot
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7387) - 4.4GHz Proc Card, 0/2 Core POWER6, 12 DDR2 Memory Slots.

Dual-core 4.4GHz POWER6 CUoD processor card. The two processors in this feature each have 4MB of L2 cache and share 32MB of L3 cache. There are 12 DDR2 DIMM slots on the processor card which may be used without activating the processors. Permanent activation of the processors requires the purchase of activation FC #7719.

- Attributes provided: Two 4.4GHz P6 Processors (inactive) on 1 card.
- Attributes required: Available processor socket
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7388) - 5.0 GHz Proc Card, 0/2 Core POWER6, 12 DDR2 Memory Slots

Dual-core 5.0 GHz POWER6 CUoD processor card. The two processors in this feature each have 4 MB of L2 cache and share 32 MB of L3 cache. There are 12 DDR2 DIMM slots on the processor card which may be used without activating the processors. Permanent activation of the processors requires purchase of the activation FC#7306.

- Attributes provided: Two 5.0 GHz P6 Processors (inactive) on 1 Card
- Attributes required: Available processor socket
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7504) - Quantity 150 of #4319

(No Longer Available as of August 30, 2005)

This feature ships a quantity of 150 #4319 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #4319
- Attributes required: see feature #4319
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7508) - Quantity 150 of #4326

(No Longer Available as of May 8, 2007)

This feature ships a quantity of 150 #4326 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #4326
- Attributes required: see feature #4326
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7509) - Quantity 150 of #4327

This feature ships a quantity of 150 #4327 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #4327
- Attributes required: see feature #4327
- Minimum required: 0
- Maximum allowed: 9 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#7510) - Quantity 150 of #4328

Ships a quantity of 150 #4328 141.12GB disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #4328
- Attributes required: See feature #4328
- Minimum required: 0
- Maximum allowed: 9 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#7511) - Quantity 150 of #4329

Ships a quantity of 150 #4329 280.25GB disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #4329
- Attributes required: See feature #4329
- Minimum required: 0
- Maximum allowed: 9 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#7511) - Quantity 150 of #4329

Ships a quantity 150 #5741 EXP24 6 Disk Slot Enabler. The configurator may either generate this feature or allow users to select this feature as they would select a single EXP24 6 Disk Slot Enabler feature. This feature remains on the inventory records.

- Attributes provided: Quantity 150 of #5741 EXP24 6 Disk Slot Enabler
- Attributes required: See feature #5741
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#7517) - Quantity 150 of #3676

This feature ships a quantity of 150 #3676 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #3676
- Attributes required: see feature #3676
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#7518) - Quantity 150 of #3677

(No Longer Available as of February 8, 2013)

This feature ships a quantity of 150 #3677 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #3677
- Attributes required: see feature #3677
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7519) - Quantity 150 of #3678

(No Longer Available as of February 8, 2013)

This feature ships a quantity of 150 #3678 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #3678
- Attributes required: see feature #3678
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7535) - Quantity 150 of #3586

(No Longer Available as of July 29, 2011)

Ships a quantity 150 of #3586, 69GB 3.5" SAS Solid State Drive

- Attributes provided: 150 #3586
- Attributes required: Available 3.5-inch SAS disk bays
- Minimum required: 0
- Maximum allowed: 6 (Initial order maximum: 6)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7536) - Quantity 150 of #3587

(No Longer Available as of July 29, 2011)

This feature ships a quantity of 150 #3587 disk units. The configurator may either generate this feature. This feature remains on the inventory records.

- Attributes provided: See feature #3587
- Attributes required: See feature #3587
- Minimum required: 0
- Maximum allowed: 6 (Initial order maximum: 6)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7538) - Quantity 150 of #3658

(No Longer Available as of February 8, 2013)

This feature ships a quantity of 150 #3658 (428 GB SAS) disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #3658
- Attributes required: see feature #3658
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7540) - 4.2 GHz Proc Card, 0/4 Core POWER6, 12 DDR2 Memory Slots

Four core 4.2 GHz POWER6 CUoD processor card containing two dual-core modules. The four processors in this feature each have 4 MB of L2 cache and each of the two dual cores shares 32 MB of L3 cache (64 MB of L3 cache per feature). There are 12 DDR2 DIMM slots on the processor card which may be used without activating the processors. Permanent activation of the processors requires purchase of the activation FC 7700.

- Attributes provided: Four 4.2 GHz P6 Processors (inactive) on 1 Card
- Attributes required:
 - Use with feature 5617
 - An available processor socket in feature 5675
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7543) - Quantity 150 of #1884

(No Longer Available as of April 29, 2011)

This feature ships a quantity of 150 #1884 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #1884
- Attributes required: see feature #1884
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7544) - Quantity 150 of #1888

(No Longer Available as of July 8, 2016)

This feature ships a quantity of 150 #1888 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #1888
- Attributes required: see feature #1888
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7545) - Quantity 150 of #1890

(No Longer Available as of July 29, 2011)

Quantity 150 of 1890, 69GB SFF SAS Solid State Drive.

- Attributes provided: Quantity of 150 #1890
- Attributes required: Available SFF SAS bays
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7546) - Quantity 150 of #1909

(No Longer Available as of July 29, 2011)

Quantity 150 of feature 69GB 2.5" SAS S/S DRIVE (#1909).

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7547) - Quantity 150 of #1885

(No Longer Available as of July 8, 2016)

Quantity 150 of #1885, 300GB 10K RPM SFF SAS Disk Drive.

- Attributes provided: Quantity 150 of #1885
- Attributes required: Available SFF SAS disk bays
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7548) - Quantity 150 of #1886

(No Longer Available as of July 8, 2016)

Ships a quantity 150 of #1886, 146GB 15K RPM SFF SAS Disk Drive

- Attributes provided: Quantity 150 of #1886
- Attributes required: Available SFF SAS disk bays
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7549) - Quantity 150 of #3647

(No Longer Available as of February 8, 2013)

Ships a quantity 150 of #3647 146GB 15K RPM SAS Disk Drive.

- Attributes provided: 150 of #3647 for every #7549
- Attributes required: Available 3.5-inch SAS disk bay
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7550) - Quantity 150 of #1790

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #1790 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: See feature #1790
- Attributes required: See feature #1790
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required:
 - AIX 5.3 with the 5300-11 Technology Level, or later
 - AIX 5.3 with the 5300-10 Technology Level and Service Pack 2, or later
 - AIX 5.3 with the 5300-09 Technology Level and Service Pack 5, or later
 - AIX 5.3 with the 5300-08 Technology Level and Service Pack 8, or later
 - AIX 6.1 with the 6100-04 Technology Level, or later
 - AIX 6.1 with the 6100-03 Technology Level and Service Pack 3, or later
 - AIX 6.1 with the 6100-02 Technology Level and Service Pack 6, or later
 - AIX 6.1 with the 6100-01 Technology Level and Service Pack 7, or later
 - IBM i - not supported
 - SUSE Linux Enterprise Server 10 Service Pack 1 or later
 - SUSE Linux Enterprise Server 11 or later
 - Red Hat Enterprise Linux 4.6 or later
 - Red Hat Enterprise Linux 5.1 or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7557) - Quantity 150 of #1911

(No Longer Available as of July 8, 2016)

This feature ships a quantity of 150 #1911 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: See feature #1911
- Attributes required: See feature #1911
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 0)
- OS level required:
 - IBM i 6.1 with machine code 6.1.1 or later.
 - AIX - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7564) - Quantity 150 of #3648

(No Longer Available as of February 8, 2013)

Quantity of 150 of #3648.

- Attributes provided: 150 #3648 for each #7564
- Attributes required: Available 3.5-inch SAS disk bays
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7565) - Quantity 150 of #3649

(No Longer Available as of February 8, 2013)

Quantity 150 of #3649 450GB 15K RPM SAS Disk Drive

- Attributes provided: 150 #3649
- Attributes required: Available 3.5-inch SAS disk bays
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7566) - Quantity 150 of #1916

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #1916 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: See #1916
- Attributes required: See #1916
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required:
 - AIX not - supported
 - IBM i 6.1 with Machine Code 6.1.1
 - IBM i 7.1 or later
 - SUSE Linux not - supported
 - Red Hat Linux not - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7578) - QTY 150, 177GB SFF-1 SSD w/ eMLC (AIX/Linux)

(No Longer Available as of August 23, 2013)

Quantity of 150 177GB SFF-1 SSD w/ eMLC (AIX/Linux) feature 1775.

- Attributes provided: Quantity of 150 of #1775
- Attributes required: 150 available SFF-1 drive bays
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required:
 - AIX Version 7.1 with Service Pack 3, or later
 - AIX Version 6.1 with the 6100-06 Technology Level and Service Pack 5, or later
 - AIX Version 6.1 with the 6100-05 Technology Level and Service Pack 6, or later (planned availability: June 3, 2011)
 - AIX Version 6.1 with the 6100-04 Technology Level and Service Pack 10, or later (planned availability: June 3, 2011)
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 4, or later (planned availability: June 30, 2011)
 - AIX Version 5.3 with the 5300-11 Technology Level and Service Pack 7, or later (planned availability: June 30, 2011)
 - IBM i - not supported (see VIOS)
 - SUSE Linux Enterprise 10 Service Pack 3, or later
 - SUSE Linux Enterprise 11 Service Pack 1, or later
 - Red Hat Enterprise Linux 5.6 for POWER, or later
 - Red Hat Enterprise Linux 6 for POWER, or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: VIOS support requires VIOS 2.2.0.12-FP24 SP02, or later

(#7582) - QTY 150, 177GB SFF-1 SSD w/ eMLC (IBM i)

(No Longer Available as of August 23, 2013)

Quantity of 150 177GB SFF-1 SSD w/ eMLC (IBM i) feature 1787.

- Attributes provided: Quantity of 150 of #1787
- Attributes required: 150 available SFF-1 drive bays
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required:
 - AIX - not supported
 - IBM i 6.1 with machine code 6.1.1, or later
 - IBM i 7.1 or later
 - SUSE - not supported
 - Red Hat Enterprise Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7642) - PROC COD UTILITY BILLING FOR FC 4980, 100 PROC-MINS

Provides payment for temporary use of processor feature #4980 with supported AIX or Linux operating systems. Each occurrence of this feature will pay for 100 minutes of usage. The purchase of this feature occurs after the customer has 100 minutes of use on processors in the shared processor pool that are not permanently active.

- Attributes provided: Payment for Utility CoD use of processor #4980 (AIX or Linux)
- Attributes required: At least one processor #4980 that is not permanently active.
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#7643) PROC COD UTILITY BILLING FOR FC 4980. 100 PROC-MINS, FOR IBM i

Provides payment for temporary use of processor feature #4980 with supported IBM i operating systems. Each occurrence of this feature will pay for 100 minutes of usage. The purchase of this feature occurs after the customer has 100 minutes of use on processors in the shared processor pool that are not permanently active.

- Attributes provided: Payment for Utility CoD use of processor #4980 (IBM i)
- Attributes required: At least one processor #4980 that is not permanently active.
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#7644) - 1 PROC-DAY ON/OFF BILLING FOR FC 4980

Once an On/Off Processor Enablement feature is ordered and the associated enablement code is entered into the system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is then provided to your sales channel. The sales channel will place an order for a quantity of On/ Off Processor Day Billing features and bill you. One #7644 should be ordered for each billable processor days of feature #4980 used by a supported AIX or Linux operating system.

- Attributes provided: One processor day usage for feature #4980 (AIX or Linux)
- Attributes required: On/Off Processor Enablement
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#7645) - 1 PROC-DAY ON/OFF BILLING FOR FC 4980, FOR IBM i

Once an On/Off Processor Enablement feature is ordered and the associated enablement code is entered into the system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is then provided to your sales channel. The sales channel will place an order for a quantity of On/ Off Processor Day Billing features and bill you. One #7645 should be ordered for each billable processor days of feature #4980 used by a supported IBM i operating system.

- Attributes provided: One processor day usage for feature #4980 (IBM i)
- Attributes required: On/Off Processor Enablement
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#7646) - PROC COD UTILITY BILLING FOR FC 4981, 100 PROC-MINS

Provides payment for temporary use of processor feature #4981 with supported AIX or Linux operating systems. Each occurrence of this feature will pay for 100 minutes of usage. The purchase of this feature occurs after the customer has 100 minutes of use on processors in the shared processor pool that are not permanently active.

- Attributes provided: Payment for Utility CoD use of processor #4981 (AIX or Linux)
- Attributes required: At least one processor #4981 that is not permanently active.
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#7647) PROC COD UTILITY BILLING FOR FC 4981, 100 PROC-MINS, FOR IBM i

Provides payment for temporary use of processor feature #4981 with supported IBM i operating systems. Each occurrence of this feature will pay for 100 minutes of usage. The purchase of this feature occurs after the customer has 100 minutes of use on processors in the shared processor pool that are not permanently active.

- Attributes provided: Payment for Utility CoD use of processor #4981 (IBM i)
- Attributes required: At least one processor #4981 that is not permanently active.
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#7648) - 1 PROC-DAY ON/OFF BILLING FOR FC 4981

Once an On/Off Processor Enablement feature is ordered and the associated enablement code is entered into the system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is then provided to your sales channel. The sales channel will place an order for a quantity of On/ Off Processor Day Billing features and bill you. One #7648 should be ordered for each billable processor days of feature #4981 used by a supported AIX or Linux operating system.

- Attributes provided: One processor day usage for feature #4981 (AIX or Linux)
- Attributes required: On/Off Processor Enablement
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#7649) - 1 PROC-DAY ON/OFF BILLING FOR FC 4981, FOR IBM i

Once an On/Off Processor Enablement feature is ordered and the associated enablement code is entered into the system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is then provided to your sales channel. The sales channel will place an order for a quantity of On/ Off Processor Day Billing features and bill you. One #7649 should be ordered for each billable processor days of feature #4981 used by a supported IBM i operating system.

- Attributes provided: One processor day usage for feature #4981 (IBM i)
- Attributes required: On/Off Processor Enablement
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 6.1.1 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#7663) - 1GB DDR2 Memory Activation

This feature will permanently activate 1GB of DDR2 CoD Memory.

- Attributes provided: 1GB DDR2 Memory Activation
- Attributes required: 1GB inactive DDR2 Memory
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7700) - One Processor Activation for Processor Feature #7540

Each occurrence of this feature will permanently activate one processor on Processor Card #7540

- Attributes provided: Activation of one processor on FC #7540
- Attributes required: Processor feature #7540
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7701) - Utility Billing for Processor #7540- 100 processor minutes

Provides payment for temporary use of processor feature #7540 with supported AIX or Linux operating systems. Each occurrence of this feature will pay for 100 minutes of usage. The purchase of this feature typically occurs after the customer has 100 minutes of use on processors in the shared processor pool that are not permanently active.

- Attributes provided: 100 minutes use of a processor on feature #7540 (AIX or Linux)
- Attributes required: Processor feature #7540
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7702) - On/Off Processor Day Billing for Processor #7540

Once an On/Off Processor Enablement feature is ordered and the associated enablement code is entered into the system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is then provided to your sales channel. The sales channel will place an order for a quantity of On/ Off Processor Day Billing features and bill you. One #7702 should be ordered for each billable processor day use of processor #7540 used by a supported AIX or Linux operating system.

- Attributes provided: One processor day use for feature #7540 (AIX or Linux)
- Attributes required: On/Off Processor Enablement. Processor feature #7540
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7706) Utility Billing for Processor #7540 with IBM i - 100 processor minutes

Provides payment for temporary use of processor feature #7540 with the IBM i operating system. Each occurrence of this feature will pay for 100 minutes of processor use. The purchase of this feature typically occurs after the customer has 100 minutes of use on processors in the shared processor pool that are not permanently active.

- Attributes provided: 100 minutes use of a processor on feature 7540 (IBM i)
- Attributes required: Processor feature #7540
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7709) On/Off Processor Billing for Processor #7540 with IBM i - 1 processor day

Once an On/Off Processor Enablement feature is ordered and the associated enablement code is entered into the system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is then provided to your sales channel. The sales channel will place an order for a quantity of On/ Off Processor Day Billing features and bill you. One #7709 should be ordered for each billable processor days use of processor #7540 with the IBM i operating system.

- Attributes provided: One processor day use for feature #7540 (IBM i)
- Attributes required: On/Off Processor Enablement. Processor feature #7540
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7719) - One Processor Activation for Processor Feature #7387

Each occurrence of this feature will permanently activate one processor on Processor Card #7387.

- Attributes provided: Activation of one processor on FC #7387
- Attributes required: Processor feature #7387
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7726) - Utility Billing for Processor #7387 - 100 processor minutes

Provides payment for temporary use of processor feature #7387 with supported AIX or Linux operating systems. Each occurrence of this feature will pay for 100 minutes of use. The purchase of this feature typically occurs after the customer has 100 minutes of use on processors in the shared processor pool that are not permanently active.

- Attributes provided: 100 minutes use of a a processor on feature #7387 (AIX or Linux)
- Attributes required: Processor feature #7387
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7743) Utility Billing for Processor #7387 with IBM i - 100 processor minutes

Provides payment for temporary use of processor feature #7387 with the IBM i operating system. Each occurrence of this feature will pay for 100 minutes of processor use. The purchase of this feature typically occurs after the customer has 100 minutes of use on processors in the shared processor pool that are not permanently active.

- Attributes provided: 100 minutes of use of a processor on feature #7387 (IBM i)
- Attributes required: Processor feature #7387
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7744) On/Off Processor Billing for Processor #7387 with IBM i - 1 processor day

Once an On/Off Processor Enablement feature is ordered and the associated enablement code is entered into the system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is then provided to your sales channel. The sales channel will place an order for a quantity of On/ Off Processor Day Billing features and bill you. One #7744 should be ordered for each billable processor days use of processor #7387 with the IBM i operating system.

- Attributes provided: One processor day use for feature #7387 (IBM i)
- Attributes required: On/Off Processor Enablement. Processor feature #7387
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7745) - On/Off Processor Day Billing for Processor #7387

Once an On/Off Processor Enablement feature is ordered and the associated enablement code is entered into the system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is then provided to your sales channel. The sales channel will place an order for a quantity of On/ Off Processor Day Billing features and bill you. One #7745 should be ordered for each billable processor day use of processor #7387 used by a supported AIX or Linux operating system.

- Attributes provided: One processor day use for feature #7387 (AIX or Linux)
- Attributes required: On/Off Processor Enablement. Processor feature #7387
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7780) - 2.0m Rack Side Attach Kit

This feature allows a row of racks without side panels to be bolted together in a continuous suite, using the provided side-to-side rack connecting hardware. When multiple racks are joined in this way, cables can be easily run between racks without exiting the continuous rack enclosure. A small gap is maintained between the two adjacent racks, which is filled by three matching steel trim pieces that snap into place on the front, top, and rear, between each rack. The trim pieces cover the space between each rack for an enhanced appearance and for additional protection of the equipment inside the racks. Side panels are needed only for the two end racks of the suite.

- Attributes provided: Hardware and trim to attach two racks
- Attributes required: #0553 rack
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#7801) Ethernet Cable, 6M, Hardware Management Console to System Unit

This feature provides a six meter long Ethernet cable for attachment of a Hardware Management Console to the system unit.

- Attributes provided: 6M Ethernet Cable
- Attributes required: Ethernet port on Hardware Management Console
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#7802) Ethernet Cable, 15m, Hardware Management Console to System Unit

This feature provides a fifteen meter long Ethernet cable for attachment of a Hardware Management Console to the system unit.

- Attributes provided: 15M Ethernet Cable
- Attributes required: Ethernet port on Hardware Management Console
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#7840) - Side-by-Side for 1.8m Racks

This feature allows a row of racks without side panels to be bolted together in a continuous suite, using the provided side to side rack connecting hardware. When multiple racks are joined in this way, cables can be easily run between racks without having to exit the continuous rack enclosure. A small gap is maintained between the two adjacent racks, which is filled by three matching steel trim pieces that snap into place on the front, top, and rear, between each rack. The trim pieces cover the space between each rack for an enhanced appearance and for additional protection of the equipment inside the racks. Side panels are needed only for the two end racks of the suite.

- Attributes provided: Hardware and trim to attach two racks
- Attributes required: #0551 rack
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#7841) - Ruggedize Rack Kit

For enhanced rigidity and stability of the rack, the optional Ruggedized Rack Kit provides additional hardware that reinforces the rack and anchors it to the floor. This hardware is designed primarily for use in locations where earthquakes are a concern. The feature includes a large steel brace or truss that bolts into the rear of the rack. It is hinged on the left side so it can swing out of the way for easy access to the rack drawers when necessary. The Ruggedize Rack Kit also includes hardware for bolting the rack to a concrete floor or a similar surface, and bolt-in steel filler panels for any noccupied spaces in the rack.

- Attributes provided: Rear brace, bolt down hardware, bolt in frontfiller panels
- Attributes required: #0551 19 inch 1.8m Rack or #0553 19 inch 2.0MRack
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#7862) - PCI Blind Swap Cassette Kit, Single Wide Adapters, Type II

This feature contains a blind swap cassette for single slot width PCI adapters. It also includes the necessary hardware to adapt the cassette to mount various sizes of PCI cards.

- Attributes provided: Blind swap PCI cassette
- Attributes required: PCI card and empty PCI adapter location
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: Does not apply

(#7863) PCI Blind Swap Cassette Kit, Double Wide Adapters, Type III

(No longer available as of April 19, 2019)

This feature contains a blind swap cassette for double slot width PCI adapters. It also includes the necessary hardware to adapt the cassette to mount various sizes of PCI cards.

- Attributes provided: Blind swap PCI cassette
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#7870) - Power Distribution Backplane

The power distribution backplane provides the internal power connections between the power supplies and the other components in the drawer.

- Attributes provided: Power distribution within a drawer
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7888) - AC Power Supply, 1400 W

This feature provides one 1400 watt AC power supply for a server drawer.

- Attributes provided: One AC power supply
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7892) - 2GB (4x512MB) DIMMs, 276-pin, 533MHz DDR2 SDRAM

Provides 2048MB of DDR2 system memory with 4 512MB DIMMs.

- Attributes provided: 2048MB of DDR2 system memory
- Attributes required: Four empty memory DDR2 memory DIMM positions
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7893) - 4GB (4x1GB) DIMMs, 276-pin, 533MHz DDR2 SDRAM

Provides 4096MB of DDR2 system memory with 4 1024MB DIMMs.

- Attributes provided: 4096MB of system memory
- Attributes required: Four empty memory DIMM positions
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7894) - 8GB (4x2GB) DIMMs, 276-pin, 533 MHz DDR2 SDRAM

Provides 8192MB of DDR2 system memory with 4 2048MB DIMMs.

- Attributes provided: 8192MB of system memory
- Attributes required: Four empty memory DIMM positions
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#7942) - PowerVM -Standard Edition

This feature allows the customer to create partitions that are in units of less than 1 CPU (sub-CPU LPARs) and allows the same system I/O to be virtually allocated to these partitions. The processors on the system can be partitioned into as many as 10 LPARs per processor. An encrypted key is supplied to the customer and installed on the system, authorizing the partitioning at the sub-processor level.

Included with Feature 7942 is the IBM Virtual I/O Server to provide additional virtualization function.

- Attributes provided: System virtualization
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 64 (Initial order maximum: 64)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No
Note: If feature 7942 is ordered, the quantity must be equal to or greater than the number of active processors. Once the virtualization feature is installed in a system, it cannot be removed.
Partition Load Manager (5765-G31) is not supported on model MMA.

This feature was previously known as Advanced POWER Virtualization - Standard

(#7951) - On/Off Processor Enablement

(No Longer Available as of August 24, 2018)

This feature can be ordered to enable your server for On/Off Capacity on Demand. Once enabled, you can request processors on a temporary basis. You must sign an On/Off Capacity on Demand contract before you order this feature. To renew this feature after the allowed 360 Processor Days have been used, this feature must be removed from the system Configuration file and reordered by placing an MES order.

- Attributes provided: On/Off CoD Enablement - for up to 360 Processor Days
- Attributes required: Inactive processors in the system
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#7954) - On/Off Memory Enablement

(No Longer Available as of August 24, 2018)

This feature can be ordered to enable your server for On/Off Capacity on Demand. Once enabled, you can request memory on a temporary basis. You must sign an On/Off Capacity on Demand contract before you order this feature. To renew this feature after the allowed 999 GB Days have been used, this feature must be removed from the system Configuration file and reordered by placing an MES order.

- Attributes provided: On/Off CoD Enablement for up to 999 GB Memory days
- Attributes required: Inactive CoD Memory in the system
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#7995) - PowerVM - Enterprise Edition

This feature allows the customer to create partitions that are in units of less than 1 CPU (sub-CPU LPARs) and allows the same system I/O to be virtually allocated to these partitions. The processors on the system can be partitioned into as many as 10 LPARs per processor. An encrypted key is supplied to the customer and installed on the system, authorizing the partitioning at the sub-processor level.

Included with Feature 7995 is the IBM Virtual I/O Server and Live Partition Mobility, which allows for the movement of a logical partition from one POWER6 processor-based server to another with no application downtime. to provide additional virtualization function.

- Attributes provided: System virtualization with Partition Mobility
 - Attributes required: None
 - Minimum required: 0
 - Maximum allowed: 64 (Initial order maximum: 64)
 - OS level required: n/a
 - Initial Order/MES/Both/Supported: Both
 - CSU: Yes
 - Return parts MES: No
- Note: If feature 7995 is ordered, the quantity must be equal to or greater than the number of active processors. Once the virtualization feature is installed in a system, it cannot be removed.
This feature requires system firmware level EM320_074 or later.

This feature was previously know as Advanced POWER Virtualization - Enterprise

(#8017) - 570 to MMA CoD Memory Activation Carry Over Indicator

Carry over indicator for permanent Memory Activation feature (#7663) when upgrading a 9117-570 to a 9117-MMA. Each occurrence of this feature (#8017) on a Model Conversion upgrade MES order will cause the activation of 1GB of DDR2 Memory for CoD Memory features 4495 or 4496 in the new 9117-MMA system. This feature delivers the equivalent of feature #7663. This feature may only be used on upgrade MES orders during a model conversion.

One occurrence of feature # 8017 may be added to the order for each occurrence of feature #7663 that has been previously purchased and appears on IBMs manufacturing configuration file for the serial number system being upgraded.

- Attributes provided: Activation of 1GB of DDR2 memory -equivalent of feature #7663
- Attributes required: previous purchase of feature # 7663 on a 9117-570 system
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8018) Advanced POWER Virtualization Carry Over Indicator

Carry over indicator for Advanced Power Virtualization (#7942) when upgrading a 9117-570 to a 9117-MMA or a 9117-MMA to a 9117-MMB or 9179-MHB. Each occurrence of this feature (#8018) on a Model Conversion upgrade MES order will cause the activation of Advance Power Virtualization on one processor core. This feature (#8018) may only be used on an upgrade MES order during a model conversion.

One occurrence of feature #8018 may be added to the model conversion order for each occurrence of feature #7942 that has been previously obtained and appears on the configuration record on file with IBM for the serial number system being upgraded.

- Attributes provided: Activation of Advanced POWER Virtualization on one processor core
- Attributes required: previous purchase of feature # 7942 on the 9117-570 system being upgraded
- Minimum required: 0
- Maximum allowed: 32 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No
Note: If feature 8018 is ordered, the quantity may not exceed the quantity of feature 7942 purchased for the system prior to the model conversion. Additional features 7942 may be ordered on the same Model Conversion order as needed to meet the requirement of one instance of a PowerVM feature for each active processor in the system. Once the PowerVM feature is installed in a system, it cannot be removed.

(#8030) - Advanced POWER Virtualization Carry Over Indicator

Carry over indicator for Advanced Power Virtualization (#7995) when upgrading a 9117-MMA to a 9117-MMB or 9179-MHB. Each occurrence of this feature (#8030) on a Model Conversion upgrade MES order will cause the activation of Advance Power Virtualization on one processor core. This feature delivers the equivalent of feature 7995. This feature (#8030) may only be used on an upgrade MES order during a model conversion.

One occurrence of feature #8030 may be added to the model conversion order for each occurrence of feature #7995 that has been previously obtained and appears on the configuration record on file with IBM for the serial number system being upgraded.

- Attributes provided: Activation of Advanced POWER Virtualization on one processor core
- Attributes required: previous purchase of feature # 7995 on the system being upgraded
- Minimum required: 0
- Maximum allowed: 32 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No
Note: If feature 8030 is ordered, the quantity may not exceed the quantity of feature 7995 purchased for the system prior to the model conversion. Additional features 7995 may be ordered on the same Model Conversion order as needed to meet the requirement of one instance of a PowerVM feature for each active processor in the system. Once the PowerVM feature is installed in a system, it cannot be removed.

(#8129) - 0/256GB DDR2 Memory (32X8GB) DIMMS- 400 MHz- POWER6 Memory

This CoD memory feature makes available 32 DIMMS each with 8 GB of memory for a total feature size of 256 GB of DDR2, 400 MHz POWER6 system memory. None of the memory in this feature is active. Use of this feature requires the purchase of Memory Activation Feature #5681 on the same initial system order to provide 100% activation of the feature. Memory Activation Feature #5680 may not be used to activate the memory on this feature (8129). The DIMMS purchased with this feature must all be used on a single system.

- Attributes provided: 256GB of Memory available on 32 DIMMS
- Attributes required: 32 empty DIMM slots and requires feature # 5681 on the same order to provide 100% activation
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8133) - RJ-45 to DB-25 Converter Cable

This cable can be used to attach EIA-232 devices to the 16 port EIA 232 Remote Async Node (FC 8130 or FC 8134) for the 128-Port Async subsystem. This cable provides a 25-pin D shell connector for device attachment. Four cables are provided per each order.

- Attributes provided: 4 DB-25 EIA-232 ports
- Attributes required: 4 RJ-45 ports from a RAN (8130, 8134, 8136)
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#8143) - Linux Software Preinstall

(No Longer Available as of August 31, 2012)

This feature indicates that the Linux operating system is to be preinstalled on the system. #8143 is a prerequisite for preinstall #5005.

- Attributes provided: Linux preinstall
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for Linux.
 - AIX - not supported
 - IBM i - not supported
 - Linux - supported
 - Red Hat Enterprise Linux 5.5 for POWER
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#8144) - Linux Software Preinstall (Business Partners)

(No Longer Available as of August 31, 2012)

This feature indicates that the Linux operating system is to be preinstalled on the system. #8144 is a prerequisite for preinstall #5005 or #7305. This feature is only available to IBM Business Partner - Solution Providers and IBM Business Partner - Systems Integrators.

- Attributes provided: Linux preinstall
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for Linux.
 - AIX - not supported
 - IBM i - not supported
 - Linux - supported
 - Red Hat Enterprise Linux 5.5 for POWER
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#8212) - Activation of 1 GB DDR3 POWER7 Memory

(No Longer Available as of October 31, 2017)

Each occurrence of this feature will permanently activate 1 GB of DDR3 - POWER7 memory.

- Attributes provided: Activation on 1 GB of DDR3 -POWER7 memory
- Attributes required: 1 GB of inactive POWER7-DDR3 memory
- Minimum required: 0
- Maximum allowed: 2048 (Initial order maximum: 254)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#8213) - Activation of 100 GB DDR3 POWER7 Memory

(No Longer Available as of October 31, 2017)

Each occurrence of this feature will permanently activate 100 GB of DDR3 - POWER7 memory.

- Attributes provided: Activation on 100 GB of DDR3 -POWER7 memory
- Attributes required: 100 GB of inactive POWER7-DDR3 memory
- Minimum required: 0
- Maximum allowed: 20 (Initial order maximum: 20)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i 6.1.1 or later
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#8430) Power Cord Carry Over Indicator, #9800, Model Conversion Only

This is an administrative feature that is valid only for model conversion orders. A quantity of one power cord carry over indicator should be ordered for each display or remote access node that will be transferred to the new model. The existing power cord is assigned the new feature code, which enables the ordering configurator to assure that the correct quantity of power cords is included in the order.

- Attributes provided: Power cord quantity tracking for #9800 specify feature
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#8431) Power Cord Carry Over Indicator, #9802, Model Conversion Only

This is an administrative feature that is valid only for model conversion orders. A quantity of one power cord carry over indicator should be ordered for each display or remote access node that will be transferred to the new model. The existing power cord is assigned the new feature code, which enables the ordering configurator to assure that the correct quantity of power cords is included in the order.

- Attributes provided: Power cord quantity tracking for #9802 specify feature
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#8432) Power Cord Carry Over Indicator, #9820, Model Conversion Only

This is an administrative feature that is valid only for model conversion orders. A quantity of one power cord carry over indicator should be ordered for each display or remote access node that will be transferred to the new model. The existing power cord is assigned the new feature code, which enables the ordering configurator to assure that the correct quantity of power cords is included in the order.

- Attributes provided: Power cord quantity tracking for #9820 specify feature
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#8433) Power Cord Carry Over Indicator, #9821, Model Conversion Only

This is an administrative feature that is valid only for model conversion orders. A quantity of one power cord carry over indicator should be ordered for each display or remote access node that will be transferred to the new model. The existing power cord is assigned the new feature code, which enables the ordering configurator to assure that the correct quantity of power cords is included in the order.

- Attributes provided: Power cord quantity tracking for #9821 specify feature
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#8434) Power Cord Carry Over Indicator, #9825, Model Conversion Only

This is an administrative feature that is valid only for model conversion orders. A quantity of one power cord carry over indicator should be ordered for each display or remote access node that will be transferred to the new model. The existing power cord is assigned the new feature code, which enables the ordering configurator to assure that the correct quantity of power cords is included in the order.

- Attributes provided: Power cord quantity tracking for #9825 specify feature
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#8435) Power Cord Carry Over Indicator, #9827, Model Conversion Only

This is an administrative feature that is valid only for model conversion orders. A quantity of one power cord carry over indicator should be ordered for each display or remote access node that will be transferred to the new model. The existing power cord is assigned the new feature code, which enables the ordering configurator to assure that the correct quantity of power cords is included in the order.

- Attributes provided: Power cord quantity tracking for #9827 specify feature
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#8436) Power Cord Carry Over Indicator, #9828, Model Conversion Only

This is an administrative feature that is valid only for model conversion orders. A quantity of one power cord carry over indicator should be ordered for each display or remote access node that will be transferred to the new model. The existing power cord is assigned the new feature code, which enables the ordering configurator to assure that the correct quantity of power cords is included in the order.

- Attributes provided: Power cord quantity tracking for #9828 specify feature
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#8437) Power Cord Carry Over Indicator, #9829, Model Conversion Only

This is an administrative feature that is valid only for model conversion orders. A quantity of one power cord carry over indicator should be ordered for each display or remote access node that will be transferred to the new model. The existing power cord is assigned the new feature code, which enables the ordering configurator to assure that the correct quantity of power cords is included in the order.

- Attributes provided: Power cord quantity tracking for #9829 specify feature
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#8438) Power Cord Carry Over Indicator, #9830, Model Conversion Only

This is an administrative feature that is valid only for model conversion orders. A quantity of one power cord carry over indicator should be ordered for each display or remote access node that will be transferred to the new model. The existing power cord is assigned the new feature code, which enables the ordering configurator to assure that the correct quantity of power cords is included in the order.

- Attributes provided: Power cord quantity tracking for #9830 specify feature
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#8439) Power Cord Carry Over Indicator, #9831, Model Conversion Only

This is an administrative feature that is valid only for model conversion orders. A quantity of one power cord carry over indicator should be ordered for each display or remote access node that will be transferred to the new model. The existing power cord is assigned the new feature code, which enables the ordering configurator to assure that the correct quantity of power cords is included in the order.

- Attributes provided: Power cord quantity tracking for #9831 specify feature
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#8440) Power Cord Carry Over Indicator, #9833, Model Conversion Only

This is an administrative feature that is valid only for model conversion orders. A quantity of one power cord carry over indicator should be ordered for each display or remote access node that will be transferred to the new model. The existing power cord is assigned the new feature code, which enables the ordering configurator to assure that the correct quantity of power cords is included in the order.

- Attributes provided: Power cord quantity tracking for #9833 specify feature
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#8441) Power Cord Carry Over Indicator, #9834, Model Conversion Only

This is an administrative feature that is valid only for model conversion orders. A quantity of one power cord carry over indicator should be ordered for each display or remote access node that will be transferred to the new model. The existing power cord is assigned the new feature code, which enables the ordering configurator to assure that the correct quantity of power cords is included in the order.

- Attributes provided: Power cord quantity tracking for #9833 specify feature
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#8453) - Base Customer Spec Plcmnt

(No Longer Available as of August 31, 2012)

1. Requests that IBM deliver the system to the customer according to the slot in drawer hardware placement defined by the account team.
 2. Eliminates the need to have these parts relocated in the customers environment as may happen if the order is placed without this feature code.
 3. Client placement specifications are collected using the System Planning Tool (SPT) and processed through the marketing configurator. (Use of the SPT is not required).
 4. Requires account team to submit the output of the marketing configurator into IBM manufacturing via the CSP Web site <http://www.ibm.com/eserver/power/csp> (US Business Partners and Distributors can bypass this step.)
 5. Requires account team to assure that the marketing configurator output submitted reflects the actual order placed.
- Attributes provided: I/O component placement
 - Attributes required: Marketing Configurator output submitted to the CSP Web site (US Business Partners and Distributors can bypass this step.)
 - Minimum required: 0
 - Maximum allowed: 1 (Initial order maximum: 1)
 - OS level required: n/a
 - Initial Order/MES/Both/Supported: Initial
 - CSU: N/A
 - Return parts MES: No

(#8800) - Keyboard - USB, US English, #103P

This feature provides a USB attached US English #103P Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8801) - Keyboard - USB, French, #189

This feature provides a USB attached French #189 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8802) - Keyboard - USB, Italian, #142

This feature provides a USB attached Italian #142 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8803) - Keyboard - USB, German/Austrian, #129

This feature provides a USB attached German/Austrian #129 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8804) - Keyboard - USB, UK English, #166

This feature provides a USB attached UK English #166 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8805) - Keyboard - USB, Spanish, #172

This feature provides a USB attached Spanish #172 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8806) - Keyboard - USB, Japanese, #194

This feature provides a USB attached Japanese #194 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8807) - Keyboard - USB, Brazilian/Portuguese, #275

This feature provides a USB attached Brazilian Portuguese #275 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8808) - Keyboard - USB, Canadian French, #058

This feature provides a USB attached Canadian French #058 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8810) - Keyboard - USB, Belgium/UK, #120

This feature provides a USB attached Belgium/UK #120 Quiet Touc keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8811) - Keyboard - USB, Swedish/Finnish, #153

This feature provides a USB attached Swedish/Finnish #153 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8812) - Keyboard - USB, Danish, #159

This feature provides a USB attached Danish #159 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8813) - Keyboard - USB, Bulgarian, #442

This feature provides a USB attached Bulgarian #442 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8814) - Keyboard - USB, Swiss/French/German, #150F/G

This feature provides a USB attached Swiss/French/German #150F/G Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8816) - Keyboard - USB, Norwegian, #155

This feature provides a USB attached Norwegian #155 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8817) - Keyboard - USB, Dutch, #143

This feature provides a USB attached Dutch #143 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8818) - Keyboard - USB, Portuguese, #163

This feature provides a USB attached Portuguese #163 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8819) - Keyboard - USB, Greek, #319

This feature provides a USB attached Greek #319 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8820) - Keyboard - USB, Hebrew, #212

This feature provides a USB attached Hebrew #212 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8821) - Keyboard - USB, Hungarian, #208

This feature provides a USB attached Hungarian #208 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8823) - Keyboard - USB, Polish, #214

This feature provides a USB attached Polish #214 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8825) - Keyboard - USB, Slovakian, #245

This feature provides a USB attached Slovakian #245 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8826) - Keyboard - USB, Czech, #243

This feature provides a USB attached Czech #243 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8827) - Keyboard - USB, Turkish, #179

This feature provides a USB attached Turkish #179 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8829) - Keyboard - USB, LA Spanish, #171

This feature provides a USB attached LA Spanish #171 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8830) - Keyboard - USB, Arabic, #253

This feature provides a USB attached Arabic #253 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8833) - Keyboard - USB, Korean, #413

This feature provides a USB attached Korean #413 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8834) - Keyboard - USB, Chinese/US, #467

This feature provides a USB attached Chinese/US #467 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8835) - Keyboard - USB, French Canadian, #445

This feature provides a USB attached French Canadian #445 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8836) - Keyboard - USB, Thai, #191

This feature provides a USB attached Thai #191 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8838) - Keyboard - USB, Russian, #443

This feature provides a USB attached Russian #443 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8839) - Keyboard - USB, Yugoslavian/Latin, #105

This feature provides a USB attached Yugoslavian/Latin #105 Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8840) - Keyboard - USB, US English (EMEA), #103P

This feature provides a USB attached US English #103P (EMEA) Quiet Touch keyboard. The two built-in USB ports conveniently provide for additional expansion. Not available in Japan. Color is Business Black.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 0 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Must Remove
- CSU: N/A
- Return parts MES: Does not apply

(#8841) - Mouse - USB, with Keyboard Attachment Cable

This feature provides a three button USB mouse and a cable for attachment to a keyboard. Color is Business Black.

- Attributes provided: 3-Button USB Mouse
- Attributes required: Keyboard with USB Mouse Attachment Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Supported
- CSU: Yes
- Return parts MES: No

(#8845) - USB Mouse

(No Longer Available as of October 31, 2017)

The optical LED USB Mouse has 2 buttons and a scroll wheel that acts as a third button. Mouse cable is 1.8 meters long. OS does not support scrolling with the wheel. Business black with red scroll wheel.

- Attributes provided: 2-Button USB Mouse w/scroll wheel that acts as 3rd button.
- Attributes required: USB attachment Port
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required:
 - Refer to the Software Requirements section to find the supported O/S levels for AIX and Linux.
 - AIX - supported
 - IBM i - not supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#9169) - Order Routing Indicator- System Plant

(No Longer Available as of August 31, 2012)

This feature will be auto-selected by the Configurator Tool when required. Use of this feature will affect the routing of the order. Selection of this indicator will direct the order to a system plant for fulfillment.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#9300) - Language Group Specify - US English

(No Longer Available as of August 31, 2012)

English language group for nomenclature and standard publications.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9359) - Specify mode-1 & (1)5901/5278 for EXP24S #5887

(No longer available as of December 31, 2020)

Feature indicates that EXP24S SFF Gen2-bay Drawer (#5887) will be configured by IBM Manufacturing in Mode 1 (One group of 24 drive bays) with one PCIe 3G SAS controller (#5901 or #5278), utilizing one appropriate YO cable connecting to the I/O Adapter (IOA) ports. IBM does not provide changes to the mode setting after #5887 is shipped.

Supported by AIX and Linux.

- Attributes provided: IOA configuration for Mode 1
- Attributes required: One YO cable (#3691 1.5M, #3692 3M, #3693 6M, #3694 15M) and one port on a #5901/#5278
- Minimum required: 0
- Maximum allowed: 56 (Initial order maximum: 56)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#9360) - Specify mode-1 & (2)5901/5278 for EXP24S #5887

(No longer available as of December 31, 2020)

Feature indicates that EXP24S SFF Gen2-bay Drawer (#5887) will be configured by IBM Manufacturing in Mode 1 (One group of 24 drive bays) with two individual PCIe 3G SAS controller (#5901 and/or #5278) utilizing two appropriate YO cables connecting to the 3G I/O Adapter (IOA) ports. IBM does not provide changes to the mode setting after #5887 is shipped.

Supported by AIX and Linux.

- Attributes provided: IOA configurations for Mode 1 with two (#5901 #5278)
- Attributes required: Two YO cables (#3691 1.5M, #3692 3M, #3693 6M, #3694 15M) and one port on each of two #5901/#5278s
- Minimum required: 0
- Maximum allowed: 56 (Initial order maximum: 56)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#9361) - Specify mode-2 & (2)5901/5278 for EXP24S #5887

(No longer available as of December 31, 2020)

Feature indicates that EXP24S SFF Gen2-bay Drawer (#5887) will be configured by IBM Manufacturing in Mode 2 (two sets of 12 drive bays) with two PCIe 3G SAS controllers (#5901 and/or #5278) utilizing two appropriate YO cables connecting to I/O Adapter (IOA) ports. IBM does not provide changes to the mode setting after #5887 is shipped.

Supported by AIX and Linux.

- Attributes provided: Designated IOA configurations for Mode 2
- Attributes required: Two YO cables (#3691 1.5M, #3692 3M, #3693 6M, #3694 15M) and one port on each of two #5901/#5278s
- Minimum required: 0
- Maximum allowed: 56 (Initial order maximum: 56)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#9365) - Specify mode-4 & (4)5901/5278 for EXP24S #5887

(No longer available as of December 31, 2020)

Feature indicates that EXP24S SFF Gen2-bay Drawer (#5887) will be configured by IBM Manufacturing in Mode 4 (four groups of 6 drive bays) with four PCIe 3G SAS controllers (#5901 and/or #5278) utilizing two appropriate dual X cables connecting to I/O Adapters (IOA) ports. IBM does not provide changes to the mode setting after #5887 is shipped.

Supported by AIX and Linux.

- Attributes provided: IOA configurations for Mode 4
- Attributes required: Two dual X cables (#3661 1.5M, #3662 3M, #3663 15M) and four #5901/#5278s dedicated to the single #5887
- Minimum required: 0
- Maximum allowed: 56 (Initial order maximum: 56)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#9366) - Specify mode-2 & (4)5901/5278 for EXP24S #5887

(No longer available as of December 31, 2020)

Feature indicates that EXP24S SFF Gen2-bay Drawer (#5887) will be configured by IBM Manufacturing in Mode 2 (two sets of up to 12 drive bays) with four PCIe 3G SAS controllers (#5901 and/or #5278) utilizing two appropriate dual X cables (#3454 3m, #3456 10m, #3458 15m) connecting to I/O Adapters (IOA) ports. IBM does not provide changes to the mode setting after #5887 is shipped.

Supported by AIX and Linux.

- Attributes provided: IOA configurations for Mode 2
- Attributes required: Two dual X cables (#3661 1.5M, #3662 3M, #3663 15M) and four #5901/#5278s dedicated to the single #5887
- Minimum required: 0
- Maximum allowed: 56 (Initial order maximum: 56)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#9367) - Specify mode-1 & (2)5903/5805 for EXP24S #5887

(No longer available as of December 31, 2020)

Feature indicates that EXP24S SFF Gen2-bay Drawer (#5887) will be configured by IBM Manufacturing in Mode 1 (One group of 1-24 drive bays) with a pair of PCIe 3G SAS RAID controller (either pair #5903 or 5805 or combination of both) utilizing two appropriate YO cable connecting to the 3G I/O Adapter (IOA) ports. This specify only impacts IBM's initial shipment of the EXP24S. IBM does not provide changes to the mode setting after #5887 is shipped.

- Attributes provided: IOA configurations for Mode 1
- Attributes required: Two YO cables (#3691 1.5M, #3692 3M, #3693 6M, #3694 15M) and one port on each of two #5903/#5805s
- Minimum required: 0
- Maximum allowed: 56 (Initial order maximum: 56)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#9368) - Specify mode-2 & (4)5903/5805 for EXP24S #5887

(No longer available as of December 31, 2020)

Feature indicates that EXP24S SFF Gen2-bay Drawer (#5887) will be configured by IBM Manufacturing in Mode 2 (two sets of 12 drive bays) with two pair of PCIe 3G SAS RAID controller (either pair #5903 or 5805 or combination of both) utilizing two appropriate X cable connecting to the I/O Adapters (IOA). IBM does not provide changes to the mode setting after #5887 is shipped.

Supported by AIX and Linux.

- Attributes provided: IOA configurations for Mode 2
- Attributes required: Two dual X cables (#3661 1.5M, #3662 3M, #3663 15M) and four #5903/#5805s dedicated to the single #5887
- OS Level Required: IBM i not-supported
- Minimum required: 0
- Maximum allowed: 56 (Initial order maximum: 56)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#9382) - Specify mode-1 & (1)5904/6/8 for EXP24S #5887

(No longer available as of December 31, 2020)

Feature indicates that EXP24S SFF Gen2-bay Drawer (#5887) will be configured by IBM Manufacturing in Mode 1 (One group of 24 drive bays) with one PCIe 3G SAS RAID controller (#5904, #5906 or #5908) utilizing one appropriate YO cable connecting to the 3G I/O Adapter (IOA). IBM does not provide changes to the mode setting after #5887 is shipped.

- Attributes provided: IOA configuration for Mode 1
- Attributes required: One YO cable (#3691 1.5M, #3692 3M, #3693 6M, #3694 15M) and one port on a #5904/#5906/#5908. Limit of 2 x #9382 per #5904/#5906/#5908
- Minimum required: 0
- Maximum allowed: 56 (Initial order maximum: 56)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#9383) - Specify mode-1 & (2) 5904/6/8 for EXP24S #5887

(No longer available as of December 31, 2020)

Feature indicates that EXP24S SFF Gen2-bay Drawer (#5887) will be configured by IBM Manufacturing in Mode 1 (One group of 24 drive bays) with a pair of PCI-X 3G SAS RAID controller (#5904, #5906 or #5908) utilizing one appropriate YO cable connecting to the PCI-X I/ O Adapter (IOA) ports. IBM does not provide changes to the mode setting after #5887 is shipped.

- Attributes provided: IOA configuration for Mode 1
- Attributes required: Two YO cables (#3691 1.5M, #3692 3M, #3693 6M, #3694 15M) and one port on each of two #5904/#5906/#5908s. Limit of 2 x #9383 per #5904/#5906/#5908 (paired adapters)

- Minimum required: 0
- Maximum allowed: 56 (Initial order maximum: 56)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#9384) - Specify mode-1 & CEC SAS port for EXP24 #5887

(No longer available as of December 31, 2020)

Feature indicates that EXP24S SFF Gen2-bay Drawer (#5887) will be configured by IBM Manufacturing in Mode 1 (One group of 24 drive bays) with the internal 3G SAS port utilizing one appropriate length YI cable connecting to the 3G I/O Adapter (IOA) ports. IBM does not provide changes to the mode setting after #5887 is shipped.

- Attributes provided: Internal SAS port configuration for Mode 1
- Attributes required: One internal CEC SAS port and One YI cable (#3686 1.5m or #3687 3m)
- Minimum required: 0
- Maximum allowed: 4 (Initial order maximum: 4)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#9385) - Specify mode-1 & (2) 5913 for EXP24S #5887

(No longer available as of December 31, 2020)

Specify feature 9385 (Specify mode-1 & (2) 5913 for EXP24S #5887) directs manufacturing to configure SFF drawer to Mode 1 (one group of 24 SFF bays) and two pair of PCIe2 1.8GB Cache RAID SAS Adapter Tri-port 6Gb (#5913). Select two YO cable #3450 1.5m, #3451 3m, #3452 6m, #3453 10m) and one AA cable (#5915 3m, #5916 6m, #5917 1.5m) and AIX, IBM i or Linux. Include one interconnecting 6Gb AA cable (3M #3681 or 6M #3682) between paired SAS adapters. IBM does not provide changes to the mode setting after #5887 is shipped.

- Attributes provided: Configuration #5887 Mode 1 with two #5913 adapters
- Attributes required: Two YO cables (#3450 1.5M, #3451 3M, #3452 6M, #3453 10M) and one port on each of two #5913s. If fewer than 3 ports on each of the #5913s are used, an AA cable (#5915 3M, #5916 6M, #5917 1.5M, #5918 0.6M) is required to connect the pair of #5913s
- Minimum required: 0
- Maximum allowed: 56 (Initial order maximum: 56)
- OS level required:
 - AIX - supported
 - IBM i - supported
 - Linux - supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#9386) - Specify mode-2 & (4) 5913 for EXP24S #5887

(No longer available as of December 31, 2020)

Specify feature 9386 (Specify mode-2 & (4) 5913 for EXP24S #5887) directs manufacturing to configure SFF drawer to mode 2 (two sets of 12 SFF bays) and four PCIe2 1.8GB Cache RAID SAS Adapter Tri-port 6Gb. Select #5913 and two appropriate length X cable (#3454 3m, #3456 10m). Include AIX, or Linux and select two AA cables (3M #3681 or 6M #3682) between paired SAS adapters. IBM does not provide changes to the mode setting after #5887 is shipped.

Supported by AIX and Linux.

- Attributes provided: Configure #5887 in Mode 2
- Attributes required: Two dual X cables (#3454 3M, #3455 6M, #3456 10M), two AA cables (#5915 3M, #5916 6M, #5917 1.5M, #5918 0.6M) and one port on each of four #5913s dedicated to the single #5887.
- Minimum required: 0
- Maximum allowed: 56 (Initial order maximum: 56)
- OS level required:
 - AIX - supported
 - Linux - supported
 - IBM i - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#9440) - New AIX License Core Counter

(No Longer Available as of August 31, 2012)

This feature is used to count the number of cores licensed to run AIX.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 64 (Initial order maximum: 64)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#9441) - New IBM i License Core Counter

(No Longer Available as of August 31, 2012)

This feature is used to count the number of cores licensed to run IBM i.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 64 (Initial order maximum: 64)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#9442) - New Red Hat License Core Counter

(No Longer Available as of August 31, 2012)

This feature is used to count the number of cores licensed to run Red Hat Linux.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 64 (Initial order maximum: 64)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#9443) - New SUSE License Core Counter

(No Longer Available as of August 31, 2012)

This feature is used to count the number of cores licensed to run SUSE Linux.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 64 (Initial order maximum: 64)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#9444) - Other AIX License Core Counter

(No Longer Available as of August 31, 2012)

This feature is used to count the number of existing AIX licenses transferred from another server.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 64 (Initial order maximum: 64)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#9445) - Other Linux License Core Counter

(No Longer Available as of August 31, 2012)

This feature is used to count the number of existing Linux licenses transferred from another server.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 64 (Initial order maximum: 64)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#9446) - 3rd Party Linux License Core Counter

(No Longer Available as of August 31, 2012)

This feature is used to count the number of cores licensed to run 3rd party Linux.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 64 (Initial order maximum: 64)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#9447) - VIOS Core Counter

(No Longer Available as of August 31, 2012)

This feature is used to count the number of cores licensed to run VIOS (Virtual I/O Server).

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 64 (Initial order maximum: 64)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: No

(#9461) - Month Indicator

(No Longer Available as of August 31, 2012)

Administrative indicator used to enable configuration of orders with a total quantity greater than thirty to be processed.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 12 (Initial order maximum: 12)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9462) - Day Indicator

(No Longer Available as of August 31, 2012)

Administrative indicator used to enable configuration of orders with a total quantity greater than thirty to be processed.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 31 (Initial order maximum: 31)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9463) - Hour Indicator

(No Longer Available as of August 31, 2012)

Administrative indicator used to enable configuration of orders with a total quantity greater than thirty to be processed.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 24 (Initial order maximum: 24)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9464) - Minute Indicator

(No Longer Available as of August 31, 2012)

Administrative indicator used to enable configuration of orders with a total quantity greater than thirty to be processed.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 60 (Initial order maximum: 60)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9465) - Qty Indicator

(No Longer Available as of August 31, 2012)

Administrative indicator used to enable configuration of orders with a total quantity greater than thirty to be processed.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 250)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9466) - Countable Member Indicator

(No Longer Available as of August 31, 2012)

Administrative indicator used to enable configuration of orders with a total quantity greater than thirty to be processed.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9570) - Reserved Rack Space Indicator - 4U

(No Longer Available as of August 31, 2012)

Informs IBM Manufacturing to leave a contiguous 4 EIA of rack space immediately under the installed system CEC Enclosure(s). This space can then be used to later install an additional CEC Enclosure for expansion of this system at the customer site, minimizing movement of existing rack components.

- Attributes provided: Reserves 4 EIA of rack space
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 3 (Initial order maximum: 3)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9700) - Language Group Specify - Dutch

(No Longer Available as of August 31, 2012)

Dutch language group for Nomenclature and Standard Publications.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9703) - Language Group Specify - French

(No Longer Available as of August 31, 2012)

French language group for Nomenclature and Standard Publications.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9704) - Language Group Specify - German

(No Longer Available as of August 31, 2012)

German language group for Nomenclature and Standard Publications.

- Attributes provided: Language specify
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9705) - Language Group Specify - Polish

(No Longer Available as of August 31, 2012)

Polish language group for Nomenclature and Standard Publications.

- Attributes provided: Language specify
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9706) - Language Group Specify - Norwegian

(No Longer Available as of August 31, 2012)

Norwegian language group for Nomenclature and Standard Publications.

- Attributes provided: Language specify
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9707) - Language Group Specify - Portuguese

(No Longer Available as of August 31, 2012)

Portuguese language group for Nomenclature and Standard Publications.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9708) - Language Group Specify - Spanish

(No Longer Available as of August 31, 2012)

Spanish language group for Nomenclature and Standard Publications.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9711) - Language Group Specify - Italian

(No Longer Available as of August 31, 2012)

Italian language group for Nomenclature and Standard Publications.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9712) - Language Group Specify - Canadian French

(No Longer Available as of August 31, 2012)

Canadian French language group for Nomenclature and Standard Publications.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9714) - Language Group Specify - Japanese

(No Longer Available as of August 31, 2012)

Japanese language group for Nomenclature and Standard Publications.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9715) - Language Group Specify - Traditional Chinese (Taiwan)

(No Longer Available as of August 31, 2012)

Traditional Chinese language group for Nomenclature and Standard Publications.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9716) - Language Group Specify - Korean

(No Longer Available as of August 31, 2012)

Korean language group for Nomenclature and Standard Publications.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9718) - Language Group Specify - Turkish

(No Longer Available as of August 31, 2012)

Turkish language group for nomenclature and publications.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9719) - Language Group Specify - Hungarian

(No Longer Available as of August 31, 2012)

Hungarian language group for Nomenclature and Standard Publications.

- Attributes provided: none
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9720) - Language Group Specify - Slovakian

(No Longer Available as of August 31, 2012)

Slovakian language group for Nomenclature and Standard Publications.

- Attributes provided: none
- Attributes required: none
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9721) - Language Group Specify - Russian

(No Longer Available as of August 31, 2012)

Russian language group for nomenclature and standard publications.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9722) - Language Group Specify - Simplified Chinese (PRC)

(No Longer Available as of August 31, 2012)

Simplified Chinese language group for nomenclature and standard publications.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9724) - Language Group Specify - Czech

(No Longer Available as of August 31, 2012)

Czech language group for nomenclature and standard publications.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9725) - Language Group Specify -- Romanian

(No Longer Available as of August 31, 2012)

Romanian language group for Nomenclature and Standard Publications.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9726) - Language Group Specify - Croatian

(No Longer Available as of August 31, 2012)

Croatian language group for Nomenclature and Standard Publications.

- Attributes provided: Language specify
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9727) - Language Group Specify -- Slovenian

(No Longer Available as of August 31, 2012)

Slovenian language group for Nomenclature and Standard Publications.

- Attributes provided: None
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9728) - Language Group Specify - Brazilian Portuguese

(No Longer Available as of August 31, 2012)

Brazilian Portuguese language group for Nomenclature and Standard Publications.

- Attributes provided: Language specify
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#9729) - Language Group Specify - Thai

(No Longer Available as of August 31, 2012)

Thai language group for Nomenclature and Standard Publications.

- Attributes provided: Language specify
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

(#EB72) - IBM i 7.2 Indicator

(No longer available as of April 30, 2020)

This feature is used to indicate the correct level of code when IBM i is specified.

- Attributes provided: IBM i 7.2 Indicator
- Attributes required: IBM i operating system
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required:
 - IBM i 7.2 or later supported
 - Refer to Software Requirements for specific O/S levels supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EB73) - IBM i 7.3 Indicator

This feature is used to indicate the correct level of code when IBM i is specified.

- Attributes provided: IBM i 7.3 Indicator
- Attributes required: IBM i operating system
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required:
 - IBM i 7.3 supported
 - Refer to Software Requirements for specific O/S levels supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: Does not apply

(#EC01) - Rack Front Door (Black)

(No longer available as of December 31, 2020)

This feature provides a front door in flat black color with an IBM logo for the 7953-94X rack. A front door such as #EC01 is required on the 7953-94X. The door is the full width of the rack and the hinges and lockplate can be moved from side to side allowing the door to be opened on the left or on the right. IBM ships rack with the handle on the right and hinges on the left viewed facing the front of the rack. The door comes with a lock which is keyed the same as the rear door or side panels. Uniquely keyed locks can be obtained by the client directly from Southco, the vendor from whom IBM purchased the lock.

- Attributes provided: Front Door with lock
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EC02) - Rack Rear Door

(No longer available as of December 31, 2020)

This feature provides a rear door in flat black color for the 7953-94X rack. Either feature number EC02 or feature EC05 is required on the 7953-94X. The door is the full width of the rack and the hinges and lockplate can be moved from side to side allowing the door to be opened on the left or on the right. IBM ships rack with the handle on the right and hinges on the left viewed facing the rear of the rack. The front doors, rear doors and side panels come with a lock which is keyed the same as the front door or side panels. Uniquely keyed locks can be obtained by the client directly from Southco, the vendor from whom IBM purchased the lock.

- Attributes provided: Rear Door with lock
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EC03) - Rack Side Cover

(No longer available as of December 31, 2020)

This feature provides two side panels in black color for the 7953-94X rack. Each side panel can cover either the left or the right side of the rack. These side covers are optional but recommended for optimal airflow through a rack and for physical security. The front door, rear doors and side panels come with a lock which is keyed the same as the front door or side panels. Uniquely keyed locks can be obtained by the client directly from Southco, the vendor from whom IBM purchased the lock.

- Attributes provided: Left and Right side panels for 7953 rack.
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EC04) - Rack Suite Attachment Kit

(No longer available as of December 31, 2020)

This feature provides the attachment hardware to allow two IBM PureFlex System 42U Racks with or without side panels to be bolted together in a continuous suite. Order one EC04 feature for each 42U rack attached to the starting rack. For example, in a three-rack suite, order two EC04 features. When multiple racks are joined in this way without internal side panels, cables can be more easily run between racks without having to exit the continuous rack enclosure. With the side panels installed optimum thermal efficiencies are gained. If the optional rear door heat exchanger is chosen, side panels must remain on racks in the suite. Side panels should be used on the leftmost and rightmost racks of the suite.

- Attributes provided: Hardware and trim to attach two racks
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EC15) - Rear Door Heat Exchanger for 2.0 Meter Slim Rack

(No longer available as of December 31, 2020)

This feature indicates that the rear door heat exchanger (1164-95X) is ordered for the 7953-94Y rack. Either feature EC02 or feature EC05 is required on the 7953-94Y.

- Attributes provided: RDHX
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ECB0) - 0.6m (2.0-ft), Blue CAT5 Ethernet Cable

This 0.6M Cat5e cables is used with ports/transceivers that have RJ-45 connectors.

- Attributes provided: 0.6m Cat5e Ethernet Cable
- Attributes required: RJ45 ports/transceivers.
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ECB2) - 1.5m (4.9-ft), Blue CAT5 Ethernet Cable

This cable connects the Flex System Enterprise Chassis to managed PDUs and the IBM Storwize V7000 Disk System.

- Attributes provided: 1.5m Cat5 Ethernet Cable
- Attributes required: RJ45 ports/transceivers.
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ECW0) - Optical Wrap Plug

A wrap plug is a small connector designed to perform a diagnostic test called a loopback test. This wrap plug is inserted into a SR optical port on a PCIe Fibre Channel adapter or a SR or LR optical port on a PCIe Ethernet adapter

This is a multi-mode LC fiber optic wrap plug with an inside/ outside optics diameter of 50/125. Its IBM part number as of early 2016 is 12R9314. An earlier equivalent function IBM part number which is no longer shipped is 11P3847.

It is strongly recommended that Fibre Channel adapters (HBAs) fill any empty adapter ports with a wrap plug. There is no technical issue leaving a port empty. However, filling all ports with a cable to a device/switch or with a wrap plug can speed the booting/IPLing of a partition and can avoid error messages uselessly pointing to a planned empty port.

There is no technical issue leaving an Ethernet port empty. Whether an Ethernet port is empty or contains a wrap plug should not impact boot/IPL time or impact empty-port messages.

- Attributes provided: Wrap plug
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EH14) - GEN2-S Conversion Carrier for Feature ES0C 387GB SSD

(No Longer Available as of August 31, 2017)

This feature delivers one GEN2-S carrier as a MES upgrade. The carrier #EH14 accommodates one #ES0A 387GB SFF-1 SSD for AIX/Linux so it can be installed as a conversion in a GEN2 bay such as #5887 EXP24S SFF Gen2-bay Drawer. It is now functionally equivalent to #ES0C.

- Attributes provided: One GEN2 Carrier
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EH15) Qty 150 Gen2-S Conversion Carriers for feature EQ0A 387GB SSD.

(No Longer Available as of August 31, 2017)

Each instance of this feature #EH15 delivers 150 GEN2-S carriers as an MES upgrade. These carriers convert one #EQ0A (Quantity 150 of #ES0A, 387GB SFF-1 SSD for AIX/Linux). Once on the Carrier the drives can be installed in a #5887 EXP24S SFF Gen2-bay Drawer. It is now functionally equivalent #EQ0C quantity 150 of #ES0C.

- Attributes provided: 150 GEN2 Carriers
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required: See ES0C OS required
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EH16) GEN2-S Conversion Carrier for Feature ES0D 387GB SSD (IBM i)

(No Longer Available as of August 31, 2017)

This feature delivers a GEN2-S carrier as a MES upgrade. The carrier #EH16 accommodates #ES0B 387GB SFF-2 SSD for IBM i with eMLC. Once on the carrier it can be installed in a GEN2 bay such as #5887 EXP24S SFF Gen2-bay Drawer. It is now functionally equivalent to #ES0D.

- Attributes provided: One GEN2 Carrier
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EH17) - Qty 150 GEN2-S Conversion Carriers for Feature EQ0B 387GB SSD (IBM i)

(No Longer Available as of August 31, 2017)

Each instance of this feature #EH17 delivers 150 GEN2-S carriers as an MES upgrade. These carriers convert one #EQ0B (Quantity 150 of #ES0B 387GB SFF-2 SSD for IBM i with eMLC). Once on the Carrier the drives can be installed in a #5887 EXP24S SFF Gen2-bay drawer. It is now functionally equivalent to #EQ0D quantity 150 of #ES0D.

- Attributes provided: 150 GEN2 Carriers
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required: Refer to ES0D
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EJ28) - PCIe Crypto Coprocessor Gen3 BSC 4765-001

(No Longer Available as of March 31, 2017)

Secure-key adapter provides both cryptographic coprocessor and cryptographic accelerator functions in a single PCIe card. The adapter is well suited to applications requiring high-speed, security-sensitive, RSA acceleration, cryptographic operations for data encryption and digital signing, secure management, and use of cryptographic keys, or custom cryptographic applications. It provides secure storage of cryptographic keys in a tamper-resistant hardware security module designed to meet FIPS 140-2 level 4 security requirements. The adapter is a PCIe 4x full height - short card.

#EJ27, #EJ28 and #EJ29 are all feature codes representing the same physical card with the same CCIN of 4765, but different feature codes are used to indicate if a blind swap cassette is used and its type. #EJ27 indicates no blind swap cassette. #EJ28 indicates a Gen 3 blind swap cassette. #EJ29 indicates a Gen 4 blind swap cassette. 2

#EJ27, EJ28 and EJ29 are identical to #4807, #4808 and #4809 adapters which were manufactured after 2012, but different from #4807, #4808 and #4809 adapters manufactured prior to 2012.

Other IBM PCIe Cryptographic Coprocessor adapter highlights

- Integrated Dual processors that operate in parallel for higher reliability
- Supports IBM Common Cryptographic Architecture or PKCS#11 standard
- Ability to configure adapter as coprocessor or accelerator
- Support for smart card applications using Europay, MasterCard and Visa
- Cryptographic key generation and random number generation
- PIN processing - generation, verification, translation
- Encrypt/Decrypt using AES and DES keys

Please refer to the following URL for the latest firmware and software updates.

<http://www-03.ibm.com/security/cryptocards/>

- Attributes provided: Cryptographic Coprocessor and Accelerator Functions
- Attributes required: One full-high PCIe slot using a gen3 blind swap cassette such as found in an EM0X Gen3 I/O drawer or #5802/5803/5873/5877 12X-attached I/O drawer

- Minimum required: 0
- Maximum allowed: 10 (Initial order maximum: 10)
- OS level required:
 - AIX Version 5.3 supported
 - AIX Version 6.1 supported
 - AIX Version 7.1 supported
 - IBM i 6.1 with machine code 6.1.1
 - IBM i 7.1 or later
 - IBM i 7.2 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EJ29) - PCIe Crypto Coprocessor Gen4 BSC 4765-001

(No Longer Available as of March 31, 2017)

Secure-key adapter provides both cryptographic coprocessor and cryptographic accelerator functions in a single PCIe card. The adapter is well suited to applications requiring high-speed, security- sensitive, RSA acceleration, cryptographic operations for data encryption and digital signing, secure management, and use of cryptographic keys, or custom cryptographic applications. It provides secure storage of cryptographic keys in a tamper-resistant hardware security module designed to meet FIPS 140-2 level 4 security requirements. The adapter is a PCIe 4x full height - short card.

#EJ27, #EJ28 and #EJ29 are all feature codes representing the same physical card with the same CCIN of 4765, but different feature codes are used to indicate if a blind swap cassette is used and its type. #EJ27 indicates no blind swap cassette. #EJ28 indicates a Gen 3 blind swap cassette. #EJ29 indicates a Gen 4 blind swap cassette.

#EJ27, EJ28 and EJ29 are identical to #4807, #4808 and #4809 adapters which were manufactured after 2012, but different from #4807, #4808 and #4809 adapters manufactured prior to 2012.

Other IBM PCIe Cryptographic Coprocessor adapter highlights

- Integrated Dual processors that operate in parallel for higher reliability
- Supports IBM Common Cryptographic Architecture or PKCS#11 standard
- Ability to configure adapter as coprocessor or accelerator
- Support for smart card applications using Europay, MasterCard and Visa
- Cryptographic key generation and random number generation
- PIN processing - generation, verification, translation
- Encrypt/Decrypt using AES and DES keys

Please refer to the following URL for the latest firmware and software updat

- Attributes provided: Cryptographic Coprocessor and Accelerator Functions
- Attributes required: One full-high PCIe slot using a gen3 blind swap cassette such as found in a Power 770/780 system unit or a POWER7+ model 750/760 system unit
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - AIX Version 5.3 supported
 - AIX Version 6.1 supported
 - AIX Version 7.1 supported
 - IBM i 6.1 with machine code 6.1.1 or later
 - IBM i 7.1 or later
 - IBM i 7.2 or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EJS1) - Non-paired Indicator ESA3 PCIe SAS RAID Adapter

Feature EJS1 must be added for every instance of a non-paired SAS RAID adapter #ESA3. It identifies a specific high availability configuration supported by AIX or Linux which has one #ESA3 on one system and the paired #ESA3 located on a second system. IBM i does not support paired adapter on different servers.

SAS RAID adapter firmware disables write cache until a second SAS RAID adapter is recognized.

Every #EJS1 requires a 6Gb/s SAS RAID adapter (#ESA3) on both this server and on another server that will pair up the SAS RAID adapter and enable the onboard caches to function.

Limitation

- Cannot be used with #5913
- Cannot be used with #5924
- Attributes provided: SAS RAID adapter firmware disables write cache until a second SAS RAID adapter is recognized.
- Attributes required: Every #ESA3 requires a 6Gb/s SAS RAID adapter CR (#ESA3) on both this server and on another server that will pair up the SAS RAID adapter and enable the onboard caches to function.

- Minimum required: 0
- Maximum allowed: 136 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EJS2) - Specify Mode-2 & (2)ESA3 for EXP24S (#5887/#EL1S)

(No longer available as of December 31, 2020)

This feature does not order or ship any hardware, but indicates to IBM config tools and to IBM Manufacturing that in this configuration one EXP24S SFF Gen2-bay Drawer (#5887/#EL1S) should be configured in Mode 2 and be using two (one pair) of PCIe2 1.8GB RAID SAS adapter (#ESA3) and one X SAS Cable.

This indicates a "partial" configuration where there are not enough adapters/cables to run all the SAS bays in the EXP24S. If additional adapters/cables are MES added later to support the rest of the SAS bays, then this specify code should be removed and the appropriate specify feature added to help IBM config tools understand the expanded usage, probably specify feature #EJS4.

- Attributes provided: Communicate configuration information to IBM Manufacturing
- Attributes required: EXP24S Drawer, two PCIe2 1.8GB Cache RAID SAS Adapters, one X SAS cable
- Minimum required: 0
- Maximum allowed: 56 (Initial order maximum: 0)
- OS level required:
 - AIX 7.1 with the 7100-03 Technology Level or later
 - AIX 6.1 with the 6100-09 Technology Level or later
 - AIX 7.1 with the 7100-02 Technology Level and Service Pack 4 or later
 - AIX 7.1 with the 7100-01 Technology Level and Service Pack 9 or later
 - AIX 6.1 with the 6100-08 Technology Level and Service Pack 4 or later
 - AIX 6.1 with the 6100-07 Technology Level and Service Pack 9 or later
 - AIX 5.3 with the 5300-12 Technology Level and Service Pack 9 or later
 - IBM i - not supported
 - Red Hat Enterprise Linux 5.7 or later
 - Red hat enterprise Linux 6.1 or later
 - SUSE Linux Enterprise Server 10 Service Pack 4 or later
 - SUSE Linux Enterprise Server 11 Service Pack 2 or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EJS3) - Specify Mode-1 & (2)ESA3 for EXP24S (#5887/#EL1S)

(No longer available as of December 31, 2020)

This feature does not order or ship any hardware, but indicates to IBM config tools and to IBM Manufacturing that in this configuration one EXP24S SFF Gen2-bay Drawer (#5887/#EL1S) should be configured in Mode 1 and be using two (one pair) of PCIe2 1.8GB RAID SAS adapter (#ESA3) and two YO SAS Cables.

- Attributes provided: Communicate configuration information to IBM Manufacturing
- Attributes required: EXP24S Drawer, two PCIe2 1.8GB Cache RAID SAS Adapters, two SAS YO cables
- Minimum required: 0
- Maximum allowed: 56 (Initial order maximum: 0)
- OS level required:
 - AIX 7.1 with the 7100-03 Technology Level or later
 - AIX 6.1 with the 6100-09 Technology Level or later
 - AIX 7.1 with the 7100-02 Technology Level and Service Pack 4 or later
 - AIX 7.1 with the 7100-01 Technology Level and Service Pack 9 or later
 - AIX 6.1 with the 6100-08 Technology Level and Service Pack 4 or later
 - AIX 6.1 with the 6100-07 Technology Level and Service Pack 9 or later
 - AIX 5.3 with the 5300-12 Technology Level and Service Pack 9 or later
 - IBM i 6.1 with machine code 6.1.1
 - IBM i 7.1 or later
 - Red Hat Enterprise Linux 5.7 or later
 - Red hat enterprise Linux 6.1 or later
 - SUSE Linux Enterprise Server 10 Service Pack 4 or later
 - SUSE Linux Enterprise Server 11 Service Pack 2 or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EJS4) - Specify Mode-2 & (4)ESA3 for EXP24S (#5887/#EL1S)

(No longer available as of December 31, 2020)

This feature does not order or ship any hardware, but indicates to IBM config tools and to IBM Manufacturing that in this configuration one EXP24S SFF Gen2-bay Drawer (#5887/#EL1S) should be configured in Mode 2 and be using four (two pairs) of PCIe2 1.8GB RAID SAS adapters (#ESA3) and two X SAS Cables.

- Attributes provided: Communicate configuration information to IBM Manufacturing
- Attributes required: EXP24S Drawer, four PCIe2 1.8GB Cache SAS RAID Adapters, two SAS X cables
- Minimum required: 0
- Maximum allowed: 34 (Initial order maximum: 0)
- OS level required:
 - AIX 7.1 with the 7100-03 Technology Level or later
 - AIX 6.1 with the 6100-09 Technology Level or later
 - AIX 7.1 with the 7100-02 Technology Level and Service Pack 4 or later
 - AIX 7.1 with the 7100-01 Technology Level and Service Pack 9 or later
 - AIX 6.1 with the 6100-08 Technology Level and Service Pack 4 or later
 - AIX 6.1 with the 6100-07 Technology Level and Service Pack 9 or later
 - AIX 5.3 with the 5300-12 Technology Level and Service Pack 9 or later
 - IBM i - not supported
 - Red Hat Enterprise Linux 5.7 or later
 - Red hat enterprise Linux 6.1 or later
 - SUSE Linux Enterprise Server 10 Service Pack 4 or later
 - SUSE Linux Enterprise Server 11 Service Pack 2 or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EJS5) Specify Left Half 12X I/O Drawer to PCIe2 1.8GB RAID SAS Adapter

Directs manufacturing to connect the left half of 12X I/O Drawer (#5802/EL36 or #5803) to ports on a pair of PCIe2 1.8GB Cache RAID SAS Adapters (#ESA3). This eConfig assigned feature helps IBM Manufacturing understand what to build/configure/cable in the absence of Customer Specified Placement (CSP) information. "Left" is defined as the SAS bays seen by a person facing the front of the rack.

- Attributes provided: Communicate placement information to IBM Manufacturing.
- Attributes required: Two PCIe2 1.8GB Cache SAS RAID Adapters (#ESA3) and a 12X I/O Drawer (#5802/5803/EL36)
- Minimum required: 0
- Maximum allowed: 16 (Initial order maximum: 0)
- OS level required:
 - AIX 7.1 with the 7100-03 Technology Level or later
 - AIX 6.1 with the 6100-09 Technology Level or later
 - AIX 7.1 with the 7100-02 Technology Level and Service Pack 4 or later
 - AIX 7.1 with the 7100-01 Technology Level and Service Pack 9 or later
 - AIX 6.1 with the 6100-08 Technology Level and Service Pack 4 or later
 - AIX 6.1 with the 6100-07 Technology Level and Service Pack 9 or later
 - AIX 5.3 with the 5300-12 Technology Level and Service Pack 9 or later
 - IBM i - not supported
 - Red Hat Enterprise Linux 5.7 or later
 - Red hat enterprise Linux 6.1 or later
 - SUSE Linux Enterprise Server 10 Service Pack 4 or later
 - SUSE Linux Enterprise Server 11 Service Pack 2 or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EJS6) Specify Right Half 12X I/O Drawer to PCIe2 1.8GB RAID SAS Adapter

Directs manufacturing to connect the right half of 12X I/O Drawer (#5802/EL36 or #5803) to ports on a pair of PCIe2 1.8GB Cache RAID SAS Adapters (#ESA3). This eConfig assigned feature helps IBM Manufacturing understand what to build/configure/cable in the absence of Customer Specified Placement (CSP) information. "Right" is defined as the SAS bays seen by a person facing the front of the rack.

- Attributes provided: Communicate placement information to IBM Manufacturing
- Attributes required: Two PCIe2 1.8GB Cache SAS RAID Adapters (#ESA3) and a 12X I/O Drawer (#5802/5803/EL36)
- Minimum required: 0
- Maximum allowed: 16 (Initial order maximum: 0)
- OS level required:
 - AIX 7.1 with the 7100-03 Technology Level or later
 - AIX 6.1 with the 6100-09 Technology Level or later
 - AIX 7.1 with the 7100-02 Technology Level and Service Pack 4 or later
 - AIX 7.1 with the 7100-01 Technology Level and Service Pack 9 or later
 - AIX 6.1 with the 6100-08 Technology Level and Service Pack 4 or later
 - AIX 6.1 with the 6100-07 Technology Level and Service Pack 9 or later
 - AIX 5.3 with the 5300-12 Technology Level and Service Pack 9 or later
 - IBM i - not supported
 - Red Hat Enterprise Linux 5.7 or later
 - Red hat enterprise Linux 6.1 or later
 - SUSE Linux Enterprise Server 10 Service Pack 4 or later
 - SUSE Linux Enterprise Server 11 Service Pack 2 or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EK51) - Full Width Keyboard -- USB, US English, #103P

(No Longer Available as of October 31, 2017)

This feature provides a USB attached US English #103P business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK52) - Full Width Keyboard -- USB, French, #189

(No Longer Available as of October 31, 2017)

This feature provides a USB attached French #189 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK53) - Full Width Keyboard -- USB, Italian, #142

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Italian #142 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK54) - Full Width Keyboard -- USB, German/Austrian, #129

(No Longer Available as of October 31, 2017)

This feature provides a USB attached German/Austrian #129 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK55) - Full Width Keyboard -- USB, UK English, #166P

(No Longer Available as of October 31, 2017)

This feature provides a USB attached UK English #166 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK56) - Full Width Keyboard -- USB, Spanish, #172

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Spanish #172 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK57) - Full Width Keyboard -- USB, Japanese, #194

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Japanese #194P business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK58) - Full Width Keyboard -- USB, Brazilian Portuguese, #275

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Brazilian Portuguese #275 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK59) - Full Width Keyboard -- USB, Hungarian, #208

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Hungarian #208 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK60) - Full Width Keyboard -- USB, Korean, #413

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Korean #413 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK61) - Full Width Keyboard -- USB, Chinese, #467

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Chinese #467 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK62) - Full Width Keyboard -- USB, French Canadian, #445

(No Longer Available as of October 31, 2017)

This feature provides a USB attached French Canadian #445 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK64) - Full Width Keyboard -- USB, Belgian/UK, #120

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Belgian/UK #120 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK65) - Full Width Keyboard -- USB, Swedish/Finnish, #153

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Swedish/Finnish #153 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK66) - Full Width Keyboard -- USB, Danish, #159

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Danish #159 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK67) - Full Width Keyboard -- USB, Bulgarian, #442

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Bulgarian #442 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK68) - Full Width Keyboard -- USB, Swiss/French/German, #150

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Swiss, French/German #150 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK69) - Full Width Keyboard -- USB, Norwegian, #155

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Norwegian #155 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK70) - Full Width Keyboard -- USB, Dutch, #143

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Dutch #143 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK71) - Full Width Keyboard -- USB, Portuguese, #163

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Portuguese #163 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK72) - Full Width Keyboard -- USB, Greek, #319

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Greek #319 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK73) - Full Width Keyboard -- USB, Hebrew, #212

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Hebrew #212 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK74) - Full Width Keyboard -- USB, Polish, #214

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Polish #214 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK75) - Full Width Keyboard -- USB, Slovakian, #245

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Slovakian #245 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK76) - Full Width Keyboard -- USB, Czech, #243

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Czech #243 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK77) - Full Width Keyboard -- USB, Turkish, #179

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Turkish #179 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK78) - Full Width Keyboard -- USB, LA Spanish, #171

(No Longer Available as of October 31, 2017)

This feature provides a USB attached LA Spanish #171 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK79) - Full Width Keyboard -- USB, Arabic, #253

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Arabic #253 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK80) - Full Width Keyboard -- USB, Thai, #191

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Thai #191 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK81) - Full Width Keyboard -- USB, Russian, #443

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Russian #443 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK82) - Full Width Keyboard -- USB, Slovenian, #234

(No Longer Available as of October 31, 2017)

This feature provides a USB attached Slovenian #234 business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EK83) - Full Width Keyboard -- USB, US English Euro, #103P

(No Longer Available as of October 31, 2017)

This feature provides a USB attached US English EURO #103P business black quiet touch keyboard.

- Attributes provided: Keyboard
- Attributes required: USB Port
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#ELC0) - PDU Access Cord 0.38m

This 0.38 meter (14 inch) cord is used with a vertically mounted PDU (Power Distribution Unit) such as a #7188 or #7109 when the PDU is located in a 7953-94Y or #ER05 Slim Rack. One end of this power cord connects to the PDU. The other end of this cord connects to the power cord running to the wall outlet or electrical power source.

One PDU Access Cord is required per vertically mounted PDU. Without a PDU Access Cord, inserting and removing the wall outlet power cord into the PDU can be very difficult in the narrow side pockets of the Slim Rack. A PDU Access Cord is not required for PDUs in wider racks such as the 7014-T42 or #0553.

- Attributes provided: Power cord
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ELJ0) - Power Integrated Facility for Linux Package

(No Longer Available as of December 31, 2018)

This feature delivers Qty = 4 processor activations, Qty = 32 1GB memory activations and Qty = 4 PowerVM for Linux licenses for 4 processor cores.

This is a chargeable feature code which will cause IBM configuration tools to add the proper quantity of no-charge features associated with processor activations (ELJ1), memory activations (ELJ2) and PowerVM (ELJ3).

- Attributes provided: Power IFL package of processor and memory activation and PowerVM
- Attributes required: server supporting Power IFL
- Minimum required: 0
- Maximum allowed: 15 (Initial order maximum: 0)
- OS level required: Refer to the Software Requirements section to find the supported O/S levels for Linux
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No
- Note: System Max Limits with following Processors
 - 3.5GHz(#4980) Max = 11
 - 3.1GHz(#4901) Max = 15

(#ELJ1) - Power IFL Processor Activation

(No Longer Available as of October 31, 2017)

This no-charge feature delivers Qty = 4 processor activations in support of a Power IFL chargeable package feature such as FC#ELJ0.

- Attributes provided: Power IFL Qty = 4 processor activations
- Attributes required: Package IFL feature on server

(#ELJ2) - Power IFL Memory Activation

This no-charge feature delivers Qty = 32 1GB memory activations in support of a Power IFL chargeable package such as FC#ELJ0

- Attributes provided: Power IFL Qty = 32 memory activations
- Attributes required: Package IFL feature on server
- Minimum required: 0
- Maximum allowed: 15 (Initial order maximum: 0)
- OS level required: Refer to the Software Requirements section to find the supported O/S levels for Linux
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No
- Note: System Max Limits with following Processors
 - 3.5GHz(#4980) Max = 11
 - 3.1GHz(#4901) Max = 15

(#ELJ3) - Power IFL PowerVM for Linux

This no-charge feature delivers Qty = 4 PowerVM for Linux entitlements for 4 processor cores in support of a Power IFL chargeable package such as FC#ELJ0.

- Attributes provided: Power IFL Qty = 4 PowerVM for Linux entitlements
- Attributes required: Package IFL feature on server
- Minimum required: 0
- Maximum allowed: 15 (Initial order maximum: 0)
- OS level required: Refer to the Software Requirements section to find the supported O/S levels for Linux
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No
- Note: System Max Limits with following Processors
 - 3.5GHz(#4980) Max = 11
 - 3.1GHz(#4901) Max = 15

(#ELJ4) - Power IFL Processor Activation

This no-charge feature delivers Qty = 4 processor activations in support of a Power IFL chargeable package feature such as FC#ELJ0.

- Attributes provided: Power IFL Qty = 4 processor activations
- Attributes required: Package IFL feature on server
- Minimum required: 0
- Maximum allowed: 11 (Initial order maximum: 0)
- OS level required: Refer to the Software Requirements section to find the supported O/S levels for Linux
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ELPM) - Trial PowerVM Live Partition Mobility

This feature will enable a customer to evaluate Live Partition Mobility at no-charge for 60 days. At the conclusion of the trial period clients place an upgrade order for permanent PowerVM Enterprise Edition to maintain continuity. At the end of the trial period (60 days), the client's system will automatically return to PowerVM Standard Edition.

Live Partition Mobility, available only with PowerVM Enterprise Edition, allows for the movement of a running partition from one Power System server to another with no application downtime, resulting in better system utilization, improved application availability, and energy savings. With Live Partition Mobility, planned application downtime due to regular server maintenance can be a thing of the past.

- Attributes provided: A 60-day trial version of PowerVM Enterprise Edition.
- Attributes required: PowerVM Standard Edition and FW 7.3.0, or later.
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: n/a
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#ELS1) - #ES11 Load Source Specify (387GB SSD SFF-1)

This specify code indicates that a #ES11 Solid State Drive is being used as the Load Source.

- Attributes provided: Communicate location of load source to IBM Manufacturing
- Attributes required: #ES1A
- Minimum required: 1
- Maximum allowed: 1 (Initial order maximum: 0)
- OS level required: See ES11
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ELS9) - #ES1A Load Source Specify (387GB SSD SFF-2)

This specify code indicates that a #ES1A Solid State Drive is being used as the Load Source.

- Attributes provided: Communicate location of load source to IBM Manufacturing
- Attributes required: #ES11
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 0)
- OS level required: See ES1A
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ELSF) - #ES0F Load Source Specify (775GB SSD SFF-1)

This specify code indicates that a #ES0F Solid State Drive is being used as the Load Source.

- Attributes provided: Communicate location of load source to IBM Manufacturing
- Attributes required: #ES0F
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 0)
- OS level required:
 - IBM i 7.1, or later
 - IBM i 6.1 with machine code 6.1.1, or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ELSH) - #ES0H Load Source Specify (775GB SSD SFF-2)

This specify code indicates that a #ES0H Solid State Drive is being used as the Load Source.

- Attributes provided: Communicate location of load source to IBM Manufacturing
- Attributes required: #ES0H
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 0)
- OS level required:
 - IBM i 6.1 with machine code 6.1.1, or later
 - IBM i 7.1, or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ELT9) #ES79 Load Source Specify (387GB SFF-2 SSD 5xx for IBM i)

(No longer available as of January 18, 2019)

Specify code indicates a #ES79 solid state drive (SSD) is used as the Load Source.

- Attributes provided: Communicate location of load source to IBM Manufacturing
- Attributes required: #ES79
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 0)
- OS level required:
 - IBM i 7.1 TR11 or later
 - IBM i 7.2 TR4 or later
 - IBM i 7.3 or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ELTF) #ES7F Load Source Specify (775GB SFF-2 SSD 5xx for IBM i)

(No longer available as of January 18, 2019)

Specify code indicates a #ES7F solid state drive (SSD) is used as the Load Source.

- Attributes provided: Communicate location of load source to IBM Manufacturing
- Attributes required: #ES7F
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 0)
- OS level required:
 - IBM i 7.1 TR11 or later
 - IBM i 7.2 TR4 or later
 - IBM i 7.3 or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EMJ3) - On/Off 100 GB-Days, Memory Billing POWER7

One #EMJ3 feature should be ordered for each 100 billable days for each 1GB increment of POWER7 memory that was used. After the ON/ OFF Memory function is enabled in a system, you must report your on/ off usage to IBM at least monthly. This information, used to compute your billing data, is provided to your sales channel. The sales channel will place an order on your behalf for the quantity of this feature that matches your reported use.

- Attributes provided: Payment for 100 GB-DAYS of ON/OFF memory use
- Attributes required: Inactive Memory available for temporary use installed in either a #4700 or #4702 processor book.
- Minimum required: 0
- Maximum allowed: 999 (Initial order maximum: 0)
- OS level required: N/A
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EN01) - 1m (3.3-ft), 10GbE'Net Cable SFP+ Act Twinax Copper

1m (3.3-ft) 10GbE copper SFP+ active twinax Ethernet cables support data transfer rates up to 10 Gb/s. Cable is effective alternative to optical cable for short reach link high-speed connection.

- Attributes provided: 10Gb/s copper SFP+ active twinax Ethernet cable
- Attributes required: One available SFP+ 10Gb/s Ethernet Port.
- Minimum required: 0
- Maximum allowed: No Maximum (Initial order maximum: 250)
- OS level required: N/A
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

Note: Minimum system firmware level required 01AM720_084.

(#EN02) - 3m (9.8-ft) 10GbE'Net Cable SFP+ Act Twinax Copper

3m (9.8-ft) 10GbE copper SFP+ active twinax Ethernet cables support data transfer rates up to 10 Gb/s. Cable is effective alternative to optical cable for short reach link high-speed connection.

- Attributes provided: 10Gb/s copper SFP+ active twinax Ethernet cable
- Attributes required: One available SFP+ 10Gb/s Ethernet Port.
- Minimum required: 0
- Maximum allowed: No Maximum (Initial order maximum: 250)
- OS level required: N/A
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

Note: Minimum system firmware level required 01AM720_084.

5m (16.4-ft) 10GbE copper SFP+ active twinax Ethernet cables support data transfer rates up to 10 Gb/s. Cable is effective alternative to optical cable for short reach link high-speed connection.

- Attributes provided: 10Gb/s copper SFP+ active twinax Ethernet cable
- Attributes required: One available SFP+ 10Gb/s Ethernet Port.
- Minimum required: 0
- Maximum allowed: No Maximum (Initial order maximum: 250)
- OS level required: N/A
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

Note: Minimum system firmware level required 01AM720_084.

(#EN13) - PCIe 1-port Bisync Adapter

(No Longer Available as of May 13, 2016)

The #EN13 is a full high PCIe adapter which provides 1 RVX port for Bisync capability. This RVX port is labeled "Port 1". Its CCIN = 576C Bisync functionality identical to #2893 PCIe adapter is provided.

Select one of the following cables to attach to port 1 (RVX port):

- #0348 - V.24/EIA232 20-Ft PCI Cable
- #0353 - V.35 20-Ft PCI Cable
- #0359 - X.21 20-Ft PCI Cable

Limitations

- The #2893 does not support the remote ring indicate function.
- There is a second port on the card with an integrated modem, but Bisync is not supported on this port (labeled "Port 0").
- Attributes provided: One full-high PCIe adapter with 1 port for Bisync communications
- Attributes required: PCIe full high slot, external modem, cable for the modem.
- Minimum required: 0
- Maximum allowed: 184 (Initial order maximum: 0)
- OS level required:
 - IBM i 6.1 supported
 - IBM i 7.1 supported
 - Refer to Software Requirements for specific O/S levels supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EN27) - 2 Port Async EIA-232 PCIe Adapter

(No Longer Available as of March 11, 2016)

Adapter provides connection for 2 asynchronous EIA-232 devices. Ports are programmable to support EIA-232 protocols, at a line speed of 128K bps. Two RJ45 connections are located on the rear of the adapter. To attach to devices using a 9-pin (DB9) connection, use an RJ45-to-DB9 converter. For convenience, one converter is included with this feature. One converter for each connector needing a DB9 connector is needed.

The converter cable shipped with the feature is a 10-pin RJ-45 approximately 30 cm or 1 foot in length. 10-pin is often used for DCE devices like modems. DTE devices may be able to use fewer pin connections. Multiple RJ-45 pin out options are used and sold across the industry. The #3930 feature provides an 8-pin RJ45-to-DB9 converter cable. If an addition 10-pin RJ45-to-DB9 connector like the cable provided with the adapter is desired, it is commonly available from multiple sources and identified as a serial cable with a Digi part number 76000239. It is also possible to look up the cable's pin out specifications and build your own cables.

Note #EN27 and # EN28 are physically and electrically identical adapters, except for the type of PCIe slot used (full-high or low profile).

- Attributes provided: 2-Port Asynchronous EIA-232 via 2x RJ45 connectors, one RJ45-to-DB9 converter cable..
- Attributes required: 1 full high PCIe Slot
- Minimum required: 0
- Maximum allowed: 56 (Initial order maximum: 56)
- OS level required:
 - AIX Version 7.1 with the 7100-01 Technology level, or later
 - AIX Version 6.1 with the 6100-07 Technology Level, or latter
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 5
 - IBM i 7.1 or later
 - Red Hat Enterprise Linux 5.5 or later
 - SUSE Linux Enterprise Server 10 Service Pack 3 or later, with current maintenance updates available from Novell to enable all planned functionality.
 - SUSE Linux Enterprise Server 11 or later, with current maintenance updates available from Novell to enable all planned functionality.
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EN29) - 2 Port Async EIA-232 PCIe Adapter

(No Longer Available as of August 31, 2017)

Adapter provides connection for 2 asynchronous EIA-232 devices. Ports are programmable to support EIA-232 protocols, at a line speed of 128K bps. Two RJ45 connections are located on the rear of the adapter. To attach to devices using a 9-pin (DB9) connection, use an RJ45-to-DB9 converter. For convenience, one converter is included with this feature. One converter for each connector needing a DB9 connector is needed.

The converter cable shipped with the feature is a 10-pin RJ-45 approximately 30 cm or 1 foot in length. 10-pin is often used for DCE devices like modems. DTE devices may be able to use fewer pin connections. Multiple RJ-45 pin out options are used and sold across the industry. The #3930 feature provides an 8-pin RJ45-to-DB9 converter cable. If an additional 10-pin RJ45-to-DB9 connector like the cable provided with the adapter is desired, it is commonly available from multiple sources and identified as a serial cable with a Digi part number 76000239. It is also possible to look up the cable's pin out specifications and build your own cables.

This adapter is functionally and electronically equivalent to #EN27 and is functionally equivalent to the earlier #5289 Async adapters.

- Attributes provided: 2-Port Asynchronous EIA-232 via 2x RJ45 connectors, one RJ45-to-DB9 converter cable.
- Attributes required: 1 full high PCIe Slot
- Minimum required: 0
- Maximum allowed: 56 (Initial order maximum: 56)
- OS level required:
 - AIX - Not supported
 - IBM i 7.1 or later
 - IBM i 7.2 or later
 - IBM i 7.3 or later
 - Linux - Not supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EP2A) 100 On/Off Proc-Days of CoD Billing for Processor #4980. AIX/Linux

After the ON/OFF Processor function is enabled in a system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is provided to your sales channel. The sales channel will place an order on your behalf for the quantity of this feature that matches your reported use. One #EP2A provides 100 days of on/off processor billing for POWER7 CoD Processor Book #4980 for AIX/Linux..

- Attributes provided: Billing for 100 AIX/Linux Processor-Day usage of Processor #4980.
- Attributes required: At least one processor core on Processor #4980 that is not permanently active.
- Minimum required: 0
- Maximum allowed: 99 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EP2B) 100 On/Off Proc-Days of CoD Billing for Processor #4980 IBM i

After the ON/OFF Processor function is enabled in a system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is provided to your sales channel. The sales channel will place an order on your behalf for the quantity of this feature that matches your reported use. One #EP2B provides 100 days of on/off processor billing for POWER7 CoD Processor Book #4980 for IBM i.

- Attributes provided: Billing for 100 IBMi Processor-Day usage of Processor #4980.
- Attributes required: At least one processor core on Processor #4980 that is not permanently active.
- Minimum required: 0
- Maximum allowed: 99 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EP2C) 100 On/Off Proc-Days of CoD Billing for Processor #4981, AIX/Linux

After the ON/OFF Processor function is enabled in a system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is provided to your sales channel. The sales channel will place an order on your behalf for the quantity of this feature that matches your reported use. One #EP2C provides 100 days of on/off processor billing for POWER7 CoD Processor Book #4981 for AIX/Linux.

- Attributes provided: Billing for 100 AIX/Linux Processor-Day usage of Processor #4981.
- Attributes required: At least one processor core on Processor #4981 that is not permanently active.
- Minimum required: 0
- Maximum allowed: 99 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EP2D) 100 On/Off Proc-Days of CoD Billing for Processor #4981, IBM i

After the ON/OFF Processor function is enabled in a system, you must report your on/off usage to IBM at least monthly. This information, used to compute your billing data, is provided to your sales channel. The sales channel will place an order on your behalf for the quantity of this feature that matches your reported use. One #EP2D provides 100 days of on/off processor billing for POWER7 CoD Processor Book #4981 for IBM i.

- Attributes provided: Billing for 100 IBMi Processor-Day usage of Processor #4981.
- Attributes required: At least one processor core on Processor #4981 that is not permanently active.
- Minimum required: 0
- Maximum allowed: 99 (Initial order maximum: 0)
- OS level required: n/a
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EQ02) Quantity 150 of #3452 SAS YO Cable 6m - HD 6Gb Adapter to Enclosure

(No longer available as of December 31, 2020)

This feature provides 150 cables of feature 3452 which is a 6 meter SAS cable that connects a SAS adapter to a SAS I/O enclosure. This YO cable has three connectors, one Mini-SAS HD (High Density)connector and two Mini SAS connectors. The Mini-SAS HD connector attaches to a SAS adapter such as the #5913 1.8GB RAID SAS Adapter. Both Mini SAS connectors attach to the same I/O drawer (enclosure) such as a #5887 EXP24S SAS I/O drawer. This cable can support up to 6Gb throughput.

Multiple cable length feature codes are available. Choose the cable length that best matches the distance between the adapter and the SAS I/O drawer.

- Attributes provided: connection between SAS adapter with Mini-SAS HD connectors and a SAS I/O drawer with Mini SAS connectors
- Attributes required: available connectors on SAS controller and SAS I/O drawer
- Minimum required: 0
- Maximum allowed: 3 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EQ03) Quantity 150 of #3453 SAS YO Cable 10m - HD 6Gb Adapter to Enclosure

This feature provides 150 10 meter SAS cables that connects a SAS adapter to a SAS I/O enclosure. This YO cable has three connectors, one Mini-SAS HD (High Density)connector and two Mini SAS connectors. The Mini-SAS HD connector attaches to a SAS adapter such as the #5913 1.8GB RAID SAS Adapter. Both Mini SAS connectors attach to the same I/O drawer (enclosure) such as a #5887 EXP24S SAS I/O drawer. This cable can support up to 6Gb throughput.

Multiple cable length feature codes are available. Choose the cable length that best matches the distance between the adapter and the SAS I/O drawer.

- Attributes provided: connection between SAS adapter with Mini-SAS HD connectors and a SAS I/O drawer with Mini SAS connectors
- Attributes required: available connectors on SAS controller and SAS I/O drawer
- Minimum required: 0
- Maximum allowed: 3 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EQ10) - Quantity 150 of #ES10 (387GB SSD SFF-1)

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #ES10 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records

- Attributes provided: Quantity of 150 #ES10
- Attributes required: See feature ES10
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 0)
- OS level required:
 - AIX Version 6.1 supported
 - AIX Version 7.1 supported
 - IBM i - not supported
 - Linux supported
 - Refer to Software Requirements for specific O/S levels supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EQ11) - Quantity 150 of #ES11 (387GB SSD SFF-1)

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #ES11 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records

- Attributes provided: Quantity of 150 #ES11
- Attributes required: See feature ES11
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - Linux - not supported
 - IBM i 7.1, or later
 - IBM i 6.1 with machine code 6.1.1, or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EQ19) - Quantity 150 of #ES19 (387GB SSD SFF-2)

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #ES19 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records

- Attributes provided: Quantity of 150 #ES19
- Attributes required: See Feature ES19
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required:
 - AIX Version 6.1 supported
 - AIX Version 7.1 supported
 - IBM i - not supported
 - Linux supported
 - Refer to Software Requirements for specific O/S levels supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EQ1A) - Quantity 150 of #ES1A (387GB SSD SFF-2)

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #ES1A disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records

- Attributes provided: Quantity of 150 #ES1A
- Attributes required: See feature ES1A
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required:
 - IBM i 7.1, or later
 - IBM i 6.1 with machine code 6.1.1, or later
 - AIX - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EQ38) - Quantity 150 of #1738 (856GB SFF-2 disk)

(No Longer Available as of January 20, 2017)

This feature ships a quantity of 150 #1738 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #1738
- Attributes required: see feature #1738
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EQ52) - Quantity 150 of #1752 (900GB SFF-2 disk)

(No Longer Available as of January 20, 2017)

This feature ships a quantity of 150 #1752 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: see feature #1752
- Attributes required: see feature #1752
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EQ77) - Qty 150 of #6577

This feature provides QTY 150 of #6577. FC 6577 is mandatory on factory rack integrated (4651-4666) orders. Feature is not valid on initial order with non-factory integrated feature 4650.

- Attributes provided: Power cable
- Attributes required: At least one Rack and the absence of #4650.
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required: N/A
- Initial Order/MES/Both/Supported: Initial.
- CSU: N/A
- Return parts MES: No

(#EQ78) - Quantity 150 of #ES78 387GB SFF-2 SSD 5xx

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #ES78 solid state drives (SSDs). The configurator may either generate this feature or allow users to select this feature as they would any other single SSD feature. This feature remains on the inventory records.

- Attributes provided: Ships 150 SSDs
- Attributes required: See feat #ES78
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required: Refer to feature #ES78
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EQ79) - Quantity 150 of #ES79 387GB SFF-2 SSD 5xx

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #ES79 solid state drives (SSDs). The configurator may either generate this feature or allow users to select this feature as they would any other single SSD feature. This feature remains on the inventory records.

- Attributes provided: Ships 150 SSDs
- Attributes required: See feat #ES79
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required: Refer to feature #ES79
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EQ7E) - Quantity 150 of #ES7E 775GB SFF-2 SSD 5xx

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #ES7E solid state drives (SSDs). The configurator may either generate this feature or allow users to select this feature as they would any other single SSD feature. This feature remains on the inventory records.

- Attributes provided: Ships 150 SSDs
- Attributes required: See feat #ES7E
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required: Refer to feature #ES7E
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EQ7F) - Quantity 150 of #ES7F 775GB SFF-2 SSD 5xx

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #ES7F solid state drives (SSDs). The configurator may either generate this feature or allow users to select this feature as they would any other single SSD feature. This feature remains on the inventory records.

- Attributes provided: Ships 150 SSDs
- Attributes required: See feat #ES7F
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required: Refer to feature #ES7F
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EQ0A) - Quantity 150 of #ES0A

(No Longer Available as of July 11, 2014)

This feature ships a quantity of 150 #ES0A disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records

- Attributes provided: Quantity of 150 #ES08
- Attributes required: See feature ES0A
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required:
 - AIX Version 7.1 with the 7100-01 Technology level or later
 - AIX Version 7.1 with Service Pack 4 or later
 - AIX Version 6.1 with the 6100-07 Technology Level or later
 - AIX Version 6.1 with the 6100-06 Technology Level, and Service Pack 6, or later
 - AIX Version 6.1 with the 6100-05 Technology Level, and Service Pack 7, or later
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 5, or later, AIX 5.3 service extension is required
 - IBM i - not supported
 - Red Hat Enterprise Linux 5.8 for POWER, or later
 - Red Hat Enterprise Linux 6.2 for POWER, or later
 - Novel SUSE Linux Enterprise 10, Service Pack 4, or later
 - Novel SUSE Linux Enterprise 11 Service Pack 2, or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EQ0B) - Quantity of 150 #ES0B

(No Longer Available as of July 11, 2014)

This feature ships a quantity of 150 #ES0B disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records

- Attributes provided: Quantity of 150 #ES0B
- Attributes required: See feature ES0B
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- OS level required:
 - AIX - not supported
 - IBM i 7.1, or later
 - IBM i 6.1 with 6.1.1 machine code, or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EQ0C) - Quantity of 150 #ES0C

(No Longer Available as of July 11, 2014)

This feature ships a quantity of 150 #ES0C disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records

- Attributes provided: Quantity of 150 #ES0C
- Attributes required: See Feature ES0C
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - AIX Version 7.1 with the 7100-01 Technology level or later
 - AIX Version 7.1 with Service Pack 4 or later
 - AIX Version 6.1 with the 6100-07 Technology Level or later
 - AIX Version 6.1 with the 6100-06 Technology Level, and Service Pack 6, or later
 - AIX Version 6.1 with the 6100-05 Technology Level, and Service Pack 7, or later
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 5, or later , AIX 5.3 service extension is required
 - IBM i - not supported
 - Red Hat Enterprise Linux 5.8 for POWER, or later
 - Red Hat Enterprise Linux 6.2 for POWER, or later
 - Novel SUSE Linux Enterprise 10, Service Pack 4, or later
 - Novel SUSE Linux Enterprise 11 Service Pack 2, or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EQ0D) - Quantity of 150 #ES0D

(No Longer Available as of July 11, 2014)

This feature ships a quantity of 150 #ES0D disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records

- Attributes provided: Quantity of 150 #ES0D
- Attributes required: See feature ES0D
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 8)
- OS level required:
 - AIX - not supported
 - Linux - not supported
 - IBM i 7.1, or later
 - IBM i 6.1 with 6.1.1 machine code, or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EQ0E) - Quantity 150 of #ES0E (775GB SSD SFF-1)

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #ES0E disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records

- Attributes provided: Quantity of 150 #ES0E
- Attributes required: See feature ES0E
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 0)
- OS level required:
 - AIX Version 6.1 supported
 - AIX Version 7.1 supported
 - Linux supported
 - Refer to Software Requirements for specific O/S levels supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EQ0F) - Quantity 150 of #ES0F (775GB SSD SFF-1)

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #ES0F disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records

- Attributes provided: Quantity of 150 #ES0F
- Attributes required: See feature ES0F
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - IBM i 7.1, or later
 - IBM i 6.1 with machine code 6.1.1, or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EQ0G) - Quantity 150 of #ES0G (775GB SSD SFF-2)

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #ES0G disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records

- Attributes provided: Quantity of 150 #ES0G
- Attributes required: See Feature ES0G
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required:
 - AIX Version 6.1 supported
 - AIX Version 7.1 supported
 - IBM i - not supported
 - Linux supported
 - Refer to Software Requirements for specific O/S levels supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EQ0H) - Quantity 150 of #ES0H (775GB SSD SFF-2)

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #ES0H disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records

- Attributes provided: Quantity of 150 #ES0H
- Attributes required: See feature ES0H
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required:
 - IBM i 6.1 with machine code 6.1.1, or later
 - IBM i 7.1, or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ESC0) - S&H - No Charge

No charge shipping and handling.

- Attributes provided: None
- Attributes required: Sales Preapproval Required
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: Does not apply
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(#ESC8) - S&H

Shipping and handling.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: None
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: Does not apply

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #DS0 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: See feature #ESD0
- Attributes required: 150 SFF-1 SAS bays
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 0)
- OS level required:
 - IBM i 7.1, or later
 - AIX - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EQD1) - Quantity 150 of #ESD1 (1.2TB 10K SFF-1)

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #ESD1 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: See feature #ESD1
- Attributes required: 150 SFF-1 SAS bays
- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 0)
- OS level required:
 - AIX Version 6.1 supported
 - AIX Version 7.1 supported
 - Red Hat Enterprise Linux 5.8 for Power, or later
 - Red Hat Enterprise Linux 6.2 for Power, or later
 - SUSE Linux Enterprise 10, Service Pack 4, or later
 - SUSE Linux Enterprise 11, Service Pack 2, or later
 - IBM i - not supported
 - Refer to Software Requirements for specific O/S levels supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EQD2) - Quantity 150 of #ESD2 (1.1TB 10k SFF-2)

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #ESD2 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: See feature #ESD2
- Attributes required: 150 SFF-2 SAS bays in EXP24S drawers
- Minimum required: 0
- Maximum allowed: 20 (Initial order maximum: 0)
- OS level required:
 - IBM i - 7.1, or later
 - AIX - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EQD3) - Quantity 150 of #ESD3 (1.2TB 10k SFF-2)

(No Longer Available as of August 31, 2017)

This feature ships a quantity of 150 #ESD3 1.2TB SAS 10K SFF-2 disk units. The configurator may either generate this feature or allow users to select this feature as they would any other single disk unit feature. This feature remains on the inventory records.

- Attributes provided: See feature#ESD3
- Attributes required: 150 SFF-2 SAS bays in EXP24S drawers
- Minimum required: 0
- Maximum allowed: 8 (Initial order maximum: 0)
- OS level required:
 - AIX Version 6.1 supported
 - AIX Version 7.1 supported
 - Red Hat Enterprise Linux 5.8 for Power, or later
 - Red Hat Enterprise Linux 6.2 for Power, or later
 - SUSE Linux Enterprise 10, Service Pack 4, or later
 - SUSE Linux Enterprise 11, Service Pack 2, or later
 - IBM i - not supported
 - Refer to Software Requirements for specific O/S levels supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ER05) - 42U Slim Rack

(No longer available as of January 17, 2020)

Provides a 19-inch, 2.0 meter high rack with 42 EIA units of total space for installing rack mounted CECs and/or expansion units. The 600mm wide rack fits within a data center's 24" floor tiles and provides better thermal and cable management capabilities. The following features are required on the #ER05:

- #EC01 front door
- #EC02 rear door or #EC05 Rear Door Heat Exchanger (RDHX) indicator

PDUs on the rack are optional. Each #7196 and #7189 PDU consumes one of six vertical mounting bays. Each PDU beyond four will consume 1U of rack space.

- Attributes provided: 19", 42U of vertical space
- Attributes required: #EC01 front door, #EC02 rear door or #EC05 RDHX indicator
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required: None
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ES0A) - 387GB SFF-1 SSD for AIX/Linux with eMLC

(No Longer Available as of July 11, 2014)

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 387 GB capacity formatted with 528 byte sectors. The drive is supported in SFF SAS bays in the #5802/#5803 I/O drawers or in system unit SFF SAS bays. CCIN is 58B8.

ES0A and ES0B are physically identical drives which have different feature codes to help the IBM configuration tools understand how the SSD is used. ES0A indicates usage by AIX, Linux or VIOS. ES0B indicates usage by IBM i.

Limitation: can not be used in #5887 EXP24S Gen2 I/O drawer due to physical difference in Gen1 and Gen2 carriers. Also drive was not tested with 512 byte sectors and thus JBOD mode for AIX/Linux is not supported

- Attributes provided: 387GB SFF-1 SSD formatted with 528 byte formatting
- Attributes required: One SFF-1 SAS bay
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 250)
- OS level required:
 - AIX Version 7.1 with the 7100-01 Technology level or later
 - AIX Version 7.1 with Service Pack 4 or later
 - AIX Version 6.1 with the 6100-07 Technology Level or later
 - AIX Version 6.1 with the 6100-06 Technology Level, and Service Pack 6, or later
 - AIX Version 6.1 with the 6100-05 Technology Level, and Service Pack 7, or later
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 5, or later
Note: AIX 5.3 service extension is required
 - IBM i - not supported
 - Red Hat Enterprise Linux 5.8 for POWER, or later
 - Red Hat Enterprise Linux 6.2 for POWER, or later
 - Novel SUSE Linux Enterprise 10, Service Pack 4, or later
 - Novel SUSE Linux Enterprise 11 Service Pack 2, or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#ES0B) - 387GB SFF-1 SSD for IBM i with eMLC

(No Longer Available as of July 11, 2014)

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 387 GB capacity formatted with 528 byte sectors. The drive is supported in SFF SAS bays in the #5802/#5803 I/O drawers or in system unit SFF SAS bays. CCIN is 58B8.

ES0A and ES0B are physically identical drives which have different feature codes to help the IBM configuration tools understand how the SSD is used. ES0A indicates usage by AIX, Linux or VIOS. ES0B indicates usage by IBM i.

Limitation: can not be used in #5887 EXP24S Gen2 I/O drawer due to physical difference in Gen1 and Gen2 carriers. Also drive was not tested with 512 byte sectors and thus JBOD mode for AIX/Linux is not supported

- Attributes provided: 387GB SFF-1 SSD with 528 byte formatting
- Attributes required: One SFF-1 SAS bay
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 250)
- OS level required:
 - AIX - not supported
 - IBM i 7.1, or later
 - IBM i 6.1 with 6.1.1 machine code, or later
 - Linux - not supported
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#ES0C) - 387GB SFF-2 SSD for AIX/Linux with eMLC

(No Longer Available as of July 11, 2014)

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 387 GB capacity formatted with 528 byte sectors. The drive is supported in SFF-2 SAS bays in the #5887 I/O drawer. CCIN is 58B9.

ES0C and ES0D are physically identical drives which have different feature codes to help the IBM configuration tools understand how the SSD is used. ES0C indicates usage by AIX, Linux or VIOS. ES0D indicates usage by IBM i.

Limitation: can not be used in #5802/#5803 I/O drawers or in system unit SFF SAS bays due to physical difference in Gen1 and Gen2 carriers. Also drive was not tested with 512 byte sectors and thus JBOD mode for AIX/Linux is not supported

- Attributes provided: 387GB SFF-2 SSD formatted with 528 byte formatting
- Attributes required: One SFF-2 SAS bay
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 250)
- OS level required:
 - AIX Version 7.1 with the 7100-01 Technology level or later
 - AIX Version 7.1 with Service Pack 4 or later
 - AIX Version 6.1 with the 6100-07 Technology Level or later
 - AIX Version 6.1 with the 6100-06 Technology Level, and Service Pack 6, or later
 - AIX Version 6.1 with the 6100-05 Technology Level, and Service Pack 7, or later
 - AIX Version 5.3 with the 5300-12 Technology Level and Service Pack 5, or later , AIX 5.3 service extension is required
 - IBM i - not supported
 - Red Hat Enterprise Linux 5.8 for POWER, or later
 - Red Hat Enterprise Linux 6.2 for POWER, or later
 - Novel SUSE Linux Enterprise 10, Service Pack 4, or later
 - Novel SUSE Linux Enterprise 11 Service Pack 2, or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#ES0D) - 387GB SFF-2 SSD for IBM i with eMLC

(No Longer Available as of July 11, 2014)

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 387 GB capacity formatted with 528 byte sectors. The drive is supported in SFF-2 SAS bays in the #5887 I/O drawer. CCIN is 58B9.

ES0C and ES0D are physically identical drives which have different feature codes to help the IBM configuration tools understand how the SSD is used. ES0C indicates usage by AIX, Linux or VIOS. ES0D indicates usage by IBM i.

Limitation: can not be used in #5802/#5803 I/O drawers or in system unit SFF SAS bays due to physical difference in Gen1 and Gen2 carriers. Also drive was not tested with 512 byte sectors and thus JBOD mode for AIX/Linux is not supported

- Attributes provided: 387GB SFF-2 SSD formatted with 528 byte formatting
- Attributes required: One SFF-2 SAS bay
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 250)
- OS level required:
 - AIX - not supported
 - Linux - not supported
 - IBM i 7.1, or later
 - IBM i 6.1 with 6.1.1 machine code, or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#ES0E) - 775GB SFF-1 SSD for AIX/Linux

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 775 GB capacity formatted with 528 byte sectors. The drive is supported in SFF SAS bays in the #5802/#5803 I/O drawers or in system unit SFF-1 SAS bays. CCIN is 59C0.

ES0E and ES0F are physically identical drives which have different feature codes to help the IBM configuration tools understand how the SSD is used. ES0A indicates usage by AIX, Linux or VIOS. ES0B indicates usage by IBM i.

Limitation: cannot be used in #5887 EXP24S Gen2 I/O drawer due to physical difference in Gen1 and Gen2 carriers. Also drive was not tested with 512 byte sectors and thus JBOD mode for AIX/Linux is not supported

- Attributes provided: 775GB SFF-1 SSD formatted with 528 byte sectors
- Attributes required: One SFF SAS bay
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 0)
- OS level required:
 - AIX Version 6.1 supported
 - AIX Version 7.1 supported
 - IBM i - not supported
 - Linux supported
 - IBM i - not supported
 - Refer to Software Requirements for specific O/S levels supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ES0F) - 775GB SFF-1 SSD for IBM i

(No Longer Available as of August 31, 2017)

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 775 GB capacity formatted with 528 byte sectors. The drive is supported in SFF SAS bays in the #5802/#5803 I/O drawers or in system unit SFF-1 SAS bays. CCIN is 59C0.

ES0E and ES0F are physically identical drives which have different feature codes to help the IBM configuration tools understand how the SSD is used. ES0E indicates usage by AIX, Linux or VIOS. ES0F indicates usage by IBM i.

Limitation: can not be used in #5887 EXP24S Gen2 I/O drawer due to physical difference in Gen1 and Gen2 carriers. Also drive was not tested with 512 byte sectors and thus JBOD mode for AIX/Linux is not supported

- Attributes provided: 775GB SFF-1 SSD formatted with 528 byte sectors
- Attributes required: One SFF SAS bay
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - Linux - not supported
 - IBM i 6.1 with machine code 6.1.1, or later
 - IBM i 7.1, or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ES0G) - 775GB SFF-2 SSD for AIX/Linux

(No Longer Available as of August 31, 2017)

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 387 GB capacity formatted with 528 byte sectors. The drive is supported in SFF-2 SAS bays in the #5887 I/O drawer. CCIN is TBD.

ES0G and ES0H are physically identical drives which have different feature codes to help the IBM configuration tools understand how the SSD is used. ES0G indicates usage by AIX, Linux or VIOS. ES0H indicates usage by IBM i.

Limitation: cannot be used in #5802/#5803 I/O drawers or in system unit SFF-1 SAS bays due to physical difference in Gen1 and Gen2 carriers. Also drive was not tested with 512 byte sectors and thus JBOD mode for AIX/Linux is not supported

- Attributes provided: 775GB SFF-2 SSD formatted with 528 byte sectors
- Attributes required: One SFF-2 SAS bay in EXP24S drawer
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 0)
- OS level required:
 - AIX Version 6.1 supported
 - AIX Version 7.1 supported
 - Linux supported
 - Refer to Software Requirements for specific O/S levels supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ES0H) - 775GB SFF-2 SSD for IBM i

(No Longer Available as of August 31, 2017)

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 387 GB capacity formatted with 528 byte sectors. The drive is supported in SFF-2 SAS bays in the #5887 I/O drawer. CCIN is TBD.

ES0G and ES0H are physically identical drives which have different feature codes to help the IBM configuration tools understand how the SSD is used. ES0G indicates usage by AIX, Linux or VIOS. ES0H indicates usage by IBM i.

Limitation: cannot be used in #5802/#5803 I/O drawers or in system unit SFF-1 SAS bays due to physical difference in Gen1 and Gen2 carriers. Also drive was not tested with 512 byte sectors and thus JBOD mode for AIX/Linux is not supported

- Attributes provided: 775GB SFF-2 SSD formatted with 528 byte sectors
- Attributes required: One SFF-2 SAS bay in EXP24S drawer
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 0)
- OS level required:
 - IBM i 7.1, or later
 - IBM i 6.1 with machine code 6.1.1, or later
 - AIX - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ES10) - 387GB SFF-1 SSD for AIX/Linux

(No Longer Available as of August 31, 2017)

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 387 GB capacity formatted with 528 byte sectors. The drive is supported in SFF SAS bays in the #5802/#5803/#EL36 I/O drawers or in system unit SFF-1 SAS bays. CCIN is 58B8.

#ES10 and #ES11 are physically identical drives which have different feature codes to help the IBM configuration tools understand how the SSD is used. #ES10 indicates usage by AIX, Linux or VIOS. #ES11 indicates usage by IBM i.

#ES10/ES11 and the earlier ES0A/ES0B are all 387GB SSD and can be mixed in the same array.

Limitation: cannot be used in #5887/#EL1S EXP24S Gen2 I/O drawer due to physical difference in Gen1 and Gen2 carriers. Also drive was not tested with 512 byte sectors and thus JBOD mode for AIX/Linux is not supported

- Attributes provided: 387GB SFF-1 SSD formatted with 528 byte sectors
- Attributes required: One SFF-1 SAS bay
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 0)
- OS level required:
 - AIX Version 6.1 supported
 - AIX Version 7.1 supported
 - Linux supported
 - Refer to Software Requirements for specific O/S levels supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ES11) - 387GB SFF-1 SSD for IBM i

(No Longer Available as of August 31, 2017)

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 387 GB capacity formatted with 528 byte sectors. The drive is supported in SFF SAS bays in the #5802/#5803/#EL36 I/O drawers or in system unit SFF-1 SAS bays. CCIN is 58B8.

#ES10 and #ES11 are physically identical drives which have different feature codes to help the IBM configuration tools understand how the SSD is used. #ES10 indicates usage by AIX, Linux or VIOS. #ES11 indicates usage by IBM i.

#ES10/ES11 and the earlier ES0A/ES0B are all 387GB SSD and can be mixed in the same array.

Limitation: cannot be used in #5887/#EL1S EXP24S Gen2 I/O drawer due to physical difference in Gen1 and Gen2 carriers. Also drive was not tested with 512 byte sectors and thus JBOD mode for AIX/Linux is not supported

- Attributes provided: 387GB SFF-1 SSD formatted with 528 byte sectors
- Attributes required: One SFF-1 SAS bay
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 0)
- OS level required:
 - IBM i 7.1, or later
 - IBM i 6.1 with machine code 6.1.1, or later
 - AIX - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ES19) - 387GB SFF-2 SSD for AIX/Linux

(No Longer Available as of August 31, 2017)

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 387 GB capacity formatted with 528 byte sectors. The drive is supported in SFF-2 SAS bays in the #5887 EXP24S I/O drawer. CCIN is 58B9.

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 387 GB capacity formatted with 528 byte sectors. The drive is supported in SFF SAS bays in the #5802/#5803/#EL36 I/O drawers or in system unit SFF-1 SAS bays. CCIN is 58B8.

#ES19 and #ES1A are physically identical drives which have different feature codes to help the IBM configuration tools understand how the SSD is used. #ES19 indicates usage by AIX, Linux or VIOS. #ES1A indicates usage by IBM i.

#ES19/ES1A and the earlier ES0C/ES0D are all 387GB SSD and can be mixed in the same array.

Limitation: cannot be used in #5802/5803/EL36 I/O drawers or in a system unit SFF-1 SAS bay due to physical difference in Gen1 and Gen2 carriers. Also drive was not tested with 512 byte sectors and thus JBOD mode for AIX/Linux is not supported

- Attributes provided: 387GB SFF-2 SSD formatted with 528 byte sectors
- Attributes required: One SFF-2 SAS bay in EXP24S drawer
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 0)
- OS level required:
 - AIX Version 6.1 supported
 - AIX Version 7.1 supported
 - Linux supported
 - IBM i - not supported Refer to Software Requirements for specific O/S levels supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ES1A) - 387GB SFF-2 SSD for IBM i

(No Longer Available as of August 31, 2017)

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 387 GB capacity formatted with 528 byte sectors. The drive is supported in SFF-2 SAS bays in the #5887 EXP24S I/O drawer. CCIN is 58B9.

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 387 GB capacity formatted with 528 byte sectors. The drive is supported in SFF SAS bays in the #5802/#5803/#EL36 I/O drawers or in system unit SFF-1 SAS bays. CCIN is 58B8.

#ES19 and #ES1A are physically identical drives which have different feature codes to help the IBM configuration tools understand how the SSD is used. #ES19 indicates usage by AIX, Linux or VIOS. #ES1A indicates usage by IBM i.

#ES19/ES1A and the earlier ES0C/ES0D are all 387GB SSD and can be mixed in the same array.

Limitation: cannot be used in #5802/5803/EL36 I/O drawers or in a system unit SFF-1 SAS bay due to physical difference in Gen1 and Gen2 carriers. Also drive was not tested with 512 byte sectors and thus JBOD mode for AIX/Linux is not supported

- Attributes provided: 387GB SFF-2 SSD formatted with 528 byte sectors
- Attributes required: One SFF-2 SAS bay in EXP24S drawer
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 0)
- OS level required:
 - IBM i 7.1, or later
 - IBM i 6.1 with machine code 6.1.1, or later
 - AIX - not supported
 - Linux - not supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ES78) - 387GB SFF-2 SSD 5xx eMLC4 for AIX/Linux

(No Longer Available as of August 31, 2017)

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 387 GB capacity formatted with 5xx (528) byte sectors. The drive is supported in SFF-2 SAS bays. CCIN is 5B16

- ES78 and ES79 are physically identical drives which have different feature codes to help the IBM configuration tools understand how the SSD is used. ES78 indicates usage by AIX, Linux or VIOS. ES79 indicates usage by IBM i.
- Limitation: Due to physical differences in the carrier/tray on which the drive is mounted, the SSD only fits in #5887/#EL1S EXP24S drawers (SFF-2). It does not fit in #5802/#5803 I/O drawers (SFF-1) or in POWER7 system units (SFF-1) or POWER8 system units (SFF-3) SAS bays. Also the drive was not tested with 512 byte sectors and thus JBOD mode for AIX/Linux is not supported. Note 4k and 5xx byte sector drives cannot be mixed in the same array. 4k drives can not be reformatted to 5xx drives (or vice versa).
- Attributes provided: one 387GB SFF-2 5xx SSD
- Attributes required: one SFF-2 SAS bay
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 0)
- OS level required:
 - Red Hat Enterprise Linux
 - SUSE Linux Enterprise Server
 - AIX supported
 - Refer to Software Requirements for specific O/S levels supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ES79) - 387GB SFF-2 SSD 5xx eMLC4 for IBM i

(No Longer Available as of August 31, 2017)

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 387 GB capacity formatted with 5xx (528) byte sectors. The drive is supported in SFF-2 SAS bays. CCIN is 5B16

- ES78 and ES79 are physically identical drives which have different feature codes to help the IBM configuration tools understand how the SSD is used. ES78 indicates usage by AIX, Linux or VIOS. ES79 indicates usage by IBM i.
- Limitation: Due to physical differences in the carrier/tray on which the drive is mounted, the SSD only fits in #5887/#EL1S EXP24S drawers (SFF-2). It does not fit in #5802/#5803 I/O drawers (SFF-1) or in POWER7 system units (SFF-1) or POWER8 system units (SFF-3) SAS bays. Also the drive was not tested with 512 byte sectors and thus JBOD mode for AIX/Linux is not supported. Note 4k and 5xx byte sector drives cannot be mixed in the same array. 4k drives can not be reformatted to 5xx drives (or vice versa).
- Attributes provided: one 387GB SFF-2 5xx SSD
- Attributes required: one SFF-2 SAS bay
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 0)
- OS level required:
 - IBM i 7.1 TR11 or later
 - IBM i 7.2 TR4 or later
 - IBM i 7.3 or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ES7E) - 775GB SFF-2 SSD 5xx eMLC4 for AIX/Linux

(No Longer Available as of August 31, 2017)

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 775 GB capacity formatted with 5xx (528) byte sectors. The drive is supported in SFF-2 SAS bays. CCIN is 5B17

- ES7E and ES7F are physically identical drives which have different feature codes to help the IBM configuration tools understand how the SSD is used. ES7E indicates usage by AIX, Linux or VIOS. ES7F indicates usage by IBM i.
- Limitation: Due to physical differences in the carrier/tray on which the drive is mounted, the SSD only fits in #5887/#EL1S EXP24S drawers (SFF-2). It does not fit in #5802/#5803 I/O drawers (SFF-1) or in POWER7 system units (SFF-1) or POWER8 system units (SFF-3) SAS bays. Also the drive was not tested with 512 byte sectors and thus JBOD mode for AIX/Linux is not supported. Note 4k and 5xx byte sector drives cannot be mixed in the same array. 4k drives can not be reformatted to 5xx drives (or vice versa).
- Attributes provided: one 775GB SFF-2 5xx SSD
- Attributes required: one SFF-2 SAS bay
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 0)
- OS level required:
 - Red Hat Enterprise Linux
 - SUSE Linux Enterprise Server
 - AIX supported
 - Refer to Software Requirements for specific O/S levels supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ES7F) - 775GB SFF-2 SSD 5xx eMLC4 for IBM i

(No Longer Available as of August 31, 2017)

This SFF (2.5") SAS Solid State Drive (SSD) is shipped from IBM with 775 GB capacity formatted with 5xx (528) byte sectors. The drive is supported in SFF-2 SAS bays. CCIN is 5B17

- ES7E and ES7F are physically identical drives which have different feature codes to help the IBM configuration tools understand how the SSD is used. ES7E indicates usage by AIX, Linux or VIOS. ES7F indicates usage by IBM i.
- Limitation: Due to physical differences in the carrier/tray on which the drive is mounted, the SSD only fits in #5887/#EL1S EXP24S drawers (SFF-2). It does not fit in #5802/#5803 I/O drawers (SFF-1) or in POWER7 system units (SFF-1) or POWER8 system units (SFF-3) SAS bays. Also the drive was not tested with 512 byte sectors and thus JBOD mode for AIX/Linux is not supported. Note 4k and 5xx byte sector drives cannot be mixed in the same array. 4k drives can not be reformatted to 5xx drives (or vice versa).
- Attributes provided: one 775GB SFF-2 5xx SSD
- Attributes required: one SFF-2 SAS bay
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 0)
- OS level required:
 - IBM i 7.1 TR11 or later
 - IBM i 7.2 TR4 or later
 - IBM i 7.3 or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ESA3) - PCIe2 1.8GB Cache RAID SAS Adapter Tri-port 6Gb CR

(No Longer Available as of December 31, 2016)

The PCIe2 1.8 GB Cache RAID SAS Adapter Tri-port 6 Gb provides high performance HDD or SSD controller function using PCIe Gen2 technology. HDD and SSD can be either SFF or 3.5-inch drives (or both). A pair of #ESA3 adapters are required to provide mirrored write cache data and adapter redundancy. Integrated flash memory provides protection of the write cache without batteries in case of power failure.

The #ESA3 provides three Mini-SAS HD (high density) connectors for the attachment of SAS drives located in the #5887 EXP24S, #5886 EXP12S, or #5802 12X PCIe I/O drawers. X, YO or AT SAS cables with HD connectors are used to attach to these drawers. A max of 3 EXP24S or 6 EXP12S can be attached. If controlling drives in a #5802, at least one of #ESA3 pair must be located in that #5802. If not controlling drives in a #5802, the adapters can be placed in any PCIe slot which supports their use and the PCIe slots can be in different enclosures. An AA SAS cable with HD connectors is attached to the #ESA3 pair to communicate status and cache content information and is required unless all three ports are being used to attach I/O drawers.

The #ESA3 provides RAID 0, RAID 5, RAID 6 and RAID 10 for AIX and Linux and VIOS. The adapter provides RAID 5 and RAID 6 for IBM i. IBM i provides both OS mirroring and data spreading. AIX/Linux/VIOS provide OS mirroring (LVM). The CCIN = 57BB for this adapter.

#ESA3 is a refreshed version of the #5913 PCIe2 adapter offering the same function and performance, but with lower energy consumption.

Limitations:

- Cannot be paired with feature 5913
- Cannot be used with non-paired feature 5924
- 4k byte sector HDD/SSD are not supported. Only 5xx byte sector drives are supported on this generation of PCIe adapter
- Attributes provided: PCIe2 1.8 GB Cache RAID SAS Adapter
- Attributes required: One PCIe slot per adapter and Mini-SAS HD connector SAS cables
- Minimum required: 0
- Maximum allowed: 136 (Initial order maximum: 136)
- OS level required:
 - AIX 7.1 with the 7100-03 Technology Level or later
 - AIX 6.1 with the 6100-09 Technology Level or later
 - AIX 7.1 with the 7100-02 Technology Level and Service Pack 4 or later
 - AIX 7.1 with the 7100-01 Technology Level and Service Pack 9 or later
 - AIX 6.1 with the 6100-08 Technology Level and Service Pack 4 or later
 - AIX 6.1 with the 6100-07 Technology Level and Service Pack 9 or later
 - AIX 5.3 with the 5300-12 Technology Level and Service Pack 9 or later
 - IBM i 6.1 with machine code 6.1.1
 - IBM i 7.1 or later
 - Red Hat Enterprise Linux 5.7 or later
 - Red hat enterprise Linux 6.1 or later
 - SUSE Linux Enterprise Server 10 Service Pack 4 or later
 - SUSE Linux Enterprise Server 11 Service Pack 2 or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No
Note: Attachment to the VIOS requires VIOS 2.2.3.1 or later, VIOS 2.2.2.4 or later, VIOS 2.2.1.8 or later

(#ESD0) - 1.1TB 10K RPM SAS SFF-1 Disk Drive (IBM i)

(No Longer Available as of August 31, 2017)

1.14TB SFF 10K RPM SAS disk drive in Gen1 carrier. Supported in SFF-1 SAS bays such as provided in most POWER7 system units or the #5802/ 5803 I/O drawers. Disk is formatted for 528 byte sectors.

The drive can be reformatted to 512 byte sectors and used by AIX/ Linux/VIOS.

Limitation: can not be used in #5887 EXP24S Gen2 I/O drawer due to physical difference in Gen1 and Gen2 carriers.

- Attributes provided: 1.14TB 10K RPM 2.5-inch SAS disk drive mounted on Gen-1 carrier (SFF-1)
- Attributes required: one SFF-1 SAS bay
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 0)
- OS level required:
 - IBM i 7.1, or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ESD1) - 1.2TB 10K RPM SAS SFF-1 Disk Drive (AIX/Linux)

(No Longer Available as of August 31, 2017)

1.20TB SFF 10K RPM SAS disk drive in Gen1 carrier. Supported in SFF-1 SAS bays such as provided in most POWER7 system units or the #5802/5803 I/O drawers. Disk is formatted for 512 byte sectors.

The drive can be reformat to 528 byte sectors and used by AIX/ IBM i/Linux/VIOS.

Limitation: cannot be used in #5887 EXP24S Gen2 I/O drawer due to physical difference in Gen1 and Gen2 carriers.

- Attributes provided: 1.20TB 10K RPM 2.5-inch SAS disk drive mounted on Gen-1 carrier (SFF-1)
- Attributes required: one SFF-1 SAS bay
- Minimum required: 0
- Maximum allowed: 312 (Initial order maximum: 0)
- OS level required:
 - AIX Version 6.1 supported
 - AIX Version 7.1 supported
 - Red Hat Enterprise Linux 5.8 for Power, or later
 - Red Hat Enterprise Linux 6.2 for Power, or later
 - SUSE Linux Enterprise 10, Service Pack 4, or later
 - SUSE Linux Enterprise 11, Service Pack 2, or later
 - IBM i - not supported
 - Refer to Software Requirements for specific O/S levels supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ESD2) - 1.1TB 10K RPM SAS SFF-2 Disk Drive (IBMi)

(No Longer Available as of August 31, 2017)

1.14TB SFF 10K RPM SAS disk drive in Gen2 carrier. Supported in SFF-2 SAS bays such as provided in #5887 EXP24S I/O drawer. CCIN is 59CD. Disk is formatted for 528 byte sectors.

The drive can be reformatted to 512 byte sectors and used by AIX/ Linux/VIOS

Limitation: cannot be used in #5802/5803 I/O drawers or in CEC bays due to physical difference in Gen1 and Gen2 carriers.

- Attributes provided: 1.14TB 10K RPM 2.5-inch SAS disk drive mounted on Gen-2 carrier (SFF-2)
- Attributes required: one SFF-2 SAS bay in EXP24S drawer
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 0)
- OS level required:
 - AIX - not supported
 - Linux - not supported
 - IBM i 7.1, or later
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#ESD3) - 1.2TB 10K RPM SAS SFF-2 Disk Drive (AIX/Linux)

(No Longer Available as of August 31, 2017)

1.20TB SFF 10K RPM SAS disk drive in Gen2 carrier. Supported in SFF-2 SAS bay such as used in the #5887 EXP24S I/O drawer. Disk is formatted for 512 byte sectors as shipped from IBM Manufacturing. CCIN is 59CD.

The drive can be reformatted to 528 byte sectors and used by AIX/ IBM i/Linux/VIOS.

Limitations: physical difference in Gen1 and Gen2 carriers prevent usage in SFF-1 bays such as used in the #5802/5803 I/O drawer

- Attributes provided: 1.20TB 10K RPM 2.5-inch SAS disk drive mounted on Gen-2 carrier (SFF-2)
- Attributes required: one SFF-2 SAS bay in EXP24S drawer
- Minimum required: 0
- Maximum allowed: 1344 (Initial order maximum: 0)
- OS level required:
 - AIX Version 6.1 supported
 - AIX Version 7.1 supported
 - Red Hat Enterprise Linux 5.8 for Power, or later
 - Red Hat Enterprise Linux 6.2 for Power, or later
 - SUSE Linux Enterprise 10, Service Pack 4, or later
 - SUSE Linux Enterprise 11, Service Pack 2, or later
 - IBM i - not supported, use VIOS
 - Refer to Software Requirements for specific O/S levels supported
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EU01) - 1TB Removable Disk Drive Cartridge

1TB Removable Disk Drive Cartridge (#EU01) provides a RDX disk drive in a rugged cartridge to be used in USB Internal and External Docking Station for Removable RDX Disk Drive. (#1103, #1104 or 1123) docking station. 1TB is uncompressed. Compression/decompression is provided by the operating system, not the drive itself. Feature EU01 is not entitled under the IBM Maintenance Agreement, if one is purchased.

- Attributes provided: 1TB RDX rugged disk cartridge
- Attributes required: None
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required:
 - See RDX Docking Station
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EU04) RDX USB External Docking Station for Removable Disk Cartridge

(No Longer Available as of May 27, 2016)

USB External Docking Station accommodates RDX removable disk cartridge of any capacity. The disk are in a protective rugged cartridge enclosure that plug into the docking station. The docking station holds one removable rugged disk drive/cartridge at a time. The rugged removable disk cartridge and docking station backs up similar to tape drive. This can be an excellent alternative to DAT72, DAT160, 8mm, and VXA-2 and VXA-320 tapes. CCIN: 632C-0D4

#EU04 is a follow on product to the #1104 RDX docking station. #EU04 has identical function and performance to the internal #EU03 RDX docking station.

- Attributes provided: USB RDX External Docking Station, 3M USB cable, 1M power cord with universal adapter 100-240 VAC, 50-60Hz input providing 15W DC to the docking station.
- Attributes required: One USB port and at least one #EU01, #1107 or #EU08 Removable Disk Drive Cartridge such as #EU01, #1107 or #EU08
- Minimum required: 0
- Maximum allowed: 5 (Initial order maximum: 5)
- OS level required:
 - AIX 7.1 with the 7100-02 Technology Level, or later
 - AIX 7.1 with the 7100-01 Technology Level with Service Pack 8, or later (planned availability: December 19, 2012)
 - AIX 7.1 with the 7100-00 Technology Level with Service Pack 6, or later (planned availability: December 19, 2012)
 - AIX 6.1 with the 6100-08 Technology Level, or later
 - AIX 6.1 with the 6100-07 Technology Level, with Service Pack 8, or later (planned availability: December 19, 2012)
 - AIX 6.1 with the 6100-06 Technology Level with Service Pack 10, or later (planned availability: December 19, 2012)
 - IBM i 7.1 or later
 - SUSE Linux Enterprise Server 10 Service Pack 4, or later
 - SUSE Linux Enterprise Server 11 Service Pack 2, or later ;li.Red Hat Enterprise Linux for POWER 6.3 for POWER, or later
 - Red Hat Enterprise Linux for POWER 5.8 for POWER, or later
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EU08) - RDX 320 GB Removable Disk Drive

(No Longer Available as of November 30, 2015)

Provides a RDX disk drive in a rugged cartridge to be used in an RDX docking station such as #1123, #1103 or #1104. Capacity is 320 GB is uncompressed. With typical 2X compression, capacity would be GB.640 GB Compression/ decompression is provided by the operating system, not the drive itself. Feature EU08 is not entitled under the IBM Maintenance Agreement, if one is purchased.

- Attributes provided: 320 GB RDX rugged disk/cartridge
- Attributes required: One docking station such as #1123 or #1103 or #1104
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required:
 - See RDX Docking Station
- Initial Order/MES/Both/Supported: Both
- CSU: Yes
- Return parts MES: No

(#EU15) - 1.5TB Removable Disk Drive Cartridge

(No Longer Available as of November 30, 2015)

The 1.5 TB Removable Disk Drive Cartridge provides a RDX disk drive in a rugged cartridge to be used in an RDX Internal and External Docking Station such as (#1103, #1104 or #1123, #EU03, #EU04, #EU23, or #EU07. 1.5TB is uncompressed. Compression/ decompression is provided by the operating system, not the drive itself. Feature EU015 is not entitled under the IBM Maintenance Agreement, if one is purchased.

- Attributes provided: 1.5TB RDX rugged disk cartridge
- Attributes required: RDX docking station
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 250)
- OS level required: See Docking station for OS requirements
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EU2T) - 2TB Removable Disk Drive Cartridge (RDX)

The 2.0TB Removable Disk Drive Cartridge provides a RDX disk drive in a rugged cartridge to be used in an RDX Internal and External Docking Station such as (#1103, #1104 or #1123, #EU03, #EU04, #EU23, or #EU07. 2.0TB is uncompressed. Compression/ decompression is provided by the operating system, not the drive itself. Feature EU015 is not entitled under the IBM Maintenance Agreement, if one is purchased.

- Attributes provided: 2.0TB RDX rugged disk cartridge
- Attributes required: RDX docking station
- Minimum required: 0
- Maximum allowed: 9999 (Initial order maximum: 0)
- OS level required: See docking station for OS requirements
- Initial Order/MES/Both/Supported: MES
- CSU: Yes
- Return parts MES: No

(#EUC5) - 12X Cable Performance Specify

(No Longer Available as of August 31, 2012)

This specify code indicates to IBM Configurator and Manufacturing tools to place if possible each 12X I/O drawer ordered with this server on a separate 12X loop. This should happen as long as the number of 12X I/O drawers does not exceed the maximum number of loops available for the system unit configuration selected.

Having a separate loop for each 12X I/O drawer can provide additional bandwidth and can improve system I/O performance.

Note that this specify can cause the IBM configurator tool to add GX++ adapters and 12X cables to the configuration. If more 12X I/O drawers than the maximum number of loops available is ordered, then the incremental 12X drawers will be added to that maximum number of loops. 12X drawers are the #5802/5877 and #5796. #EUC5 will not add additional processor enclosures to the configuration.

- Attributes provided: Configures each 12X I/O drawer in a single loop where possible
- Attributes required: Available GX++ adapter for each single loop
- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- OS level required: N/A
- Initial Order/MES/Both/Supported: Initial
- CSU: N/A
- Return parts MES: Does not apply

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Accessories

None.

Customer replacement parts

Tier 1 CRUs are those parts which require minimal effort, skill and/or experience in order to service. Tier 1 items are mandatory CRUs when base, 9x5 NBD warranty or maintenance is specified in the Ts and Cs contract and is in force. However, if the customer elects not to perform Tier 1 service, an IBM SSR may be contracted at an additional service charge to perform the service. If the customer has 7x24 warranty or maintenance in force, then all parts, Tier 1 and Tier2, may be replaced or serviced by a SSR without an additional charge.

The following parts have been designated as Tier 1 CRUs:

- Keyboard
- Mouse
- Display
- Line power cord
- Power supply
- DASD
- HEA card
- IB adapters
- Internal to external SAS cable
- PCI Adapter Cassette

Tier 2 CRUs require more effort than Tier 1 CRUs and also require a higher level of skill and/or experience when being serviced by the customer. As with Tier 1 parts, if the customer elects not to perform Tier 2 service, an IBM SSR may be contracted at an additional service charge .to perform the service. If the customer has 7x24 warranty or maintenance in force, then all parts will be replaced or serviced by an SSR without an additional charge.

The following parts have been designated as Tier 2 CRUs:

- FSP Cable
- FSP Card
- Fan
- Operator panel
- PCI Adapter
- RAID battery card and battery
- SAS DASD / Media backplane
- SMP Cable
- Slim line DVD
- TOD Battery

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Machine elements

Not available.

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Supplies

None.

Supplemental media

None.

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