Power Systems

PCI adapter placement for the 8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, or 8205-E6D

Power Systems

PCI adapter placement for the 8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, or 8205-E6D

Note

Before using this information and the product it supports, read the information in "Safety notices" on page v, "Notices" on page 55, the *IBM Systems Safety Notices* manual, G229-9054, and the *IBM Environmental Notices and User Guide*, Z125–5823.

This edition applies to IBM Power Systems servers that contain the POWER7 processor and to all associated models.

Contents

Safety notices

Safety notices may be printed throughout this guide:

- **DANGER** notices call attention to a situation that is potentially lethal or extremely hazardous to people.
- **CAUTION** notices call attention to a situation that is potentially hazardous to people because of some existing condition.
- **Attention** notices call attention to the possibility of damage to a program, device, system, or data.

World Trade safety information

Several countries require the safety information contained in product publications to be presented in their national languages. If this requirement applies to your country, safety information documentation is included in the publications package (such as in printed documentation, on DVD, or as part of the product) shipped with the product. The documentation contains the safety information in your national language with references to the U.S. English source. Before using a U.S. English publication to install, operate, or service this product, you must first become familiar with the related safety information documentation. You should also refer to the safety information documentation any time you do not clearly understand any safety information in the U.S. English publications.

Replacement or additional copies of safety information documentation can be obtained by calling the IBM Hotline at 1-800-300-8751.

German safety information

Das Produkt ist nicht für den Einsatz an Bildschirmarbeitsplätzen im Sinne § 2 der Bildschirmarbeitsverordnung geeignet.

Laser safety information

IBM® servers can use I/O cards or features that are fiber-optic based and that utilize lasers or LEDs.

Laser compliance

IBM servers may be installed inside or outside of an IT equipment rack.

DANGER

When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:

- **Connect power to this unit only with the IBM provided power cord. Do not use the IBM provided power cord for any other product.**
- **Do not open or service any power supply assembly.**
- **Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.**
- **The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.**
- **Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.**
- **Connect any equipment that will be attached to this product to properly wired outlets.**
- **When possible, use one hand only to connect or disconnect signal cables.**
- **Never turn on any equipment when there is evidence of fire, water, or structural damage.**
- **Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.**
- **Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.**

To Disconnect:

1. **Turn off everything (unless instructed otherwise).**
2. **Remove the power cords from the outlets.**
3. **Remove the signal cables from the connectors.**
4. **Remove all cables from the devices.**

To Connect:

1. **Turn off everything (unless instructed otherwise).**
2. **Attach all cables to the devices.**
3. **Attach the signal cables to the connectors.**
4. **Attach the power cords to the outlets.**
5. **Turn on the devices.**

(D005)

DANGER

Observe the following precautions when working on or around your IT rack system:

- **Heavy equipment–personal injury or equipment damage might result if mishandled.**
- **Always lower the leveling pads on the rack cabinet.**
- **Always install stabilizer brackets on the rack cabinet.**
- **To avoid hazardous conditions due to uneven mechanical loading, always install the heaviest devices in the bottom of the rack cabinet. Always install servers and optional devices starting from the bottom of the rack cabinet.**
- **Rack-mounted devices are not to be used as shelves or work spaces. Do not place objects on top of rack-mounted devices.**

- **Each rack cabinet might have more than one power cord. Be sure to disconnect all power cords in the rack cabinet when directed to disconnect power during servicing.**
- **Connect all devices installed in a rack cabinet to power devices installed in the same rack cabinet. Do not plug a power cord from a device installed in one rack cabinet into a power device installed in a different rack cabinet.**
- **An electrical outlet that is not correctly wired could place hazardous voltage on the metal parts of the system or the devices that attach to the system. It is the responsibility of the customer to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.**

CAUTION

- **Do not install a unit in a rack where the internal rack ambient temperatures will exceed the manufacturer's recommended ambient temperature for all your rack-mounted devices.**
- **Do not install a unit in a rack where the air flow is compromised. Ensure that air flow is not blocked or reduced on any side, front, or back of a unit used for air flow through the unit.**
- **Consideration should be given to the connection of the equipment to the supply circuit so that overloading of the circuits does not compromise the supply wiring or overcurrent protection. To provide the correct power connection to a rack, refer to the rating labels located on the equipment in the rack to determine the total power requirement of the supply circuit.**
- *(For sliding drawers.)* **Do not pull out or install any drawer or feature if the rack stabilizer brackets are not attached to the rack. Do not pull out more than one drawer at a time. The rack might become unstable if you pull out more than one drawer at a time.**
- *(For fixed drawers.)* **This drawer is a fixed drawer and must not be moved for servicing unless specified by the manufacturer. Attempting to move the drawer partially or completely out of the rack might cause the rack to become unstable or cause the drawer to fall out of the rack.**

(R001)

CAUTION:
Removing components from the upper positions in the rack cabinet improves rack stability during relocation. Follow these general guidelines whenever you relocate a populated rack cabinet within a room or building:

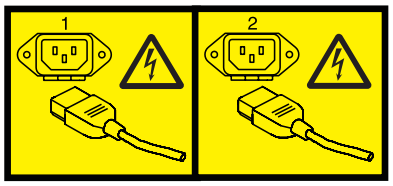
- **Reduce the weight of the rack cabinet by removing equipment starting at the top of the rack cabinet. When possible, restore the rack cabinet to the configuration of the rack cabinet as you received it. If this configuration is not known, you must observe the following precautions:**
  - **Remove all devices in the 32U position and above.**
  - **Ensure that the heaviest devices are installed in the bottom of the rack cabinet.**
  - **Ensure that there are no empty U-levels between devices installed in the rack cabinet below the 32U level.**
- **If the rack cabinet you are relocating is part of a suite of rack cabinets, detach the rack cabinet from the suite.**
- **Inspect the route that you plan to take to eliminate potential hazards.**
- **Verify that the route that you choose can support the weight of the loaded rack cabinet. Refer to the documentation that comes with your rack cabinet for the weight of a loaded rack cabinet.**
- **Verify that all door openings are at least 760 x 230 mm (30 x 80 in.).**
- **Ensure that all devices, shelves, drawers, doors, and cables are secure.**
- **Ensure that the four leveling pads are raised to their highest position.**
- **Ensure that there is no stabilizer bracket installed on the rack cabinet during movement.**
- **Do not use a ramp inclined at more than 10 degrees.**
- **When the rack cabinet is in the new location, complete the following steps:**
  - **Lower the four leveling pads.**
  - **Install stabilizer brackets on the rack cabinet.**
  - **If you removed any devices from the rack cabinet, repopulate the rack cabinet from the lowest position to the highest position.**
- **If a long-distance relocation is required, restore the rack cabinet to the configuration of the rack cabinet as you received it. Pack the rack cabinet in the original packaging material, or equivalent. Also lower the leveling pads to raise the casters off of the pallet and bolt the rack cabinet to the pallet.**

(R002)

(L001)

(L002)

(L003)



or

All lasers are certified in the U.S. to conform to the requirements of DHHS 21 CFR Subchapter J for class 1 laser products. Outside the U.S., they are certified to be in compliance with IEC 60825 as a class 1 laser product. Consult the label on each part for laser certification numbers and approval information.

CAUTION:
This product might contain one or more of the following devices: CD-ROM drive, DVD-ROM drive, DVD-RAM drive, or laser module, which are Class 1 laser products. Note the following information:

- **Do not remove the covers. Removing the covers of the laser product could result in exposure to hazardous laser radiation. There are no serviceable parts inside the device.**
- **Use of the controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.**

(C026)

CAUTION:
Data processing environments can contain equipment transmitting on system links with laser modules that operate at greater than Class 1 power levels. For this reason, never look into the end of an optical fiber cable or open receptacle. (C027)

CAUTION:
This product contains a Class 1M laser. Do not view directly with optical instruments. (C028)

CAUTION:
Some laser products contain an embedded Class 3A or Class 3B laser diode. Note the following information: laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam. (C030)

CAUTION:
The battery contains lithium. To avoid possible explosion, do not burn or charge the battery.

Do Not:
- **___ Throw or immerse into water**
- **___ Heat to more than 100°C (212°F)**
- **___ Repair or disassemble**

Exchange only with the IBM-approved part. Recycle or discard the battery as instructed by local regulations. In the United States, IBM has a process for the collection of this battery. For information, call 1-800-426-4333. Have the IBM part number for the battery unit available when you call. (C003)

Power and cabling information for NEBS (Network Equipment-Building System) GR-1089-CORE

The following comments apply to the IBM servers that have been designated as conforming to NEBS (Network Equipment-Building System) GR-1089-CORE:

The equipment is suitable for installation in the following:
- Network telecommunications facilities
- Locations where the NEC (National Electrical Code) applies

The intrabuilding ports of this equipment are suitable for connection to intrabuilding or unexposed wiring or cabling only. The intrabuilding ports of this equipment *must not* be metallically connected to the interfaces that connect to the OSP (outside plant) or its wiring. These interfaces are designed for use as intrabuilding interfaces only (Type 2 or Type 4 ports as described in GR-1089-CORE) and require isolation from the exposed OSP cabling. The addition of primary protectors is not sufficient protection to connect these interfaces metallically to OSP wiring.

Note: All Ethernet cables must be shielded and grounded at both ends.

The ac-powered system does not require the use of an external surge protection device (SPD).

The dc-powered system employs an isolated DC return (DC-I) design. The DC battery return terminal *shall not* be connected to the chassis or frame ground.

PCI adapter placement for the 8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, or 8205-E6D

Find information about the Peripheral Component Interconnect (PCI), PCI-X, and PCI Express (PCIe) adapters that are supported for the 8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, or 8205-E6D systems that contain the POWER7® processor and the associated I/O expansion units.

The following features are electromagnetic compatibility (EMC) Class B features. See the Class B Notices in the Hardware Notices section.

Table 1. Electromagnetic compatibility (EMC) Class B features

Feature	Description
1912, 5736	PCI-X DDR 2.0 Dual Channel Ultra320 SCSI Adapter
1983, 5706	Port 10/100/1000 Base-TX Ethernet PCI-X Adapter
1986, 5713	1 Gb iSCSI TOE PCI-X Adapter
2728	4-port USB PCIe Adapter
4764	PCI-X Cryptographic Coprocessor
4807	PCIe Cryptographic Coprocessor
5717	4-port 10/100/1000 Base-TX PCI Express Adapter
5732	10 Gb Ethernet-CX4 PCI Express Adapter
5748	POWER® GXT145 PCI Express Graphics Accelerator
5767	2-port 10/100/1000 Base-TX Ethernet PCI Express Adapter
5768	2-port Gb Ethernet-SX PCI Express Adapter
5769	10 Gb Ethernet-SR PCI Express Adapter
5772	10 Gb Ethernet-LR PCI Express Adapter
5785	4 Port Async EIA-232 PCIe Adapter
EC2G and EL39	PCIe LP 2-Port 10 GbE SFN6122F Adapter
EC2H and EL3A	PCIe LP 2-Port 10 GbE SFN5162F Adapter
EC2J	PCIe 2-Port 10 GbE SFN6122F Adapter
EC2K	PCIe 2-Port 10 GbE SFN5162F Adapter

Supported PCI adapters for the 8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, or 8205-E6D

Find information about the Peripheral Component Interconnect (PCI), PCI-X, and PCI Express (PCIe) adapters that are supported for the 8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, or 8205-E6D systems that contain the POWER7 processor and the associated I/O expansion units.

This section provides reference information that information technology (IT) personnel and service representatives can use in determining where to place PCI, PCI-X, and PCIe adapters in the 8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, or 8205-E6D system and the associated I/O expansion units.

Adapters supported on the AIX®, IBM i, or Linux operating system

Table 2 and Table 3 on page 7 list the adapters supported in the systems running the AIX, IBM i, or Linux operating system.

Important:

- This document does not replace the latest sales and marketing publications and tools that document supported features.
- Before adding or rearranging adapters, use the System Planning Tool to validate the new adapter configuration. See the IBM System Planning Tool website (www.ibm.com/systems/support/tools/systemplanningtool/).
- If you are installing a new feature, ensure that you have the software required to support the new feature and determine whether you must install any existing program temporary fix (PTF) prerequisites. To do this, use the IBM Prerequisite website (www-912.ibm.com/e_dir/eServerPrereq.nsf).

PCI and PCI-X adapters

The following table lists PCI and PCI-X adapters supported for the 8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, or 8205-E6D.

The adapters are listed with their feature codes (FC), customer card identification number (CCIN), along with their description, and the systems on which they are supported.

Table 2. PCI and PCI-X adapters supported in the systems running the AIX, IBM i, or Linux operating system

Feature code	CCIN	Description	System supported
2943	3-B	8-port Asynchronous EIA-232E/RS-422A PCI Adapter (FC 2943; CCIN 3-B) • PCI bus • 8 Async ports • OS support: AIX operating system	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5723	5723	2-port Asynchronous EIA-232 PCI Adapter (FC 5723; CCIN 5723) • PCI adapter • 2-port EIA-232 asynchronous serial communications • 16C850 UART equivalent • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
1905	1910	4 Gb Single-port Fibre Channel PCI-X 2.0 DDR Adapter (FC 1905; CCIN 1910) • PCI-X 2.0a, PCI 3.0, PCI-X Mode 2 - 266 MHz, PCI-X Mode 1 - 133 MHz, PCI - 66 MHz • High-speed data networking • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
1910	1910	4 Gb Dual-port Fibre Channel PCI-X 2.0 DDR Adapter (FC 1910; CCIN 1910) • PCI-X 2.0a, PCI 3.0, PCI-X Mode 2 - 266 MHz, PCI-X Mode 1 - 133 MHz, PCI - 66 MHz • High-speed data networking • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D

Table 2. PCI and PCI-X adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
1977	197E	2 Gb Fibre Channel PCI-X Adapter (FC 1977; CCIN 197E) • PCI-X, 64-bit • High bandwidth • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5716	280B	2 Gb Fibre Channel PCI-X Adapter (FC 5716; CCIN 280B) • PCI-X, 64-bit • High bandwidth • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5749	576B	4 Gb Dual-port Fibre Channel PCI-X 2.0 DDR Adapter (FC 5749; CCIN 576B) • Short, 64-bit, 3.3 V • OS support: IBM i operating system • Extra-high bandwidth • 64-bit slot required • Recommended in DDR slot • Maximum of 24 adapters • Maximum of four per enclosure • Maximum of two per PCI host bridge • OS support: IBM i operating system	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5758	1910	4 Gb Single-port Fibre Channel PCI-X 2.0 DDR Adapter (FC 5758; CCIN 1910) • PCI-X 2.0a, PCI 3.0, PCI-X Mode 2 - 266 MHz, PCI-X Mode 1 - 133 MHz, PCI - 66 MHz • High-speed data networking • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5759	5759	4 Gb Dual-port Fibre Channel PCI-X 2.0 DDR Adapter (FC 5759; CCIN 5759) • Short, 64-bit, 3.3 V • High-speed data networking • Extra-high bandwidth • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
1980 and 2849	1980	POWER GXT135P Graphics Accelerator with digital support (FC 1980; CCIN 1980) • 32-bit PCI interface • 128-bit graphics processor • 8-bit or 24-bit color modes • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
1954		4-port 10/100/1000 Base-TX PCI-X adapter (FC 1954) • PCI-X 1.0a • Full-height, 64-bit • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D

Table 2. PCI and PCI-X adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
1978		IBM Gigabit Ethernet-SX PCI-X Adapter (FC 1978) • 64-bit PCI-X • One full-duplex 1000 Base-SX fiber connection to a gigabit Ethernet LAN • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
1979		IBM 10/100/1000 Base-TX Ethernet PCI-X Adapter (FC 1979) • 64-bit PCI-X • One full-duplex 10/100/1000 Base-TX UTP connection to a gigabit Ethernet • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
1983	5706	2-port 10/100/1000 Base-TX Ethernet PCI-X Adapter (FC 1983; CCIN 5706) • Two full-duplex 10/100/1000 Base-TX UTP connections to gigabit Ethernet LANs • High bandwidth • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
1986	573B	1-Gb iSCSI TOE PCI-X Adapter (FC 1986; CCIN 573B) • Copper media adapter • iSCSI TOE (TCP/IP offload engine) • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
1987	573C	1-Gb iSCSI TOE PCI-X Adapter (FC 1987; CCIN 573C) • Optical media adapter • iSCSI TOE (TCP/IP offload engine) • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5700	5700	IBM Gigabit Ethernet-SX PCI-X Adapter (FC 5700; CCIN 5700) • One full-duplex 1000 Base-SX fiber connection to a gigabit Ethernet LAN • High bandwidth • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5701	5701	IBM 10/100/1000 Base-TX Ethernet PCI-X Adapter (FC 5701; CCIN 5701) • One full-duplex 10/100/1000 Base-TX UTP connection to a gigabit Ethernet • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5706	5706	2-port 10/100/1000 Base-TX Ethernet PCI-X Adapter (FC 5706; CCIN 5706) • Short, 32-bit or 64-bit, 3.3 V or 5 V • High bandwidth • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5713	573B	1 Gb-TX iSCSI TOE PCI-X Adapter (FC 5713; CCIN 573B) • Short, 32-bit or 64-bit, 3.3 V or 5 V • High bandwidth • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D

Table 2. PCI and PCI-X adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
5714	573C	1 Gb iSCSI TOE PCI-X on Optical Media Adapter (FC 5714; CCIN 573C) • Short, 32-bit or 64-bit, 3.3 V or 5 V • High bandwidth • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5721	573A	10 Gb Ethernet-SR PCI-X 2.0 DDR Adapter (FC 5721; CCIN 573A) • High bandwidth • OS support: AIX, IBM i, and Linux operating system	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5722	573A	10 Gb Ethernet-LR PCI-X 2.0 DDR Adapter (FC 5722; CCIN 573A) • High bandwidth • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5740	1954	4-port 10/100/1000 Base-TX PCI-X adapter (FC 5740; CCIN 1954) • PCI-X 1.0a • Full-height, 64-bit • High bandwidth • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
2738	28EF	2-port USB PCI Adapter (FC 2738; CCIN 28EF) • Short, 32-bit • 3.3 or 5 V • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
4764	4764	PCI-X Cryptographic Coprocessor (FC 4764; CCIN 4764) • Short, 64-bit, 3.3 V • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5900	572A	PCI-X DDR Dual-x4 3 Gb SAS Adapter (FC 5900; CCIN 572A) • Short, 64-bit, 3.3 V • Extra-high bandwidth • Supports a dual controller mode in a multi-initiator configuration • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5902	572B	PCI-X DDR Ext Dual-x4 3 Gb SAS RAID Adapter (FC 5902; CCIN 572B) • Long, 64-bit, 3.3 V • Extra-high bandwidth • The adapter must be connected and configured in a dual controller mode in a multi-initiator configuration, and this configuration requires that the adapters are installed in pairs. • This adapter supports disk expansion units. This adapter does not support media expansion units. • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D

Table 2. PCI and PCI-X adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
5908	572F and 575C	PCI-X DDR 1.5 GB cache SAS RAID Adapter (FC 5908; CCIN 572F, 575C) • Long, 64-bit, 3.3 V • Extra-high bandwidth • Generation 3 blind-swap cassette • Double-wide adapter requires two adjacent slots: – 572F is the CCIN on the SAS controller side of the double-wide adapter. – 575C is the CCIN on the write-cache side of the double-wide adapter. • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5912	572A	PCI-X DDR Dual-x4 3 Gb SAS Adapter (FC 5912; CCIN 572A) • Short, 64-bit, 3.3 V • Extra-high bandwidth • Supports a dual controller mode in a multi-initiator configuration • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
1912	571A	PCI-X DDR 2.0 Dual Channel Ultra320 SCSI Adapter (FC 1912; CCIN 571A) • Short, 64-bit, 3.3 V • High bandwidth • OS support: AIX, IBM i, and Linuxoperating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5736	571A	PCI-X DDR 2.0 Dual Channel Ultra320 SCSI Adapter (FC 5736; CCIN 571A) • Short, 32-bit or 64-bit, 3.3 V • High bandwidth • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5782	571F and 575B	PCI-X Dual Channel Ultra320 SCSI RAID Adapter with Auxiliary Write Cache (double-wide) (FC 5782; CCIN 571F and 575B) • Long, 64-bit, 3.3 V, 266 MHz • Dual-mode capable adapter • Extra-high bandwidth • Double-wide adapter, requires two adjacent slots. The SCSI controller side of the adapter pair requires a 64-bit slot. The controller side is the side with the external SCSI connectors. • OS support: IBM i operating system	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
2947		IBM ARTIC960Hx 4-port Multiprotocol PCI Adapter (FC 2947) • 32-bit PCI • Provides 4-ports with different protocols, EIA-232, EIA530, RS-449, X.21, or V.35 • OS support: AIX operating system	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D

Table 2. PCI and PCI-X adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
6805	2742	PCI 2-Line WAN IOA (FC 6805; CCIN 2742) • Short, 32-bit, 66 MHz • No IOP • OS support: IBM i and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
6808	2805	PCI Quad Modem IOA (FC 6808; CCIN 2805) • Long, 32-bit, 66 MHz • Non-CIM • OS support: IBM i operating system	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
6809	2805	PCI Quad Modem IOA (FC 6809; CCIN 2805) • Long, 32-bit, 66 MHz • CIM • OS support: IBM i operating system	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
6833	2793	PCI 2-Line WAN with Modem No IOP (FC 6833; CCIN 2793) • Two lines per port WAN with modem adapter • Non-CIM • OS support: IBM i and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
6834	2793	PCI 2-Line WAN with Modem No IOP CIM (FC 6834; CCIN 2793) • Two lines per port WAN with modem adapter • CIM • OS support: IBM i and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
9483	576C	PCI Express 2-Line WAN with Modem (FC 9483; CCIN 576C) • Short, x4, PCIe • Non-CIM • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, and 8202-E4D

PCIe adapters

The following table lists PCIe adapters.

Table 3. PCIe adapters supported in the systems running the AIX, IBM i, or Linux operating system

Feature code	CCIN	Description	System supported
5277	57D2	4-port Async EIA-232 PCIe 1X LP Adapter (FC 5277; CCIN 57D2) • Low-profile adapter • Extra-high bandwidth • Short, x1 • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D

Table 3. PCIe adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
5289	57D4	PCIe 2-port Async EIA-232 PCIe 1X LPC Adapter (FC 5289; CCIN 57D4) • Short, x1 • PCIe 1.1 • Two ports through RJ45 by using the DB9 connector • EIA-232 Compatible • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5290	57D4	PCIe LP 2-port Async EIA-232 Adapter (FC 5290; CCIN 57D4) • Low-profile adapter • PCIe 1.1 • Short, x8 • 2 Ports through RJ45 by using the DB9 connector • EIA-232 compatible • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5785	57D2	4 Port Async EIA-232 PCIe Adapter (FC 5785; CCIN 57D2) • Short, x1 • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5273	577D	8 Gb PCI Express Dual-port Fibre Channel Adapter (FC 5273; CCIN 577D) • Low-profile adapter • Short, x8 • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5276	5774	4-Gb PCI Express Dual-port Fibre Channel Adapter (FC 5276; CCIN 5774) • Low-profile adapter • Short, x4 • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5729	5729	PCIe2 FH 4-port 8 Gb Fibre Channel Adapter (FC 5729; CCIN 5729) • Full-height, full length adapter with standard-size bracket • PCIe 2.1, x8 • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D
5735	577D	8 Gb PCI Express Dual-port Fibre Channel Adapter (FC 5735; CCIN 577D) • Short, x8 • Extra-high bandwidth: If only one port is planned to be active in normal operation, the adapter is counted as an extra-high bandwidth adapter. If both ports are planned to be active, the adapter must be treated as two extra-high bandwidth adapters. • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D

Table 3. PCIe adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
5773	5773	4 Gb PCI Express Single Port Fibre Channel Adapter (FC 5773; CCIN 5773) • Short, x4 • High bandwidth • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5774	5774	4 Gb PCI Express Dual-port Fibre Channel Adapter (FC 5774; CCIN 5774) • Short, x4 • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
EN0A	577F	PCIe2 16 Gb 2-port Fibre Channel Adapter (FC EN0A; CCIN 577F) • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	8202-E4D and 8205-E6D
EN0B	577F	PCIe2 LP 16 Gb 2-port Fibre Channel Adapter (FC EN0B; CCIN 577F) • Short, low-profile, x8 • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	8202-E4D and 8205-E6D
EN0Y	EN0Y	PCIe2 LP 8Gb 4-port Fibre Channel Adapter (FC EN0Y; CCIN EN0Y) • Short, low-profile • PCIe generation 2, x8 • Short form factor plus (SFF+) Host Bus Adapter (HBA) • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5269	5269	POWER GXT145 PCI Express Graphics Accelerator (FC 5269; CCIN 5269) • Low-profile adapter • Short, x1 • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
EC41		PCIe2 LP 3D Graphics Adapter x1 (FC EC41) • PCIe 2.1, single lane (x1) • Short, low-profile, half-length adapter • Not hot-pluggable • Passive cooling • Supports two DVI-I displays with a required breakout cable • OS support: Linux operating system • Supported on Firmware level 7.8, or later	8202-E4D and 8205-E6D

Table 3. PCIe adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
EC42		PCIe2 3D Graphics Adapter x1 (FC EC42) • PCIe 2.1, single lane (x1) • Short, with full-height tailstock • Not hot-pluggable • Passive cooling • Supports two DVI-I displays with a required breakout cable • OS support: Linux operating system • Supported on Firmware level 7.8, or later	8202-E4D and 8205-E6D
5748	5748	POWER GXT145 PCI Express Graphics Accelerator (FC 5748; CCIN 5748) • Short, x1 • Not hot-pluggable • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
EJ0J	57B4	PCIe3 RAID SAS Adapter (FC EJ0J; CCIN 57B4) • Regular-height adapter • PCIe3, short, x8 • Transfer speed of 6 Gbps • No write cache • One PCIe x8 slot per adapter • Adapters can be installed singly or in pairs • OS support: AIX, IBM i, and Linux operating systems	8202-E4D and 8205-E6D
EJ0L	57CE	PCIe3 12 GB Cache RAID SAS quad-port 6 Gb Adapter (FC EJ0L; CCIN 57CE) • Regular-height adapter, short • PCIe3 x8 • Transfer speed of 6 Gbps • 12 GB write cache • One PCIe x8 slot per adapter • Adapters are installed in pairs • OS support: AIX, IBM i, and Linux operating systems	8202-E4D and 8205-E6D
EJ0M	57B4	PCIe3 LP RAID SAS Adapter (FC EJ0M; CCIN 57B4) • Low-profile adapter • PCIe3, short, x8 • Transfer speed of 6 Gbps • No write cache • One PCIe x8 slot per adapter • Adapters are installed in pairs to enable mirroring • OS support: AIX, IBM i, and Linux operating systems	8202-E4D and 8205-E6D

Table 3. PCIe adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
EJ10	57B4	PCIe3 4 x8 SAS Port Adapter (FC EJ10; CCIN 57B4) • Regular-height adapter • PCIe3 x8 • Transfer speed of 6 Gbps • Supports DVD and tape drives • No write cache • One PCIe x8 slot per adapter • OS support: AIX, IBM i, and Linux operating systems	8202-E4D and 8205-E6D
EJ11	57B4	PCIe3 LP 4 x8 SAS Port Adapter (FC EJ11; CCIN 57B4) • Low-profile adapter • PCIe3, short, x8 • Transfer speed of 6 Gbps • Supports DVD and tape drives • No write cache • One PCIe x8 slot per adapter • OS support: AIX, IBM i, and Linux operating systems	8202-E4D and 8205-E6D
5260	576F	PCIe2 LP 4-port 1 GbE Adapter (FC 5260; CCIN 576F) • Low-profile adapter • PCIe generation 1 or generation 2, x4 • High bandwidth • Four-port 1 Gb Ethernet • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5270	2B3B	10 Gb FCoE PCIe Dual-port Adapter (FC 5270; CCIN 2B3B) • Low-profile adapter • Short, x8 • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5271	5717	4-port 10/100/1000 Base-TX PCI Express Adapter (FC 5271; CCIN 5717) • Low-profile adapter • Short, x4 • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5272	5272	10 Gb Ethernet-CX4 PCI Express Adapter (FC 5272; CCIN 5272) • Low-profile adapter • Short, x8 • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5274	5768	2-port Gb Ethernet-SX PCI Express Adapter (FC 5274; CCIN 5768) • Low-profile adapter • Short, x4 • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5275	2B54	10 Gb Ethernet-SR PCI Express Adapter (FC 5275; CCIN 2B54) • Low-profile adapter • Short, x8 • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D

Table 3. PCIe adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
5278	57B3	PCIe Dual-x4 SAS Adapter (FC 5278; CCIN 57B3) • Low-profile adapter • Extra-high bandwidth • Short, x8 • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5279	2B52	PCIe2 LP 2x10 GbE SFP+ Copper 2x1 GbE UTP Adapter (FC 5279; CCIN 2B52) • Low-profile, Short, x8 • PCIe 2 • OS support: Linux operating system	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5280	2B54	PCIe2 LP 2x10 GbE SR 2x1 GbE UTP Adapter (FC 5280; CCIN 2B54) • Low-profile, short, x8 • PCIe 2 • OS support: Linux operating system	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5281	5767	1 Gb Ethernet UTP 2-port PCIe Adapter (FC 5281; CCIN 5767) • Low-profile, short, x8 • PCIe 2 • OS support: AIX, IBM i, and Linux operating system	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5284	5287	PCIe2 LP 2-port 10 GbE SR Adapter (FC 5284; CCIN 5287) • Generation 2, x8 • Low-profile adapter • Extra-high bandwidth • 10 GBASE-SR short-reach optics • OS support: AIX, IBM i (supported only through VIOS), and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5286	5288	PCIe2 LP 2-port 10 GbE SFP+ Copper Adapter (FC 5286; CCIN 5288) • Generation 2, low-profile adapter • Two 10 Gb Ethernet ports • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5287	5287	PCIe2 2-port 10 GbE SR Adapter (FC 5287; CCIN 5287) • Generation 2, x8 • Full-height adapter • Two 10 Gb Ethernet ports • 10 GBASE- Direct attach SFP+ twinax cable • OS support: AIX and Linux operating systems	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D
5288	5288	PCIe2 LP 2-port 10 GbE SFP+ Copper Adapter (FC 5288; CCIN 5288) • Generation 2, full-height adapter • Two 10 Gb Ethernet ports • Requires available PCIe generation 2 slot • OS support: AIX and Linux operating systems	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D

Table 3. PCIe adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
5708	2B3B	10 Gb FCoE PCIe Dual-port Adapter (FC 5708; CCIN 2B3B) • Low-profile capable • Extra-high bandwidth • PCIe 2.0 adapter with x8 generation 1 • Convergence enhanced Ethernet (CEE) supported • OS support: AIX, IBM i with VIOS, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5717	5717	4-port 10/100/1000 Base-TX PCI Express Adapter (FC 5717; CCIN 5717) • Short, x4 • High bandwidth • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5732	2B43	10 Gb Ethernet-CX4 PCI Express Adapter (FC 5732; CCIN 2B43) • Short, x8 • Extra-high bandwidth • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5744	2B44	PCIe2 2x10 GbE SR 2x1 GbE UTP Adapter (FC 5744; CCIN 2B44) • Regular-height adapter • PCIe2, short, x8 • Extra-high bandwidth • PCIe generation 2 • OS support: Linux operating system	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D
5745	2B43	PCIe2 2x10 GbE SFP+ Copper 2x1 GbE UTP Adapter (FC 5745; CCIN 2B43) • Short, x8 • PCIe 2 • Extra-high bandwidth • OS support: Linux operating system	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D
5767	5767	2-port 10/100/1000 Base-TX Ethernet PCI Express Adapter (FC 5767; CCIN 5767) • Short, x4 • High bandwidth • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5768	5768	2-port Gigabit Ethernet-SX PCI Express Adapter (FC 5768; CCIN 5768) • Short, x4 • High bandwidth • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5769	2B44	10 Gb Ethernet-SR PCI Express Adapter (FC 5769; CCIN 2B44) • Short, full-high, x8 • Regular-height • Extra-high bandwidth • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D

Table 3. PCIe adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
5772	576E	10 Gb Ethernet-LR PCI Express Adapter (FC 5772; CCIN 576E) • Short, x8 • Regular-height card • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5899	576F	PCIe2 4-port 1 GbE Adapter (FC 5899; CCIN 576F) • Regular-height adapter • PCIe generation 1 or generation 2, x4 • High bandwidth • Four-port 1 Gb Ethernet • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
9055	5767	PCIe 2-port 1 GbE TX adapter (FC 9055; CCIN 5767) • Full-height, PCIe x4 • PCIe 1.0a compliant • Two full-duplex 10/100/1000 Base-TX UTP connections to gigabit Ethernet (GbE) LANs • OS support: AIX, IBM i, and Linux operating systems	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D
EC27	EC27	PCIe2 LP 2-port 10 GbE RoCE SFP+ adapter (FC EC27; CCIN EC27) • Short, low-profile • PCIe generation 2, x8 • Extra-high bandwidth, low latency 10 Gb Ethernet • OS support: AIX and Linux operating systems • Firmware level 7.6, or later	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D
EC28	EC27	PCIe2 2-port 10 GbE RoCE SFP+ adapter (FC EC28; CCIN EC27) • Regular-height adapter • PCIe generation 2, x8 • Extra-high bandwidth, low latency 10 Gb Ethernet • OS support: AIX and Linux operating systems • Firmware level 7.6, or later	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D
EC29	EC29	PCIe2 LP 2-port 10 GbE RoCE SR adapter (FC EC29; CCIN EC29) • Low-profile adapter • PCIe generation 2, x8 • Extra-high bandwidth, low latency 10 Gb Ethernet • OS support: AIX and Linux operating systems • Firmware level 7.6, or later	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D
EC2G	EC2G	PCIe LP 2-Port 10 GbE SFN6122F Adapter (FC EC2G; CCIN EC2G) • High bandwidth • Low-profile adapter • Supports Solarflare OpenOnload • OS support: Linux operating system	8202-E4D and 8205-E6D

Table 3. PCIe adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
EC2H	EC2H	PCIe LP 2-Port 10 GbE SFN5162F Adapter (FC EC2H; CCIN EC2H) • High bandwidth • Low-profile adapter • OS support: Linux operating system	8202-E4D and 8205-E6D
EC2J	EC2G	PCIe 2-Port 10 GbE SFN6122F Adapter (FC EC2J; CCIN EC2G) • High bandwidth • Regular-height adapter • Supports Solarflare OpenOnload • OS support: Linux operating system	8202-E4D and 8205-E6D
EC2K	EC2H	PCIe 2-Port 10 GbE SFN5162F Adapter (FC EC2K; CCIN EC2H) • High bandwidth • Regular-height adapter • OS support: Linux operating system	8202-E4D and 8205-E6D
EC30	EC29	PCIe2 2-port 10 GbE RoCE SR adapter (FC EC30; CCIN EC29) • Regular-height adapter • PCIe generation 2, x8 • Extra-high bandwidth, low latency 10 Gb Ethernet • OS support: AIX and Linux operating systems • Firmware level 7.6, or later	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D
EN0H	2B93	PCIe2 4-port (10 Gb FCoE, 1 GbE) SFP+ Adapter (FC EN0H, CCIN 2B93) • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	8202-E4D and 8205-E6D
EN0K	2CC1	PCIe2 4-port (10Gb FCoE and1GbE) Copper and RJ45 Adapter (FC EN0K; CCIN 2CC1) • Regular-height adapter • Fibre Channel over Ethernet (FCoE) converged network adapter (CNA) • Provides network interface controller (NIC) • Single root I/O virtualization (SR-IOV) capable • OS support: AIX, IBM i, and Linux operating systems	8202-E4D and 8205-E6D
EN0J	2B93	PCIe2 LP 4-port (10 Gb FCoE, 1 GbE) SFP+ Adapter (FC EN0J, CCIN 2B93) • Low-profile adapter • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	8202-E4D and 8205-E6D
EN0L	2CC1	PCIe2 LP 4-port (10Gb FCoE and 1GbE) Copper and RJ45 Adapter (FC EN0L; CCIN 2CC1) • Low-profile adapter • Fibre Channel over Ethernet (FCoE) converged network adapter (CNA) • Provides network interface controller (NIC) • Single root I/O virtualization (SR-IOV) capable • OS support: AIX, IBM i, and Linux operating systems	8202-E4D and 8205-E6D

Table 3. PCIe adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
EN0S	2CC3	PCIe2 4-port (10Gb+1GbE) SR+RJ45 Adapter (FC EN0S; CCIN 2CC3) • PCIe generation 2, x8 • Short, with full-height tailstock • two 10 Gb SR optical ports and two 1 Gb RJ45 ports • NIC network convergence adapter • Local are network (LAN) adapter • OS support: AIX, IBM i (supported only through VIOS), and Linux operating systems	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D
EN0T	2CC3	PCIe2 LP 4-port (10Gb+1GbE) SR+RJ45 Adapter (FC EN0T; CCIN 2CC3) • Short, low-profile • PCIe generation 2, x8 • two 10 Gb SR optical ports and two 1 Gb RJ45 ports • NIC network convergence adapter • Local are network (LAN) adapter • Requires available PCIe slot in the FC 5685 PCIe Riser Card (generation 2) • OS support: AIX, IBM i (supported only through VIOS), and Linux operating systems	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D
EN0U	2CC3	PCIe2 4-port (10Gb+1GbE) Copper SFP+RJ45 Adapter (FC EN0U; CCIN 2CC3) • PCIe generation 2, x8 • Short, with full-height tailstock • Two 10 Gb copper twinax small form-factor pluggable (SFP+) ports • Two 1 Gb RJ45 ports • Ethernet network interface controller (NIC) function • OS support: AIX, IBM i (supported only through VIOS), and Linux operating systems	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D
EN0V	2CC3	PCIe2 LP 4-port (10Gb+1GbE) Copper SFP+RJ45 Adapter (FC EN0V; CCIN 2CC3) • Short, low-profile • PCIe generation 2, x8 • Two 10 Gb copper twinax small form-factor pluggable (SFP+) ports • Two 1 Gb RJ45 ports • Ethernet network interface controller (NIC) function • Requires available PCIe slot in the FC 5685 PCIe Riser Card (generation 2) • OS support: AIX, IBM i (supported only through VIOS), and Linux operating systems	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D

Table 3. PCIe adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
EN0W	2CC4	PCIe2 2-port 10 GbE BaseT RJ45 Adapter (FC EN0W; CCIN 2CC4) • PCIe generation 2, x8 • Short, with full-height tailstock • Two 10 Gb RJ45 ports • Local area network (LAN) adapter • OS support: AIX, IBM i (supported only through VIOS), and Linux operating systems	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D
EN0X	2CC4	PCIe2 LP 2-port 10 GbE BaseT RJ45 Adapter (FC EN0X; CCIN 2CC4) • Short, low-profile • PCIe generation 2, x8 • Two 10 Gb RJ45 ports • Local area network (LAN) adapter • Requires available PCIe slot in the FC 5685 PCIe Riser Card (generation 2) • OS support: AIX, IBM i (supported only through VIOS), and Linux operating systems	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D
2728	57D1	4-port USB PCIe Adapter (FC 2728; CCIN 57D1) • Regular-height adapter • Single-slot, half-length PCIe adapter • PCIe 1.1 • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
4807	4765	PCIe Cryptographic Coprocessor (FC 4807; CCIN 4765) • PCIe x4, full-height, half-length • OS support: AIX, and IBM i operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
4808	4765	PCIe Cryptographic Coprocessor (FC 4808; CCIN 4765) • Generation 3 blind-swap cassette • PCIe x4, full-height, half-length • OS support: AIX and IBM i operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5283	58E2	PCIe2 LP 2-port 4X InfiniBand QDR Adapter (FC 5283; CCIN 58E2) • Generation 2 low-profile adapter • Extra-high bandwidth • Requires available PCIe slot in the FC 5685 PCIe Riser Card (generation 2) • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5285	58E2	PCIe2 2-port 4X InfiniBand QDR Adapter (FC 5285; CCIN 58E2) • Generation 2 full-height adapter • Extra-high bandwidth • OS support: AIX and Linux operating systems	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D

Table 3. PCIe adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
2053	57CD	PCIe RAID and SSD SAS Adapter 3 Gb Low-profile (FC 2053; CCIN 57CD) • Short, x8 • Double-wide, low-profile adapter, requires two slots • VIOS attachment requires version 2.2, or later	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
2054	57CD	PCIe RAID and SSD SAS Adapter 3 Gb Low-profile (FC 2054; CCIN 57CD) • Short, x8 • Double-wide, low-profile adapter, requires two slots • OS support: AIX, IBM i, and Linux operating systems • VIOS attachment requires version 2.2, or later	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
2055	57CD	PCIe RAID and SSD SAS Adapter 3 Gb with Blind-Swap Cassette (FC 2055; CCIN 57CD) • Short, x8 • Double-wide, low-profile adapter, requires two slots • OS support: AIX, IBM i, and Linux operating systems • VIOS attachment requires version 2.2, or later	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5278	57B3	PCIe Dual-x4 SAS Adapter (FC 5278; CCIN 57B3) • Low-profile adapter • Extra-high bandwidth • Short, x8 • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5805	574E	PCIe 380 MB Cache Dual - x4 3 Gb SAS RAID Adapter (FC 5805; CCIN 574E) • Short, dual x4 • SAS RAID adapter • Installed in pairs • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5901	57B3	PCIe Dual - x4 SAS Adapter (FC 5901; CCIN 57B3) • Short • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
5903	574E	PCIe 380 MB Cache Dual x4 3 Gb SAS RAID Adapter (FC 5903; CCIN 574E) • Short • Extra-high bandwidth • Installed in pairs • OS support: AIX and Linux operating systems	8202-E4B, 8202-E4C, and 8202-E4D

Table 3. PCIe adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
5913	57B5	PCIe2 1.8 GB Cache RAID SAS Tri-port 6 Gb Adapter (FC 5913; CCIN 57B5) • Full-height, short, PCIe2 x8 • Transfer speed of 6 Gbps • Write cache backup of 1.8 GB • One PCIe x8 slot per adapter • Adapters are installed in pairs • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
ESA1	57B4	PCIe2 RAID SAS Adapter Dual-port 6 Gb (FC ESA1; CCIN 57B4) • Regular-height adapter • PCIe generation 2, x8 • OS support: AIX, IBM i, and Linux operating systems	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D
ESA2	57B4	PCIe2 RAID SAS Adapter Dual-port 6 Gb LP (FC ESA2; CCIN 57B4) • Short, low-profile • PCIe generation 2, x8 • OS support: AIX, IBM i, and Linux operating systems	8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D
ESA3	57BB	PCIe2 1.8 GB Cache RAID SAS Adapter Tri-port 6Gb (FC ESA3; CCIN 57BB) • Full-height, short, PCIe2 x8 • Transfer speed of 6 Gbps • Write cache backup of 1.8 GB • One PCIe x8 slot per adapter • Adapters are installed in pairs • OS support: AIX, IBM i, and Linux operating systems	8202-E4D and 8205-E6D
2893	576C	PCI Express 2-Line WAN with Modem (FC 2893; CCIN 576C) • Short, x4 • Non-CIM • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
2894	576C	PCI Express 2-Line WAN with Modem (FC 2894; CCIN 576C) • Short, x4 • CIM • OS support: AIX, IBM i, and Linux operating systems	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
EN13	576C	PCI Express 2-Line WAN with Modem (FC EN13; CCIN 576C) • Short, x4 • Non-CIM • OS support: IBM i operating system	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D
EN14	576C	PCI Express 2-Line WAN with Modem (FC EN14; CCIN 576C) • Short, x4 • CIM • OS support: IBM i operating system	8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, and 8205-E6D

Table 3. PCIe adapters supported in the systems running the AIX, IBM i, or Linux operating system (continued)

Feature code	CCIN	Description	System supported
ES09	578A	IBM Flash Adapter 90 (PCIe2 0.9TB) (FC ES09; CCIN 578A) • PCIe generation 2, x8 • 900 GB eMLC Flash storage • One PCIe x8 slot per adapter • Adapters are installed in pairs to enable mirroring • OS support: AIX and Linux operating systems	8202-E4D and 8205-E6D

Related information:

IBM Prerequisite Web page
Find prerequisite information for features you currently have or plan to add to your system.

System Planning Tool
Use the System Planning Tool to validate new or changed system configurations.

PCI adapter placement rules and slot priorities for the 8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, or 8205-E6D

Some adapters must be placed in specific peripheral component interconnect (PCI), peripheral component interconnect-X (PCI-X), or PCI Express (PCIe) slots to function correctly or to perform optimally. Learn how to determine the slots in the server or expansion units where you can install the PCI adapters.

PCI slot descriptions for the 8202-E4B and 8205-E6B

Figure 1, Figure 2 on page 21 shows the rear view of the server with the location codes for the PCI adapter slots. Figure 3 on page 21 shows the four PCIe x8 low-profile slots as an optional PCIe expansion feature. The PCIe expansion feature is installed at the GX++ slot 1. Each PCIe is a separate PCI host bridge (PHB).

The Table 4 on page 22 lists the adapter slot locations and details for the 8202-E4B and 8205-E6B.

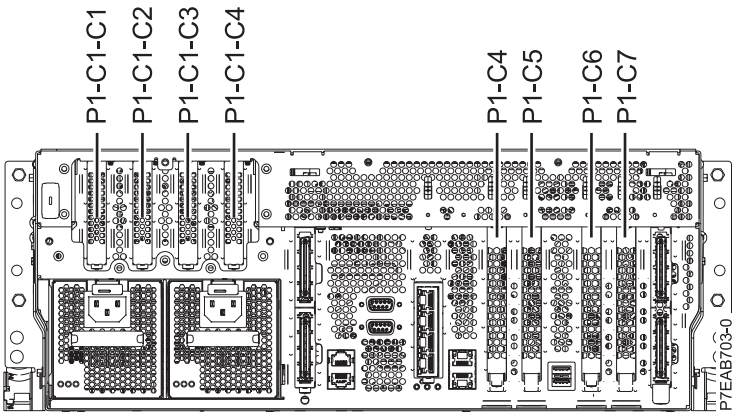


Figure 1. Rear view of the 8202-E4B and 8205-E6B systems with PCI slots location codes

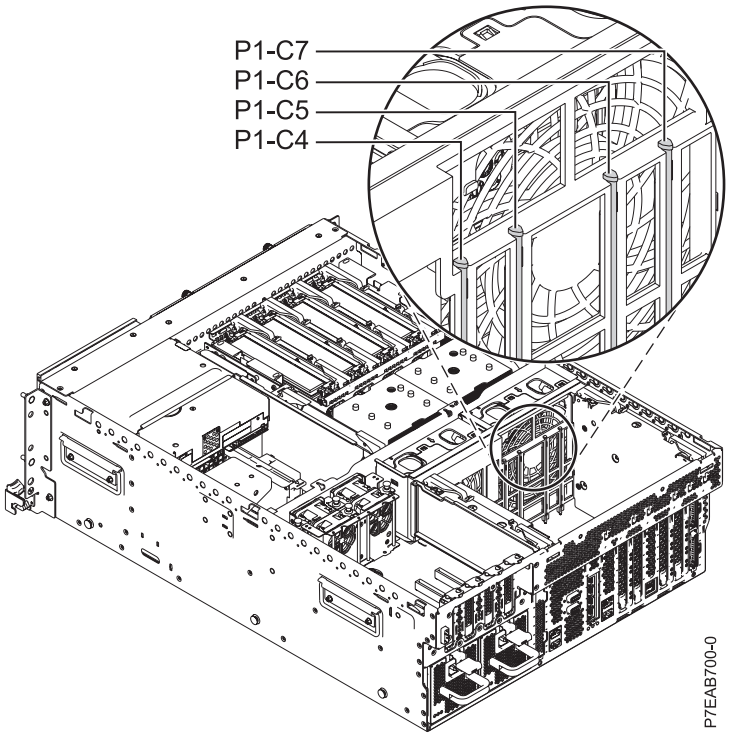


Figure 2. PCI slots location codes in the 8202-E4B and the 8205-E6B systems

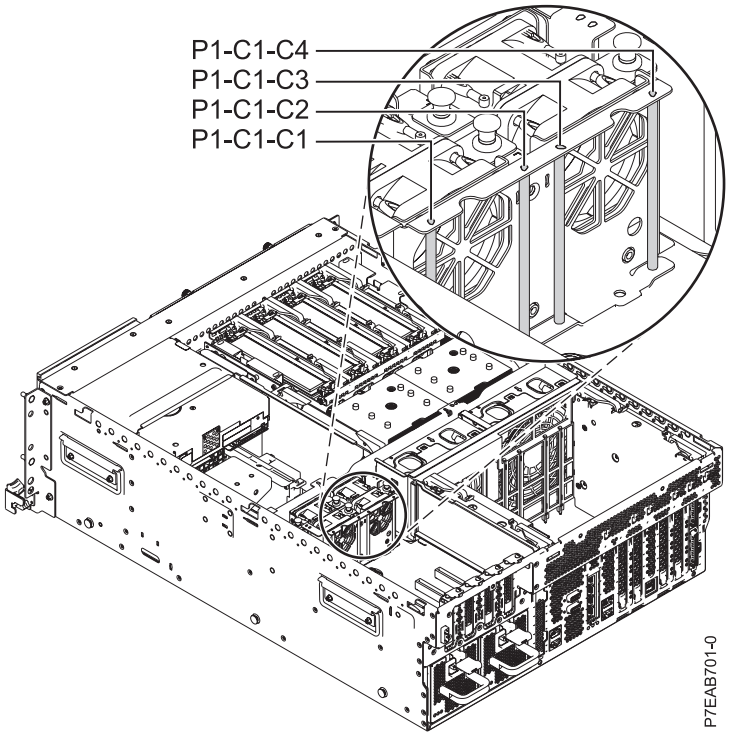


Figure 3. PCI riser expansion with location codes in the 8202-E4B and 8205-E6B systems

Table 4. PCI slot locations and descriptions for the 8202-E4B and 8205-E6B systems

Slot	Location code	Description	PHB	Adapter size
Slot 1	P1-C4	PCIe x8	PCIe PHB0 module A	Short
Slot 2	P1-C5	PCIe x8	PCIe PHB1 module A	Short
Slot 3	P1-C6	PCIe x8	PCIe PHB2 module A	Short
Slot 4	P1-C7	PCIe x8	PCIe PHB3 module A	Short
Slot 5	P1-C1-C1	PCIe x8 low-profile	PCIe PHB0 module B	Low-profile
Slot 6	P1-C1-C2	PCIe x8 low-profile	PCIe PHB1 module B	Low-profile
Slot 7	P1-C1-C3	PCIe x8 low-profile	PCIe PHB3 module B	Low-profile
Slot 8	P1-C1-C4	PCIe x8 low-profile	PCIe PHB4 module B	Low-profile

- Regular full-height adapters can be installed only in the four full-height slots: P1-C4 to P1-C7.
- The low-profile adapters can be installed only in slot P1-C1-C1 to slot P1-C1-C4.
- The low-profile and full-height adapters are the same adapters but with different brackets for installing in the slots. Install the low-height cards in low-profile slots and full-height cards in full-height slots.
- Slots 5 - 8 are optional low-profile slots and are available only if the feature 5610 or 5685, is connected to the GX++ slot (P1-C1). If 5685 is installed, then these slots (slots 5 - 8) support generation-2 PCIe adapters.
- All slots support enhanced error handling (EEH).
- None of the internal PCIe slots are hot swappable. Turn off the system before you insert any of the PCIe adapters.
- Only the carriers that are used in the I/O expansion units are hot swappable.

PCI slot descriptions for 8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D

Figure 4 shows the PCI slots and their location codes for 8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D systems. The 8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D systems have five PCIe x8 G2 full-height half-length slots and one PCIe x4 full-height half-length slot. All slots support enhanced error handling (EEH), but are not hot pluggable. PCIe slots 1 and 4 have an x16 connector, and the other slots have x8 connector. Table 5 on page 23 lists the adapter slot locations and details for the 8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D.

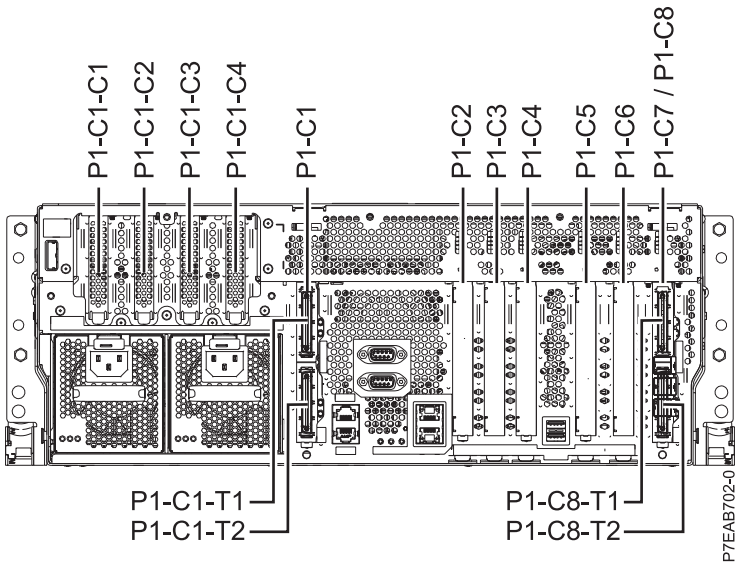


Figure 4. Rear view of the system showing the PCI slots with their location codes

Table 5. PCI slot locations and descriptions for the system

Slot	Location code	Description	PHB	Adapter size	Direct memory access (DMA) capable
Slot 1	P1-C2	PCIe x8 generation 2	PCIe-PHB5	Full-height Half-length	64-bit
Slot 2	P1-C3	PCIe x8 generation 2	PCIe-PHB4	Full-height Half-length	32-bit
Slot 3	P1-C4	PCIe x8 generation 2	PCIe-PHB3	Full-height Half-length	32-bit
Slot 4	P1-C5	PCIe x8 generation 2	PCIe-PHB2	Full-height Half-length	64-bit
Slot 5	P1-C6	PCIe x8 generation 2	PCIe-PHB1	Full-height Half-length	32-bit
Slot 6	P1-C7	PCIe x4 generation 2	PCIe-PHB0	Full-height Half-length	32-bit
Slot 7	P1-C1-C1	PCIe x8 generation 2	PCIe PHB0 module B	Low-profile	32-bit
Slot 8	P1-C1-C2	PCIe x8 generation 2	PCIe PHB1 module B	Low-profile	32-bit
Slot 9	P1-C1-C3	PCIe x8 generation 2	PCIe PHB3 module B	Low-profile	32-bit
Slot 10	P1-C1-C4	PCIe x8 generation 2	PCIe PHB4 module B	Low-profile	32-bit

- Regular full-height adapters can be installed only in the six full-height slots: P1-C2 to P1-C7.
- The low-profile adapters can be installed only in slot P1-C1-C1 to slot P1-C1-C4.
- The low-profile and full-height adapters are the same adapters but with different brackets for installing in the slots. Install the low-height cards in low-profile slots and full-height cards in full-height slots.
- Slots 5 - 8 are optional low-profile slots and are available only if the feature 5685, is connected to the GX++ slot (P1-C1). If 5685 is installed, then these slots (slots 7 - 10) support generation-2 PCIe adapters.
- All slots support enhanced error handling (EEH).
- None of the internal PCIe slots are hot swappable. Turn off the system before you insert any of the PCIe adapters.
- Only the carriers that are used in the I/O expansion units are hot swappable.

PCIe expansion units

PCIe expansion units, feature code (FC) 5685, provides connector slots for four low-profile generation-1 or generation-2 PCIe adapters and can be installed in slots C1-C1 to C1-C4. FC 5610 provides connector slots for four low-profile PCIe generation-1 adapters and can be installed in slots C1-C1 to C1-C4. The PCIe generation-2 adapters work best on FC 5685. PCIe expansion unit, FC 5877 and FC 5802 are supported on the system running IBM AIX, IBM i, or Linux. The system can be configured to support up to two I/O expansion units per GX adapter.

Restriction: A GX channel adapter that has one or two of 5877 or 5802 expansion units, or one of each 5877 and 5802 expansion unit that is connected cannot have any other devices that are connected to that adapter.

Note: For optimum performance, you might want to limit the total number of expansion units that contain high bandwidth and extra-high bandwidth adapters. See “Performance notes” on page 48.

The expansion units attach to a 4X channel adapter installed in the GX slots available in the system.

The maximum number of attached remote I/O drawers depends on the number of processor chip module units in the system.

- Systems with one processor chip module unit support up to two 5802 or 5877 expansion units. The system has only one GX adapter supported.
- Systems with two processor chip module units support up to four 5802 or 5877 expansion units, that is, two per GX channel adapter.

8202-E4B or 8205-E6B:

- If you install feature code 5610 or 5685 in the system, you cannot install the 5615 or EJ04, expansion unit, and any I/O expansion drawers. This results in a total of eight internal slots.
- If you do not install feature code 5610 or 5685 in the system, a total of four internal slots are available and you can install an I/O expansion unit.

8202-E4C, 8202-E4D, 8205-E6C, or 8205-E6D:

- If you install the feature code 5685 in the system, only one 5615 or EJ04 unit can be installed and results in a total of ten internal slots.
- If you do not install feature code 5685 in the system, a total of six internal slots are available.

PCI, PCI-X, and PCIe adapters

Use this information to identify slot placement priorities in the system and the maximum number of adapters that can be installed in the system and attached expansion units. Verify whether the adapter is supported for your system. For details about the supported adapters, see "Supported PCI adapters for the 8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, or 8205-E6D" on page 1.

FCs 5767, 5768, and 9055 are the only adapters that can be installed in slot 6 (P1-C7). If a GX adapter is installed in GX++ slot 2 (P1-C8), FCs 5767, 5768, and 9055 must be installed in the other PCIe x8 slot.

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
2943	8-port Asynchronous EIA-232E/RS-422A PCI Adapter (FC 2943; CCIN 3-B) • PCI bus • 8 Async ports • OS support: AIX operating system	All slots have the same priority	24 and 32	All slots have the same priority	24 and 32
5723	2-port Asynchronous EIA-232 PCI Adapter (FC 5723; CCIN 5723) • PCI adapter • 2-port EIA-232 asynchronous serial communications • 16C850 UART equivalent • OS support: AIX and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
1905	4 Gb Single-port Fibre Channel PCI-X 2.0 DDR Adapter (FC 1905; CCIN 1910) • PCI-X 2.0a, PCI 3.0, PCI-X Mode 2 - 266 MHz, PCI-X Mode 1 - 133 MHz, PCI - 66 MHz • High-speed data networking • OS support: AIX and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
1910	4 Gb Dual-port Fibre Channel PCI-X 2.0 DDR Adapter (FC 1910; CCIN 1910) • PCI-X 2.0a, PCI 3.0, PCI-X Mode 2 - 266 MHz, PCI-X Mode 1 - 133 MHz, PCI - 66 MHz • High-speed data networking • OS support: AIX and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
1977[1]	2 Gb Fibre Channel PCI-X Adapter (FC 1977; CCIN 197E) • PCI-X, 64-bit • High bandwidth • OS support: AIX and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
5716[1]	2 Gb Fibre Channel PCI-X Adapter (FC 5716; CCIN 280B) • PCI-X, 64-bit • High bandwidth • OS support: AIX and Linux operating systems	All slots have the same priority		All slots have the same priority	
5749[2]	4 Gb Dual-port Fibre Channel PCI-X 2.0 DDR Adapter (FC 5749; CCIN 576B) • Short, 64-bit, 3.3 V • OS support: IBM i operating system • Extra-high bandwidth • 64-bit slot required • Recommended in DDR slot • Maximum of 24 adapters • Maximum of four per enclosure • Maximum of two per PCI host bridge • OS support: IBM i operating system	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
5758	4 Gb Single-port Fibre Channel PCI-X 2.0 DDR Adapter (FC 5758; CCIN 1910) • PCI-X 2.0a, PCI 3.0, PCI-X Mode 2 - 266 MHz, PCI-X Mode 1 - 133 MHz, PCI - 66 MHz • High-speed data networking • OS support: AIX and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
5759[2]	4 Gb Dual-port Fibre Channel PCI-X 2.0 DDR Adapter (FC 5759; CCIN 5759) • Short, 64-bit, 3.3 V • High-speed data networking • Extra-high bandwidth • OS support: AIX and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
1980 and 2849	POWER GXT135P Graphics Accelerator with digital support (FC 1980; CCIN 1980) • 32-bit PCI interface • 128-bit graphics processor • 8-bit or 24-bit color modes • OS support: AIX and Linux operating systems	All slots have the same priority	8	All slots have the same priority	8
1954	4-port 10/100/1000 Base-TX PCI-X adapter (FC 1954) • PCI-X 1.0a • Full-height, 64-bit • OS support: AIX and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
1978	IBM Gigabit Ethernet-SX PCI-X Adapter (FC 1978) • 64-bit PCI-X • One full-duplex 1000 Base-SX fiber connection to a gigabit Ethernet LAN • OS support: AIX and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
1979	IBM 10/100/1000 Base-TX Ethernet PCI-X Adapter (FC 1979) • 64-bit PCI-X • One full-duplex 10/100/1000 Base-TX UTP connection to a gigabit Ethernet • OS support: AIX and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
1983[1]	2-port 10/100/1000 Base-TX Ethernet PCI-X Adapter (FC 1983; CCIN 5706) • Two full-duplex 10/100/1000 Base-TX UTP connections to gigabit Ethernet LANs • High bandwidth • OS support: AIX and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
1986	1-Gb iSCSI TOE PCI-X Adapter (FC 1986; CCIN 573B) • Copper media adapter • iSCSI TOE (TCP/IP offload engine) • OS support: AIX and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
1987	1-Gb iSCSI TOE PCI-X Adapter (FC 1987; CCIN 573C) • Optical media adapter • iSCSI TOE (TCP/IP offload engine) • OS support: AIX and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
5700	IBM Gigabit Ethernet-SX PCI-X Adapter (FC 5700; CCIN 5700) • One full-duplex 1000 Base-SX fiber connection to a gigabit Ethernet LAN • High bandwidth • OS support: AIX, IBM i, and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
5701	IBM 10/100/1000 Base-TX Ethernet PCI-X Adapter (FC 5701; CCIN 5701) • One full-duplex 10/100/1000 Base-TX UTP connection to a gigabit Ethernet • OS support: AIX, IBM i, and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
5706[1]	2-port 10/100/1000 Base-TX Ethernet PCI-X Adapter (FC 5706; CCIN 5706) • Short, 32-bit or 64-bit, 3.3 V or 5 V • High bandwidth • OS support: AIX, IBM i, and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
5713[1]	1 Gb-TX iSCSI TOE PCI-X Adapter (FC 5713; CCIN 573B) • Short, 32-bit or 64-bit, 3.3 V or 5 V • High bandwidth • OS support: AIX, IBM i, and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
5714[1]	1 Gb iSCSI TOE PCI-X on Optical Media Adapter (FC 5714; CCIN 573C) • Short, 32-bit or 64-bit, 3.3 V or 5 V • High bandwidth • OS support: AIX, IBM i, and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
5721[1]	10 Gb Ethernet-SR PCI-X 2.0 DDR Adapter (FC 5721; CCIN 573A) • High bandwidth • OS support: AIX, IBM i, and Linux operating system	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
5722[1]	10 Gb Ethernet-LR PCI-X 2.0 DDR Adapter (FC 5722; CCIN 573A) • High bandwidth • OS support: AIX, IBM i, and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
5740	4-port 10/100/1000 Base-TX PCI-X adapter (FC 5740; CCIN 1954) • PCI-X 1.0a • Full-height, 64-bit • High bandwidth • OS support: AIX and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
2738	2-port USB PCI Adapter (FC 2738; CCIN 28EF) • Short, 32-bit • 3.3 or 5 V • OS support: AIX and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
4764	PCI-X Cryptographic Coprocessor (FC 4764; CCIN 4764) • Short, 64-bit, 3.3 V • OS support: AIX, IBM i, and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	**Maximum number of adapters supported**	**Slot priorities**[3]	**Maximum number of adapters supported**
5900[2]	PCI-X DDR Dual-x4 3 Gb SAS Adapter (FC 5900; CCIN 572A) • Short, 64-bit, 3.3 V • Extra-high bandwidth • Supports a dual controller mode in a multi-initiator configuration • OS support: AIX and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
5902[2]	PCI-X DDR Ext Dual-x4 3 Gb SAS RAID Adapter (FC 5902; CCIN 572B) • Long, 64-bit, 3.3 V • Extra-high bandwidth • The adapter must be connected and configured in a dual controller mode in a multi-initiator configuration, and this configuration requires that the adapters are installed in pairs. • This adapter supports disk expansion units. This adapter does not support media expansion units. • OS support: AIX and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
5908[2]	PCI-X DDR 1.5 GB cache SAS RAID Adapter (FC 5908; CCIN 572F, 575C) • Long, 64-bit, 3.3 V • Extra-high bandwidth • Generation 3 blind-swap cassette • Double-wide adapter requires two adjacent slots: – 572F is the CCIN on the SAS controller side of the double-wide adapter. – 575C is the CCIN on the write-cache side of the double-wide adapter. • OS support: AIX, IBM i, and Linux operating systems	All slots have the same priority	8 and 16	All slots have the same priority	8 and 16
5912[2]	PCI-X DDR Dual-x4 3 Gb SAS Adapter (FC 5912; CCIN 572A) • Short, 64-bit, 3.3 V • Extra-high bandwidth • Supports a dual controller mode in a multi-initiator configuration • OS support: AIX, IBM i, and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
1912[1]	PCI-X DDR 2.0 Dual Channel Ultra320 SCSI Adapter (FC 1912; CCIN 571A) • Short, 64-bit, 3.3 V • High bandwidth • OS support: AIX, IBM i, and Linuxoperating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
5736[1]	PCI-X DDR 2.0 Dual Channel Ultra320 SCSI Adapter (FC 5736; CCIN 571A) • Short, 32-bit or 64-bit, 3.3 V • High bandwidth • OS support: AIX, IBM i, and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
5782[2]	PCI-X Dual Channel Ultra320 SCSI RAID Adapter with Auxiliary Write Cache (double-wide) (FC 5782; CCIN 571F and 575B) • Long, 64-bit, 3.3 V, 266 MHz • Dual-mode capable adapter • Extra-high bandwidth • Double-wide adapter, requires two adjacent slots. The SCSI controller side of the adapter pair requires a 64-bit slot. The controller side is the side with the external SCSI connectors. • OS support: IBM i operating system	All slots have the same priority	8 and 16	All slots have the same priority	8 and 16
2947	IBM ARTIC960Hx 4-port Multiprotocol PCI Adapter (FC 2947) • 32-bit PCI • Provides 4-ports with different protocols, EIA-232, EIA530, RS-449, X.21, or V.35 • OS support: AIX operating system	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
6805	IBM ARTIC960Hx 4-port Multiprotocol PCI Adapter (FC 2947) • 32-bit PCI • Provides 4-ports with different protocols, EIA-232, EIA530, RS-449, X.21, or V.35 • OS support: AIX operating system	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
6808	PCI Quad Modem IOA (FC 6808; CCIN 2805) • Long, 32-bit, 66 MHz • Non-CIM • OS support: IBM i operating system	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
6809	PCI Quad Modem IOA (FC 6809; CCIN 2805) • Long, 32-bit, 66 MHz • CIM • OS support: IBM i operating system	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
6833	PCI 2-Line WAN with Modem No IOP (FC 6833; CCIN 2793) • Two lines per port WAN with modem adapter • Non-CIM • OS support: IBM i and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
6834	PCI 2-Line WAN with Modem No IOP CIM (FC 6834; CCIN 2793) • Two lines per port WAN with modem adapter • CIM • OS support: IBM i and Linux operating systems	All slots have the same priority	24 and 48	All slots have the same priority	24 and 48
5277	4-port Async EIA-232 PCIe 1X LP Adapter (FC 5277; CCIN 57D2) • Low-profile adapter • Extra-high bandwidth • Short, x1 • OS support: AIX and Linux operating systems	5, 7, 6, 8	4	7, 9, 8, 10	4
5289	PCIe 2-port Async EIA-232 PCIe 1X LPC Adapter (FC 5289; CCIN 57D4) • Short, x1 • PCIe 1.1 • Two ports through RJ45 by using the DB9 connector • EIA-232 Compatible • OS support: AIX, IBM i, and Linux operating systems	1, 3, 2, 4	12	6, 5, 4, 3, 2, 1	12

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
5290	PCIe LP 2-port Async EIA-232 Adapter (FC 5290; CCIN 57D4) • Low-profile adapter • PCIe 1.1 • Short, x8 • 2 Ports through RJ45 by using the DB9 connector • EIA-232 compatible • OS support: AIX, IBM i, and Linux operating systems	5, 7, 6, 8	2	7, 9, 8, 10	2
5785	4 Port Async EIA-232 PCIe Adapter (FC 5785; CCIN 57D2) • Short, x1 • OS support: AIX and Linux operating systems	1, 3, 2, 4	24 and 44	5, 4, 3, 2, 1	25 and 45
5273	8 Gb PCI Express Dual-port Fibre Channel Adapter (FC 5273; CCIN 577D) • Low-profile adapter • Short, x8 • OS support: AIX, IBM i, and Linux operating systems	5, 7, 6, 8	4	7, 9, 8, 10	4
5276	4-Gb PCI Express Dual-port Fibre Channel Adapter (FC 5276; CCIN 5774) • Low-profile adapter • Short, x4 • OS support: AIX, IBM i, and Linux operating systems	5, 7, 6, 8		7, 9, 8, 10	
5729[1]	PCIe2 FH 4-port 8 Gb Fibre Channel Adapter (FC 5729; CCIN 5729) • Full-height, full length adapter with standard-size bracket • PCIe 2.1, x8 • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	Not supported		5, 4, 3, 2, 1	5

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
5735	8 Gb PCI Express Dual-port Fibre Channel Adapter (FC 5735; CCIN 577D) • Short, x8 • Extra-high bandwidth: If only one port is planned to be active in normal operation, the adapter is counted as an extra-high bandwidth adapter. If both ports are planned to be active, the adapter must be treated as two extra-high bandwidth adapters. • OS support: AIX, IBM i, and Linux operating systems	1, 3, 2, 4	24 and 44	6, 5, 4, 3, 2, 1	25 and 45
5773[1]	4 Gb PCI Express Single Port Fibre Channel Adapter (FC 5773; CCIN 5773) • Short, x4 • High bandwidth • OS support: AIX and Linux operating systems	1, 3, 2, 4	24 and 44	6, 5, 4, 3, 2, 1	25 and 45
5774[2]	4 Gb PCI Express Dual-port Fibre Channel Adapter (FC 5774; CCIN 5774) • Short, x4 • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	1, 3, 2, 4	24 and 44	6, 5, 4, 3, 2, 1	25 and 45
EN0A	PCIe2 16 Gb 2-port Fibre Channel Adapter (FC EN0A; CCIN 577F) • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	Not supported		5, 4, 3, 2, 1	5
EN0B	PCIe2 LP 16 Gb 2-port Fibre Channel Adapter (FC EN0B; CCIN 577F) • Short, low-profile, x8 • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	Not supported		7, 9, 8, 10	4

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
EN0S	PCIe2 4-port (10Gb+1GbE) SR+RJ45 Adapter (FC EN0S; CCIN 2CC3) • PCIe generation 2, x8 • Short, with full-height tailstock • two 10 Gb SR optical ports and two 1 Gb RJ45 ports • NIC network convergence adapter • Local are network (LAN) adapter • OS support: AIX, IBM i (supported only through VIOS), and Linux operating systems	Not supported		1, 4, 2, 3, 5	5
EN0T	PCIe2 LP 4-port (10Gb+1GbE) SR+RJ45 Adapter (FC EN0T; CCIN 2CC3) • Short, low-profile • PCIe generation 2, x8 • two 10 Gb SR optical ports and two 1 Gb RJ45 ports • NIC network convergence adapter • Local are network (LAN) adapter • Requires available PCIe slot in the FC 5685 PCIe Riser Card (generation 2) • OS support: AIX, IBM i (supported only through VIOS), and Linux operating systems	Not supported		7, 8, 9, 10[2]	4
EN0U	PCIe2 4-port (10Gb+1GbE) Copper SFP+RJ45 Adapter (FC EN0U; CCIN 2CC3) • PCIe generation 2, x8 • Short, with full-height tailstock • Two 10 Gb copper twinax small form-factor pluggable (SFP+) ports • Two 1 Gb RJ45 ports • Ethernet network interface controller (NIC) function • OS support: AIX, IBM i (supported only through VIOS), and Linux operating systems	Not supported		1, 4, 2, 3, 5	5

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	**Maximum number of adapters supported**	**Slot priorities**[3]	**Maximum number of adapters supported**
EN0V	PCIe2 LP 4-port (10Gb+1GbE) Copper SFP+RJ45 Adapter (FC EN0V; CCIN 2CC3) • Short, low-profile • PCIe generation 2, x8 • Two 10 Gb copper twinax small form-factor pluggable (SFP+) ports • Two 1 Gb RJ45 ports • Ethernet network interface controller (NIC) function • Requires available PCIe slot in the FC 5685 PCIe Riser Card (generation 2) • OS support: AIX, IBM i (supported only through VIOS), and Linux operating systems	Not supported		7, 8, 9, 10[2]	4
EN0W	PCIe2 2-port 10 GbE BaseT RJ45 Adapter (FC EN0W; CCIN 2CC4) • PCIe generation 2, x8 • Short, with full-height tailstock • Two 10 Gb RJ45 ports • Local area network (LAN) adapter • OS support: AIX, IBM i (supported only through VIOS), and Linux operating systems	Not supported		1, 4, 2, 3, 5	5
EN0X	PCIe2 LP 2-port 10 GbE BaseT RJ45 Adapter (FC EN0X; CCIN 2CC4) • Short, low-profile • PCIe generation 2, x8 • Two 10 Gb RJ45 ports • Local area network (LAN) adapter • Requires available PCIe slot in the FC 5685 PCIe Riser Card (generation 2) • OS support: AIX, IBM i (supported only through VIOS), and Linux operating systems	Not supported		7, 8, 9, 10[2]	4
EN0Y[2]	PCIe2 LP 8Gb 4-port Fibre Channel Adapter (FC EN0Y; CCIN EN0Y) • Short, low-profile • PCIe generation 2, x8 • Short form factor plus (SFF+) Host Bus Adapter (HBA) • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	5, 7, 6, 8[2]	4	7, 9, 8, 10[2]	4

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
EN27	PCIe 2-port Async EIA-232 Adapter (FC EN27; CCIN 57D4) • PCIe, x1 • Short, with full-height tailstock • PCIe 1.1 • Two ports through RJ45 by using the DB9 connector • EIA-232 Compatible • OS support: AIX, IBM i, and Linux operating systems	1, 3, 2, 4	12	1, 2, 3, 4, 5	12
EN28	PCIe 2-port Async EIA-232 LP Adapter (FC EN28; CCIN 57D4) • PCIe, x1 • Short, low-profile • PCIe 1.1 • Two ports through RJ45 by using the DB9 connector • EIA-232 Compatible • OS support: AIX, IBM i, and Linux operating systems	5, 7, 6, 8	2	7, 9, 8, 10	2
5269	POWER GXT145 PCI Express Graphics Accelerator (FC 5269; CCIN 5269) • Low-profile adapter • Short, x1 • OS support: AIX and Linux operating systems	5, 7, 6, 8	4	7, 9, 8, 10	4
EC41	PCIe2 LP 3D Graphics Adapter x1 (FC EC41) • PCIe 2.1, single lane (x1) • Short, low-profile, half-length adapter • Not hot-pluggable • Passive cooling • Supports two DVI-I displays with a required breakout cable • OS support: Linux operating system • Supported on Firmware level 7.8, or later			7, 9, 8, 10	4

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	**Maximum number of adapters supported**	**Slot priorities**[3]	**Maximum number of adapters supported**
EC42	PCIe2 3D Graphics Adapter x1 (FC EC42) • PCIe 2.1, single lane (x1) • Short, with full-height tailstock • Not hot-pluggable • Passive cooling • Supports two DVI-I displays with a required breakout cable • OS support: Linux operating system • Supported on Firmware level 7.8, or later			All slots have the same priority (1, 2, 3, 4, 5)	5
5748	POWER GXT145 PCI Express Graphics Accelerator (FC 5748; CCIN 5748) • Short, x1 • Not hot-pluggable • OS support: AIX and Linux operating systems	All slots have the same priority (1, 2, 3, 4)	8	All slots have the same priority (1, 2, 3, 4, 5)	8
EJ0J	PCIe3 RAID SAS Adapter (FC EJ0J; CCIN 57B4) • Regular-height adapter • PCIe3, short, x8 • Transfer speed of 6 Gbps • No write cache • One PCIe x8 slot per adapter • Adapters can be installed singly or in pairs • OS support: AIX, IBM i, and Linux operating systems	Not supported		5, 4, 3, 2, 1	4
EJ0L	PCIe3 12 GB Cache RAID SAS quad-port 6 Gb Adapter (FC EJ0L; CCIN 57CE) • Regular-height adapter, short • PCIe3 x8 • Transfer speed of 6 Gbps • 12 GB write cache • One PCIe x8 slot per adapter • Adapters are installed in pairs • OS support: AIX, IBM i, and Linux operating systems	Not supported		5, 4, 3, 2, 1	2

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
EJ0M	PCIe3 LP RAID SAS Adapter (FC EJ0M; CCIN 57B4) • Low-profile adapter • PCIe3, short, x8 • Transfer speed of 6 Gbps • No write cache • One PCIe x8 slot per adapter • Adapters are installed in pairs to enable mirroring • OS support: AIX, IBM i, and Linux operating systems	Not supported		7, 9, 8, 10	2
EJ10	PCIe3 4 x8 SAS Port Adapter (FC EJ10; CCIN 57B4) • Regular-height adapter • PCIe3 x8 • Transfer speed of 6 Gbps • Supports DVD and tape drives • No write cache • One PCIe x8 slot per adapter • OS support: AIX, IBM i, and Linux operating systems	Not supported		5, 4, 3, 2, 1	4
EJ11	PCIe3 LP 4 x8 SAS Port Adapter (FC EJ11; CCIN 57B4) • Low-profile adapter • PCIe3, short, x8 • Transfer speed of 6 Gbps • Supports DVD and tape drives • No write cache • One PCIe x8 slot per adapter • OS support: AIX, IBM i, and Linux operating systems	Not supported		7, 9, 8, 10	4
5260[2]	PCIe2 LP 4-port 1 GbE Adapter (FC 5260; CCIN 576F) • Low-profile adapter • PCIe generation 1 or generation 2, x4 • High bandwidth • Four-port 1 Gb Ethernet • OS support: AIX, IBM i, and Linux operating systems	5, 7, 6, 8	4	7, 9, 8, 10	4

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
5270	10 Gb FCoE PCIe Dual-port Adapter (FC 5270; CCIN 2B3B) • Low-profile adapter • Short, x8 • OS support: AIX and Linux operating systems	5, 7, 6, 8	4	7, 9, 8, 10	4
5271	4-port 10/100/1000 Base-TX PCI Express Adapter (FC 5271; CCIN 5717) • Low-profile adapter • Short, x4 • OS support: AIX and Linux operating systems	5, 7, 6, 8	4	7, 9, 8, 10	4
5272	10 Gb Ethernet-CX4 PCI Express Adapter (FC 5272; CCIN 5272) • Low-profile adapter • Short, x8 • OS support: AIX and Linux operating systems	5, 7, 6, 8	4	7, 9, 8, 10	4
5274	2-port Gb Ethernet-SX PCI Express Adapter (FC 5274; CCIN 5768) • Low-profile adapter • Short, x4 • OS support: AIX, IBM i, and Linux operating systems	5, 7, 6, 8	4	7, 9, 8, 10	4
5275	10 Gb Ethernet-SR PCI Express Adapter (FC 5275; CCIN 2B54) • Low-profile adapter • Short, x8 • OS support: AIX and Linux operating systems	5, 7, 6, 8	4	7, 9, 8, 10	4
5278	PCIe Dual-x4 SAS Adapter (FC 5278; CCIN 57B3) • Low-profile adapter • Extra-high bandwidth • Short, x8 • OS support: AIX, IBM i, and Linux operating systems	Not supported		7, 9, 8, 10	4
5279	PCIe2 LP 2x10 GbE SFP+ Copper 2x1 GbE UTP Adapter (FC 5279; CCIN 2B52) • Low-profile, Short, x8 • PCIe 2 • OS support: Linux operating system	5, 7, 6, 8	4	7, 9, 8, 10	4

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
5280	PCIe2 LP 2x10 GbE SR 2x1 GbE UTP Adapter (FC 5280; CCIN 2B54) • Low-profile, short, x8 • PCIe 2 • OS support: Linux operating system	5, 7, 6, 8	4	7, 9, 8, 10	4
5281	1 Gb Ethernet UTP 2-port PCIe Adapter (FC 5281; CCIN 5767) • Low-profile, short, x8 • PCIe 2 • OS support: AIX, IBM i, and Linux operating system	5, 7, 6, 8	4	7, 9, 8, 10	4
5284[2]	PCIe2 LP 2-port 10 GbE SR Adapter (FC 5284; CCIN 5287) • Generation 2, x8 • Low-profile adapter • Extra-high bandwidth • 10 GBASE-SR short-reach optics • OS support: AIX, IBM i (supported only through VIOS), and Linux operating systems	5, 7, 6, 8	4	7, 9, 8, 10	4
5286	PCIe2 LP 2-port 10 GbE SFP+ Copper Adapter (FC 5286; CCIN 5288) • Generation 2, low-profile adapter • Two 10 Gb Ethernet ports • OS support: AIX and Linux operating systems	5, 7, 6, 8	4	7, 9, 8, 10	4
5287	PCIe2 2-port 10 GbE SR Adapter (FC 5287; CCIN 5287) • Generation 2, x8 • Full-height adapter • Two 10 Gb Ethernet ports • 10 GBASE- Direct attach SFP+ twinax cable • OS support: AIX and Linux operating systems	Not supported		1, 2, 3, 4, 5	5
5288	PCIe2 LP 2-port 10 GbE SFP+ Copper Adapter (FC 5288; CCIN 5288) • Generation 2, full-height adapter • Two 10 Gb Ethernet ports • Requires available PCIe generation 2 slot • OS support: AIX and Linux operating systems	Not supported		1, 2, 3, 4, 5	5

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
5708[2]	10 Gb FCoE PCIe Dual-port Adapter (FC 5708; CCIN 2B3B) • Low-profile capable • Extra-high bandwidth • PCIe 2.0 adapter with x8 generation 1 • Convergence enhanced Ethernet (CEE) supported • OS support: AIX, IBM i with VIOS, and Linux operating systems	1, 3, 2, 4	24 and 44	1, 2, 3, 4, 5	25 and 45
5717[1]	4-port 10/100/1000 Base-TX PCI Express Adapter (FC 5717; CCIN 5717) • Short, x4 • High bandwidth • OS support: AIX and Linux operating systems	1, 3, 2, 4	24 and 42	1, 2, 3, 4, 5	25 and 45
5732[2]	10 Gb Ethernet-CX4 PCI Express Adapter (FC 5732; CCIN 2B43) • Short, x8 • Extra-high bandwidth • OS support: AIX and Linux operating systems	1, 3, 2, 4	24 and 44	1, 2, 3, 4, 5	25 and 45
5744	PCIe2 2x10 GbE SR 2x1 GbE UTP Adapter (FC 5744; CCIN 2B44) • Regular-height adapter • PCIe2, short, x8 • Extra-high bandwidth • PCIe generation 2 • OS support: Linux operating system	Not supported		1, 2, 3, 4, 5	5
5745	PCIe2 2x10 GbE SFP+ Copper 2x1 GbE UTP Adapter (FC 5745; CCIN 2B43) • Short, x8 • PCIe 2 • Extra-high bandwidth • OS support: Linux operating system	Not supported		1, 2, 3, 4, 5	5
5767[1]	2-port 10/100/1000 Base-TX Ethernet PCI Express Adapter (FC 5767; CCIN 5767) • Short, x4 • High bandwidth • OS support: AIX, IBM i, and Linux operating systems	1, 3, 2, 4	24 and 44	1, 2, 3, 4, 5	25 and 45

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
5768[1]	2-port Gigabit Ethernet-SX PCI Express Adapter (FC 5768; CCIN 5768) • Short, x4 • High bandwidth • OS support: AIX, IBM i, and Linux operating systems	1, 3, 2, 4	24 and 44	5, 4, 3, 2, 1	25 and 45
5769[2]	10 Gb Ethernet-SR PCI Express Adapter (FC 5769; CCIN 2B44) • Short, full-high, x8 • Regular-height • Extra-high bandwidth • OS support: AIX and Linux operating systems	1, 2, 3, 4	24 and 44	1, 2, 3, 4, 5	25 and 45
5772[2]	10 Gb Ethernet-LR PCI Express Adapter (FC 5772; CCIN 576E) • Short, x8 • Regular-height card • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	1, 3, 2, 4	24 and 44	1, 2, 3, 4, 5	25 and 45
5899[1]	PCIe2 4-port 1 GbE Adapter (FC 5899; CCIN 576F) • Regular-height adapter • PCIe generation 1 or generation 2, x4 • High bandwidth • Four-port 1 Gb Ethernet • OS support: AIX, IBM i, and Linux operating systems	4,1,2,3[1]	24 and 44	6, 1, 2, 3, 4, 5 [1]	26 and 45
9055	PCIe 2-port 1 GbE TX adapter (FC 9055; CCIN 5767) • Full-height, PCIe x4 • PCIe 1.0a compliant • Two full-duplex 10/100/1000 Base-TX UTP connections to gigabit Ethernet (GbE) LANs • OS support: AIX, IBM i, and Linux operating systems	Not supported		6, 1, 2, 3, 4, 5[2]	1

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
EC27[2]	PCIe2 LP 2-port 10 GbE RoCE SFP+ adapter (FC EC27; CCIN EC27) • Short, low-profile • PCIe generation 2, x8 • Extra-high bandwidth, low latency 10 Gb Ethernet • OS support: AIX and Linux operating systems • Firmware level 7.6, or later	Not supported		7, 9, 8, 10[2]	4
EC28[2]	PCIe2 2-port 10 GbE RoCE SFP+ adapter (FC EC28; CCIN EC27) • Regular-height adapter • PCIe generation 2, x8 • Extra-high bandwidth, low latency 10 Gb Ethernet • OS support: AIX and Linux operating systems • Firmware level 7.6, or later	Not supported		1, 4, 2, 3, 5[2]	5
EC29[2]	PCIe2 LP 2-port 10 GbE RoCE SR adapter (FC EC29; CCIN EC29) • Low-profile adapter • PCIe generation 2, x8 • Extra-high bandwidth, low latency 10 Gb Ethernet • OS support: AIX and Linux operating systems • Firmware level 7.6, or later	Not supported		7, 9, 8, 10[2]	4
EC2G	PCIe LP 2-Port 10 GbE SFN6122F Adapter (FC EC2G; CCIN EC2G) • High bandwidth • Low-profile adapter • Supports Solarflare OpenOnload • OS support: Linux operating system	Not supported		7, 9, 8, 10[1]	4
EC2H	PCIe LP 2-Port 10 GbE SFN5162F Adapter (FC EC2H; CCIN EC2H) • High bandwidth • Low-profile adapter • OS support: Linux operating system	Not supported		7, 9, 8, 10[1]	4

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
EC2J	PCIe 2-Port 10 GbE SFN6122F Adapter (FC EC2J; CCIN EC2G) • High bandwidth • Regular-height adapter • Supports Solarflare OpenOnload • OS support: Linux operating system	Not supported		1, 2, 3, 4, 5, 6[1]	4
EC2K	PCIe 2-Port 10 GbE SFN5162F Adapter (FC EC2K; CCIN EC2H) • High bandwidth • Regular-height adapter • OS support: Linux operating system	Not supported		1, 2, 3, 4, 5[1]	4
EC30[2]	PCIe2 2-port 10 GbE RoCE SR adapter (FC EC30; CCIN EC29) • Regular-height adapter • PCIe generation 2, x8 • Extra-high bandwidth, low latency 10 Gb Ethernet • OS support: AIX and Linux operating systems • Firmware level 7.6, or later	Not supported		1, 4, 2, 3, 5[2]	5
EN0H	PCIe2 4-port (10 Gb FCoE, 1 GbE) SFP+ Adapter (FC EN0H, CCIN 2B93) • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	Not supported		1, 2, 3, 4, 5[2]	5
EN0J	PCIe2 LP 4-port (10 Gb FCoE, 1 GbE) SFP+ Adapter (FC EN0J, CCIN 2B93) • Low-profile adapter • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	Not supported		7, 8, 9, 10[2]	4
EN0K	PCIe2 4-port (10Gb FCoE and1GbE) Copper and RJ45 Adapter (FC EN0K; CCIN 2CC1) • Regular-height adapter • Fibre Channel over Ethernet (FCoE) converged network adapter (CNA) • Provides network interface controller (NIC) • Single root I/O virtualization (SR-IOV) capable • OS support: AIX, IBM i, and Linux operating systems	Not supported		1, 2, 3, 4, 5[2]	4

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
EN0L	PCIe2 LP 4-port (10Gb FCoE and 1GbE) Copper and RJ45 Adapter (FC EN0L; CCIN 2CC1) • Low-profile adapter • Fibre Channel over Ethernet (FCoE) converged network adapter (CNA) • Provides network interface controller (NIC) • Single root I/O virtualization (SR-IOV) capable • OS support: AIX, IBM i, and Linux operating systems	Not supported		7, 9, 8, 10	4
2728	4-port USB PCIe Adapter (FC 2728; CCIN 57D1) • Regular-height adapter • Single-slot, half-length PCIe adapter • PCIe 1.1 • OS support: AIX and Linux operating systems	1, 2, 3, 4	24 and 44	5, 4, 3, 2, 1	25 and 45
4807	PCIe Cryptographic Coprocessor (FC 4807; CCIN 4765) • PCIe x4, full-height, half-length • OS support: AIX, and IBM i operating systems	1, 3, 2, 4	2	5, 4, 3, 2, 1	2
4808	PCIe Cryptographic Coprocessor (FC 4808; CCIN 4765) • Generation 3 blind-swap cassette • PCIe x4, full-height, half-length • OS support: AIX and IBM i operating systems	Installed in the expansion units and not supported in the system	8	Installed in the expansion units and not supported in the system	8
5283[2]	PCIe2 LP 2-port 4X InfiniBand QDR Adapter (FC 5283; CCIN 58E2) • Generation 2 low-profile adapter • Extra-high bandwidth • Requires available PCIe slot in the FC 5685 PCIe Riser Card (generation 2) • OS support: AIX and Linux operating systems	5, 7, 6, 8	2	7, 9, 8, 10	2
5285[2]	PCIe2 2-port 4X InfiniBand QDR Adapter (FC 5285; CCIN 58E2) • Generation 2 full-height adapter • Extra-high bandwidth • OS support: AIX and Linux operating systems	1, 3, 2, 4	2	1, 2, 3, 4, 5	2

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
2053[2]	PCIe RAID and SSD SAS Adapter 3 Gb Low-profile (FC 2053; CCIN 57CD) • Short, x8 • Double-wide, low-profile adapter, requires two slots • VIOS attachment requires version 2.2, or later	6 and 8	2	8 and 10	2
2054[2]	PCIe RAID and SSD SAS Adapter 3 Gb Low-profile (FC 2054; CCIN 57CD) • Short, x8 • Double-wide, low-profile adapter, requires two slots • OS support: AIX, IBM i, and Linux operating systems • VIOS attachment requires version 2.2, or later	Not supported	2	2 and 5 or 3 and 5	2
2055[2]	PCIe RAID and SSD SAS Adapter 3 Gb with Blind-Swap Cassette (FC 2055; CCIN 57CD) • Short, x8 • Double-wide, low-profile adapter, requires two slots • OS support: AIX, IBM i, and Linux operating systems • VIOS attachment requires version 2.2, or later	Installed in the expansion units and not supported in the system	10 and 20	Installed in the expansion units and not supported in the system	10 and 20
5805	PCIe 380 MB Cache Dual - x4 3 Gb SAS RAID Adapter (FC 5805; CCIN 574E) • Short, dual x4 • SAS RAID adapter • Installed in pairs • OS support: AIX, IBM i, and Linux operating systems	1, 3, 2, 4	24 and 44	1, 2, 3, 4, 5	25 and 45
5901[2]	PCIe Dual - x4 SAS Adapter (FC 5901; CCIN 57B3) • Short • Extra-high bandwidth • OS support: AIX, IBM i, and Linux operating systems	1, 3, 2, 4	24 and 44	5, 4, 3, 2, 1	25 and 45

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
5903[2]	PCIe 380 MB Cache Dual x4 3 Gb SAS RAID Adapter (FC 5903; CCIN 574E) • Short • Extra-high bandwidth • Installed in pairs • OS support: AIX and Linux operating systems	1, 3, 2, 4		1, 2, 3, 4, 5	
5913	PCIe2 1.8 GB Cache RAID SAS Tri-port 6 Gb Adapter (FC 5913; CCIN 57B5) • Full-height, short, PCIe2 x8 • Transfer speed of 6 Gbps • Write cache backup of 1.8 GB • One PCIe x8 slot per adapter • Adapters are installed in pairs • OS support: AIX, IBM i, and Linux operating systems	1, 3, 2, 4	18 and 24	1, 2, 3, 4, 5	18 and 24
ESA1	PCIe2 RAID SAS Adapter Dual-port 6 Gb (FC ESA1; CCIN 57B4) • Regular-height adapter • PCIe generation 2, x8 • OS support: AIX, IBM i, and Linux operating systems	Not supported		1, 2, 3, 4, 5	20 and 40
ESA2	PCIe2 RAID SAS Adapter Dual-port 6 Gb LP (FC ESA2; CCIN 57B4) • Short, low-profile • PCIe generation 2, x8 • OS support: AIX, IBM i, and Linux operating systems	Not supported		7, 9, 8, 10	2
ESA3	PCIe2 1.8 GB Cache RAID SAS Adapter Tri-port 6Gb (FC ESA3; CCIN 57BB) • Full-height, short, PCIe2 x8 • Transfer speed of 6 Gbps • Write cache backup of 1.8 GB • One PCIe x8 slot per adapter • Adapters are installed in pairs • OS support: AIX, IBM i, and Linux operating systems	Not supported		1, 2, 3, 4, 5	2
2893	PCI Express 2-Line WAN with Modem (FC 2893; CCIN 576C) • Short, x4 • Non-CIM • OS support: AIX, IBM i, and Linux operating systems	1, 3, 2, 4	24 and 44	5, 4, 3, 2, 1	25 and 45

Table 6. Adapter slot priorities and maximum PCI, PCI-X, and PCIe adapters supported (continued)

Feature code	Description	8202-E4B and 8205-E6B		8202-E4C, 8202-E4D, 8205-E6C, and 8205-E6D	
		Slot priorities[3]	Maximum number of adapters supported	Slot priorities[3]	Maximum number of adapters supported
2894	PCI Express 2-Line WAN with Modem (FC 2894; CCIN 576C) • Short, x4 • CIM • OS support: AIX, IBM i, and Linux operating systems	1, 3, 2, 4	24 and 44	5, 4, 3, 2, 1	25 and 45
EN13	PCI Express 2-Line WAN with Modem (FC EN13; CCIN 576C) • Short, x4 • Non-CIM • OS support: IBM i operating system	1, 3, 2, 4	24 and 44	5, 4, 3, 2, 1	25 and 45
EN14	PCI Express 2-Line WAN with Modem (FC EN14; CCIN 576C) • Short, x4 • CIM • OS support: IBM i operating system	1, 3, 2, 4	24 and 44	5, 4, 3, 2, 1	25 and 45
ES09	IBM Flash Adapter 90 (PCIe2 0.9TB) (FC ES09; CCIN 578A) • PCIe generation 2, x8 • 900 GB eMLC Flash storage • One PCIe x8 slot per adapter • Adapters are installed in pairs to enable mirroring • OS support: AIX and Linux operating systems	Not supported		5, 4, 3, 1 **Restriction:** Not supported in slot 2 (P1-C3) or slot 6 (P1-C1-C2) in 8205-E6D	20

[1]High-bandwidth storage adapter. See the "Performance notes" before you install this adapter.

[2]Extra high-bandwidth adapter. See the "Performance notes" before you install this adapter.

[3]The adapters are installed in this order in the system for best performance.

Performance notes

Use this information to determine the maximum number of adapters that can be placed in a system while still maintaining optimum performance.

Performance notes regarding GX++ channel adapters and I/O expansion units

The I/O expansion units must be limited to one expansion unit per GX++ channel controller (FC 5615 or FC EJ04) Do not connect multiple expansion units to the same GX++ channel controller.

Table 6 on page 24 shows the slot placement priorities and the maximum number of specified adapters that can be installed for connectivity. However, for optimum performance, you might want to further

limit the total number of high bandwidth and extra-high bandwidth adapters. If you must expand the I/O capacity of the system for extra-high bandwidth adapters, use high-performance I/O expansion units such as 5610, 5685, 5796, 5802, or 5877.

The following tables provide guidelines on the maximum number of high bandwidth and extra-high bandwidth adapters you can use and still maintain optimum performance.

Note: Because of the many types of application workloads, these guidelines cannot cover all cases. The numbers in the following tables are suggestions for single types of adapters that are running exclusively. For systems with mixed adapter types or that have high aggregate bandwidth requirements, consult an IBM representative for more guidelines.

Extra-high bandwidth storage adapters

Table 7. Maximum number of extra-high bandwidth storage adapters for best performance

System configuration	Adapters in system slots C4 to C7	Low profile adapters in system slots C1-C1 to C1-C4 if FC 5610 or 5685 is used	Adapters per 5615 or EJ04 with one or more 5796	Adapters per 5615 or EJ04 with one or two 5802 or 5877	System maximum
System with one processor chip module unit	3 (2 for 5735)	3[1] (2 for 5273)	4	6 (4 for 5735)	9
System with two processor chip module units	3 (2 for 5735)	3[1] (2 for 5273)	4 (8 in 2 drawers)	6 (12 in 2 drawers) (4 or 8 for 5735)	15 (10 for 5735)
[1]Split adapters across both internal slots C4 to C7 and the four-slot riser slots C1-C1 to C1-C4 if FC 5610 or 5685 is used. You can install extra high-performance adapters in three out of the four base slots and in three out of four of FC 5610 or 5685 slots.					

Extra-high bandwidth Ethernet adapters

Table 8. Maximum number of extra-high bandwidth Ethernet adapters for best performance

System configuration	Adapters in system slots C4 - C7	Low profile adapters in system slots C1-C1 to C1-C4 if FC 5610 or FC 5685 is used	Adapters per 5615 or EJ04 with one or more 5796	Adapters per 5615 or EJ04 with one or two 5802 or 5877	System maximum
System with one processor chip module unit	2	2	2	4	4
System with two processor chip module units	2	2	2 (4 in 2 drawers)	4 (8 in 2 drawers)	8
For best performance, extra high-bandwidth Ethernet adapters must be installed in 5802 or 5877 expansion drawers when available, instead of using internal system unit slots. A maximum of two adapters in slots P1-C4 through P1-C7, and a maximum of two adapters in slots P1-C1-C1 through P1-C1-C4 can be installed.					

I/O expansion units

Find information about the Peripheral Component Interconnect (PCI), PCI-X, and PCI Express (PCIe) adapters supported in the I/O expansion units that are supported for the IBM Power Systems™ servers that contain the POWER7 processor.

PCI slot priorities for the 5796 expansion unit

Find information about the Peripheral Component Interconnect (PCI) slots in the 5796 expansion unit.

System description

The 5796 expansion unit is a 19-inch, rack-mountable, I/O expansion drawer that is designed to be attached to the system unit by using the 12X channel bus and 12X cables.

The 5796 can accommodate six generation-3 blind-swap adapter cassettes. Cassettes can be installed and removed without removing the drawer from the rack.

Figure 5 shows the rear view of the expansion unit.

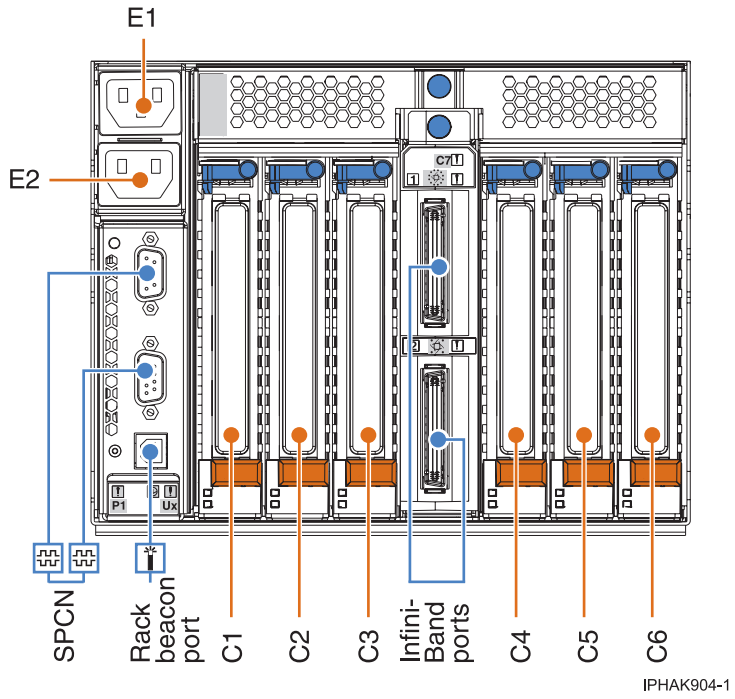


Figure 5. Rear view

Table 9. Location code descriptions

Location code	Description
C1, C2, C3, C4, C5, and C6	PCI-X DDR slots. See also “PCI slot descriptions” on page 51.
C7-T1 and C7-T2	12X Channel remote I/O ports.
C8-T1 and C8-T2	Dual port system power control network (SPCN) connectors.
E1 and E2	Power supply connectors.

PCI slot descriptions

Table 10. Slot properties

PHB2 A	PHB3 A	PHB4 A	PHB1 B	PHB2 B	PHB3 B
Slot 1	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6
Long	Long	Long	Long	Long	Long
64 bit 3.3V, 266 MHz	64 bit 3.3V, 266 MHz	64 bit 3.3V, 266 MHz	64 bit 3.3V, 266 MHz	64 bit 3.3V, 266 MHz	64 bit 3.3V, 266 MHz
C1	C2	C3	C4	C5	C6
• Each PCI-X DDR slot is a separate PCI host bridge (PHB). • All slots are compatible with PCI and PCI-X DDR adapters. • Short adapters can go in long slots.					

Slot priorities

Slot priority for all adapters is 1, 4, 2, 5, 3, and 6. For a list of supported adapters, see the placement information for the base system unit to which the expansion unit is attached.

PCI slot priorities for the 5802 and 5877 expansion units

Learn about the PCI Express (PCIe) slots in the 5802 and 5877 expansion units.

System description

The 5802 and 5877 expansion units are 19-inch, rack-mountable, I/O expansion drawers that are designed to be attached to the system by using 12X double data rate (DDR) cables.

The expansion units can accommodate 10 generation-3 cassettes. These cassettes can be installed and removed without removing the drawer from the rack. The expansion units do not support I/O processor (IOP) adapters.

Note: PCIe2 adapters that provide extra-high bandwidths are not supported in the 5802 and 5877 expansion units.

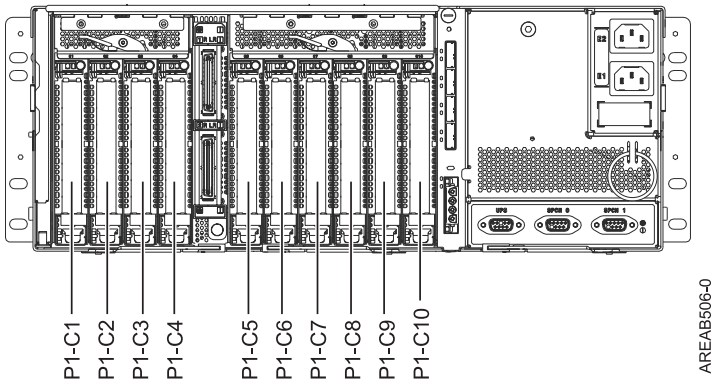


Figure 6. Rear view. This figure shows the rear view of the expansion unit.

Table 11. Location code descriptions

Location code	I/O chip	PCI host bridge (PHB)	Description
P1-C1	I/O chip 1	PHB1	PCIe x8 slot
P1-C2		PHB2	
P1-C3		PHB3	
P1-C4	I/O chip 2	PHB4	
P1-C5		PHB5	
P1-C6		PHB6	
P1-C7	I/O chip 3	PHB7	
P1-C8		PHB8	
P1-C9		PHB9	
P1-C10		PHB10	

Slot priority

The slot priority for all adapters is P1-C1, P1-C4, P1-C2, P1-C5, P1-C3, P1-C6, P1-C7, P1-C8, P1-C9, and P1-C10.

There are three I/O chips. Each I/O chip controls three or four PCI host bridges (PHBs) and each PCIe slot connects directly to a PHB.

- One I/O chip controls slots P1-C1, P1-C2, and P1-C3.
- A second I/O chip controls slots P1-C4, P1-C5, and P1-C6.
- A third I/O chips controls slots P1-C7, P1-C8, P1-C9, and P1-C10.

For best performance, fill P1-C1, P1-C4, P1-C2, P1-C5, P1-C3, and P1-C6 first with the highest bandwidth adapters. Then fill the remaining slots.

Determining the best place to install your adapter

You can use the placement guidelines and reference tables in this section to determine the best place in which to install your adapter on systems running the IBM i operating system.

Finding the current system configuration in IBM i

You can use the System Service Tools in the IBM i operating system to find the current system configuration.

Before you begin, you must know the slot location codes used for the PCI adapter slots on the system with which you are working. See “PCI adapter placement rules and slot priorities for the 8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, or 8205-E6D” on page 20.

To find the current system configuration, start an IBM i session and sign on. If you have more than one system, start a session on the system that is being upgraded and for which you have service tools authority. Perform the following steps:

1. Type `strsst` on the command line of the main menu and press `Enter`.
2. Type your service tools user ID and service tools password on the Start Service Tools (STRSST) Sign On display and press `Enter`.
3. Select **Start a service tool** from the System Service Tools (SST) display and press `Enter`.
4. Select **Hardware service manager** from the Start a Service Tool display and press `Enter`.

5. Select **Packaging hardware resources (system, frames, cards)** from the Hardware Service Manager display and press Enter.
6. Type 9 on the **System Unit** line and press Enter.
7. Select **Include empty positions**.
8. Look for the PCI adapter location codes in the Location column.
9. Make a note of the Type-Model number for each PCI adapter location.
10. Make a note of any PCI adapter locations that are listed in the Description column as an Empty Position.

    Note: The Type-Model number is blank for empty positions.
11. Press F12 to return to the previous window.
12. If an expansion unit is attached, perform the following steps. If no expansion unit is attached, go to "PCI adapter placement rules and slot priorities for the 8202-E4B, 8202-E4C, 8202-E4D, 8205-E6B, 8205-E6C, or 8205-E6D" on page 20:
    - Type 9 for the **System Expansion Unit** field and press Enter.
    - Repeat steps 7 to 11 for each expansion unit.
    - Select an available slot in the expansion unit.

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Japanese Electronics and Information Technology Industries Association (JEITA) Confirmed Harmonics Guideline (products less than or equal to 20 A per phase)

高調波ガイドライン適合品

Japanese Electronics and Information Technology Industries Association (JEITA) Confirmed Harmonics Guideline with Modifications (products greater than 20 A per phase)

高調波ガイドライン準用品

Electromagnetic Interference (EMI) Statement - People's Republic of China

声 明

此为A级产品，在生活环境中，
该产品可能会造成无线电干扰。
在这种情况下，可能需要用户对其
干扰采取切实可行的措施。

Declaration: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may need to perform practical action.

Electromagnetic Interference (EMI) Statement - Taiwan

警告使用者：
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

The following is a summary of the EMI Taiwan statement above.

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user will be required to take adequate measures.

IBM Taiwan Contact Information:

台灣IBM 產品服務聯絡方式：
台灣國際商業機器股份有限公司
台北市松仁路7號3樓
電話：0800-016-888

Electromagnetic Interference (EMI) Statement - Korea

이 기기는 업무용(A급)으로 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.

Germany Compliance Statement

Deutschsprachiger EU Hinweis: Hinweis für Geräte der Klasse A EU-Richtlinie zur Elektromagnetischen Verträglichkeit

Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 2004/108/EG zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der EN 55022 Klasse A ein.

Um dieses sicherzustellen, sind die Geräte wie in den Handbüchern beschrieben zu installieren und zu betreiben. Des Weiteren dürfen auch nur von der IBM empfohlene Kabel angeschlossen werden. IBM übernimmt keine Verantwortung für die Einhaltung der Schutzanforderungen, wenn das Produkt ohne Zustimmung von IBM verändert bzw. wenn Erweiterungskomponenten von Fremdherstellern ohne Empfehlung von IBM gesteckt/eingebaut werden.

EN 55022 Klasse A Geräte müssen mit folgendem Warnhinweis versehen werden:
"Warnung: Dieses ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funk-Störungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen zu ergreifen und dafür aufzukommen."

Deutschland: Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Geräten

Dieses Produkt entspricht dem “Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG)“. Dies ist die Umsetzung der EU-Richtlinie 2004/108/EG in der Bundesrepublik Deutschland.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) (bzw. der EMC EG Richtlinie 2004/108/EG) für Geräte der Klasse A

Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

Verantwortlich für die Einhaltung der EMV Vorschriften ist der Hersteller:
International Business Machines Corp.
New Orchard Road
Armonk, New York 10504
Tel: 914-499-1900

Der verantwortliche Ansprechpartner des Herstellers in der EU ist:
IBM Deutschland GmbH
Technical Regulations, Abteilung M372
IBM-Allee 1, 71139 Ehningen, Germany
Tel: +49 7032 15 2941
email: lugi@de.ibm.com

Generelle Informationen:

Das Gerät erfüllt die Schutzanforderungen nach EN 55024 und EN 55022 Klasse A.

Electromagnetic Interference (EMI) Statement - Russia

ВНИМАНИЕ! Настоящее изделие относится к классу А.
В жилых помещениях оно может создавать
радиопомехи, для снижения которых необходимы
дополнительные меры

Class B Notices

The following Class B statements apply to features designated as electromagnetic compatibility (EMC) Class B in the feature installation information.

Federal Communications Commission (FCC) statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an IBM-authorized dealer or service representative for help.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Proper cables and connectors are available from IBM-authorized dealers. IBM is not responsible for any radio or television interference caused by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Industry Canada Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

European Community Compliance Statement

This product is in conformity with the protection requirements of EU Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication equipment.

European Community contact:
IBM Deutschland GmbH
Technical Regulations, Department M372
IBM-Allee 1, 71139 Ehningen, Germany
Tele: +49 7032 15 2941
email: lugi@de.ibm.com

VCCI Statement - Japan

この装置は，クラスB情報技術装置です。この装置は，家庭環境で使用
することを目的としていますが，この装置がラジオやテレビジョン受信機に
近接して使用されると，受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。　　VCCI－B

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台北市松仁路7號3樓
電話：0800-016-888

Electromagnetic Interference (EMI) Statement - Korea

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서 주로 가정에서 사용하는 것을 목적으로 하
며, 모든 지역에서 사용할 수 있습니다.

Germany Compliance Statement

Deutschsprachiger EU Hinweis: Hinweis für Geräte der Klasse B EU-Richtlinie zur Elektromagnetischen Verträglichkeit

Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 2004/108/EG zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der EN 55022 Klasse B ein.

Um dieses sicherzustellen, sind die Geräte wie in den Handbüchern beschrieben zu installieren und zu betreiben. Des Weiteren dürfen auch nur von der IBM empfohlene Kabel angeschlossen werden. IBM übernimmt keine Verantwortung für die Einhaltung der Schutzanforderungen, wenn das Produkt ohne Zustimmung von IBM verändert bzw. wenn Erweiterungskomponenten von Fremdherstellern ohne Empfehlung von IBM gesteckt/eingebaut werden.

Deutschland: Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Geräten

Dieses Produkt entspricht dem "Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG)". Dies ist die Umsetzung der EU-Richtlinie 2004/108/EG in der Bundesrepublik Deutschland.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) (bzw. der EMC EG Richtlinie 2004/108/EG) für Geräte der Klasse B

Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

Verantwortlich für die Einhaltung der EMV Vorschriften ist der Hersteller:
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Tel: +49 7032 15 2941
email: lugi@de.ibm.com

Generelle Informationen:

Das Gerät erfüllt die Schutzanforderungen nach EN 55024 und EN 55022 Klasse B.

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