



System i and System p

Service provider information

Resolving problems and verifying the repair





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Note

Before using this information and the product it supports, read the information in “Notices,” on page 571 and the manual *IBM Systems Safety Information*, G229-9054.

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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.

Laser safety information

IBM System i and System p models can use I/O cards or features that are fiber-optic based and that utilize lasers or LEDs.

Laser compliance

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)

Locating and exchanging parts

This topic provides service providers with instructions for finding and replacing the failing component.

Before using this information and the products it supports, be sure to read Safety notices.

Finding part locations

Use this information to help you associate a part name, location code, or address with its physical location.

The information in this section provides a cross-reference to help you associate a part name, location code, or address with its physical location. After you determine the part number and location for a part, you can go directly to removal and replacement procedures for the part.

Related information

Load source placement rules for i5/OS® logical partitions

Alternate restart device (IPL) placement rules for i5/OS logical partitions

Understanding location codes

The information provided in this topic defines specific sections of a location code string. Use this topic when you need help in understanding the meaning of a location code.

Use the following table to link to a specific topic that you need additional information on when reading your location code.

Location code topics that might be of interest	Description
"Location code overview"	Contains background information on the use of location codes.
"Physical location codes" on page 2	Provides a definition for physical location code.
"Logical location codes" on page 2	Provides a definition of what a logical location code is.
"Location code format" on page 2	Provides descriptive information of the U_n value in the location code string. For example U7879.001.
"Location code labels" on page 5	Provides a table that identifies and defines the location code labels. The location code labels begin with an alpha character and follow the system serial number. For example, U7879.001.10ABCDE-P3-C31-T2-L23. (The system serial number is the "10ABCDE" in the previous example.) The P3, C31, T2, and L23 all contain an alpha character that is identified in the Location code labels table.
"Worldwide unique identifier" on page 5	Provides a definition for the world unique identifier. This group of digits follows the resource code labels and always begins with the letter W.

Location code overview

Servers (system unit and expansion units) use physical location codes to provide mapping of replaceable units. Location codes are produced by the server's firmware, which structures them so that they can be used to identify specific parts in a system. The location code format is the same for all servers.

If you are working with a specific location code, the unit type and model immediately follow the first character (Utttt.mmm). Match the unit type and model to a link, as shown in the Unit type and locations table.

If the location code ends with -Txx-Lxx, the server's firmware could not identify the physical location. When a physical location cannot be identified, a logical location code is provided. Where logical location codes occur in enclosures, the locations article for the enclosure has the known conversions listed. For logical location codes with no conversion, contact your next level of support.

If the location code begins with **UTMPx**, the expansion I/O unit's machine type, model and serial number have not been set yet and this is a temporary unit identifier. To identify the unit, examine the display panels on all of the expansion I/O units connected to the server until you find one with the same characters in the first 5 digits of the top line in the unit's display. Record the unit's real machine type and model from the unit label. Match the unit's machine type and model in the Unit type and locations table and follow the link to determine the service information.

Note: Locations for units that are not in the preceding list are either not supported or there is a problem in the firmware. Contact your next level of support.

Physical location codes

Physical location codes provide a mapping of logical functions and components, such as backplanes, removable modules, connectors, ports, cables, and devices, to their specific locations within the physical structure of the server.

Logical location codes

If the physical location cannot be mapped to a physical location code, the server's firmware will generate a logical location code. A logical location code is a sequence of location labels that identify the path that the system uses to communicate with a given resource.

Note: A resource has as many logical location codes as it has logical connections to the system. For example, an external tape device connected to two I/O adapters will have two logical location codes.

An example of a logical location code is:

U7879.001.10ABCDE-P3-C31-T2-L23

The first part of the location code (through the T2 label) represents the physical location code for the resource that communicates with the target resource. The remainder of the logical location code (L23) represents exactly which resource is indicated.

Location code format

The location code is an alphanumeric string of variable length, consisting of a series of location identifiers, separated by a dash. An example of a physical location for a fan is *Un-A1*.

The first position, represented by *Un* (where *n* is equal to any string contained between the U and the hyphen) in the preceding example, is displayed in one of the following forms:

Note: In location codes the U is a constant digit, however the numbered positions following the U are variables and are dependent on your server. Each column defines the numbers following the U in the beginning of the location code.

Machine type and model number in its location codes	Feature codes and sequence numbers in its location code
<i>Utttt.mmm.ssssss-A1</i>	<i>Uffff.ccc.ssssss-A1</i>
The leftmost code is always U	The leftmost code is always U
<i>tttt</i> represents the unit type of the enclosure (drawer or node)	<i>ffff</i> represents the feature code of the enclosure (drawer or node)
<i>mmm</i> represents the model of the enclosure	<i>ccc</i> represents the sequence number of the enclosure
<i>ssssss</i> represents the serial number for the enclosure	<i>ssssss</i> represents the serial number of the enclosure
<p>Note: The <i>mmm</i> or <i>ccc</i> number might not be displayed on all location codes for all servers. If the <i>mmm</i> value is not displayed, the location code is displayed in one of the following forms:</p> <ul style="list-style-type: none"> • <i>Utttt.ssssss-A1</i> • <i>Uffff.ssssss-A1</i> 	

The location code is hierarchical; that is, each location identifier in the string represents a physical part. The order (from left to right), in which each identifier is shown, allows you to determine which parts contain other parts in the string.

The - (dash) separator character represents a relationship between two components in the unit. In the example of the fan, whose location code is *Un-A1*, the - (dash) shows that the fan (A1) is contained in the base unit (or *Un*). Modules, adapters, cables, and devices are all parts that are plugged into another part. Their location codes will always show that they are plugged into another part as components of the server. Another example, *Un-P1-C9* is a memory DIMM, with (C9) plugged into a backplane (P1), which is inside the unit (*Un*).

For more information about the various location code label prefixes, refer to Location code labels.

Note: For devices, certain error conditions might cause an i5/OS device to display the device location in an AIX® format.

Table 1. Unit type and locations

Unit type (Utttt.mmm)	Link to location information
0588	"Locations — 0588 and 5088 expansion units" on page 95
0595	"Locations — 0595 and 5095 expansion units" on page 107
2689	"Locations — Integrated xSeries adapter (IXA)" on page 134
5074	"Locations — 5074, 8079-002, and 8093-002 expansion units" on page 88
5079	"Locations — 5079 expansion unit" on page 94
5088	"Locations — 0588 and 5088 expansion units" on page 95
5094	"Locations — 5094, 5294, 5096, 5296, 8094-002, 8294, and 9194 expansion unit" on page 101
5095	"Locations — 0595 and 5095 expansion units" on page 107
5096	"Locations — 5094, 5294, 5096, 5296, 8094-002, 8294, and 9194 expansion unit" on page 101
5294	"Locations — 5094, 5294, 5096, 5296, 8094-002, 8294, and 9194 expansion unit" on page 101
5296	"Locations — 5094, 5294, 5096, 5296, 8094-002, 8294, and 9194 expansion unit" on page 101
5786	"Locations — 5786, 5787, 7031-D24, and 7031-T24 expansion units" on page 112
5787	"Locations — 5786, 5787, 7031-D24, and 7031-T24 expansion units" on page 112

Table 1. Unit type and locations (continued)

Unit type (Utttt.mmm)	Link to location information
5790	"Locations — 7311-D10, 7311-D11, and 5790 expansion units" on page 126
5791	"Locations — 5791, 5794, and 7040-61D expansion units" on page 117
5794	"Locations — 5791, 5794, and 7040-61D expansion units" on page 117
7031	"Locations — 5786, 5787, 7031-D24, and 7031-T24 expansion units" on page 112
7040	"Locations — 5791, 5794, and 7040-61D expansion units" on page 117
7311.D10	"Locations — 7311-D10, 7311-D11, and 5790 expansion units" on page 126
7311.D11	"Locations — 7311-D10, 7311-D11, and 5790 expansion units" on page 126
7311.D20	"Locations — 7311-D20 expansion unit" on page 129
7879.001	"Locations — model 561 and 570" on page 48
787A.001	"Locations — model 515, 52x, and 285" on page 23
787B.001	"Locations — model 55x and OpenPower 720" on page 35
787C.001	"Locations — model 59x" on page 72
787D.001	"Locations — model 575" on page 57
787E.001	9110-510 and OpenPower® 710
787F.001	"Locations — model 515, 52x, and 285" on page 23
788C-001	9110-51A
789A.001	"Locations — model 505" on page 10
789B.001	"Locations — model 185 and A50" on page 5
8079	"Locations — 5074, 8079-002, and 8093-002 expansion units" on page 88
8093	"Locations — 5074, 8079-002, and 8093-002 expansion units" on page 88
8094	"Locations — 5094, 5294, 5096, 5296, 8094-002, 8294, and 9194 expansion unit" on page 101
8294	The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.
9194	"Locations — 5094, 5294, 5096, 5296, 8094-002, 8294, and 9194 expansion unit" on page 101
9458.100	Bulk power assembly (BPA) in "Locations — model 59x" on page 72 or "Locations — model 575" on page 57
tttt.185	"Locations — model 185 and A50" on page 5
tttt.285	"Locations — model 515, 52x, and 285" on page 23
tttt.505	"Locations — model 505" on page 10
tttt.510	"Locations — models 510, 51A and OpenPower 710" on page 15
tttt.520	"Locations — model 515, 52x, and 285" on page 23
tttt.52A	"Locations — model 515, 52x, and 285" on page 23
tttt.550	"Locations — model 55x and OpenPower 720" on page 35
tttt.55A	"Locations — model 55x and OpenPower 720" on page 35
tttt.561	"Locations — model 561 and 570" on page 48
tttt.570	"Locations — model 561 and 570" on page 48
tttt.575	"Locations — model 575" on page 57
tttt.590	"Locations — model 59x" on page 72
tttt.595	"Locations — model 59x" on page 72
tttt.705	"Locations — model 505" on page 10

Table 1. Unit type and locations (continued)

Unit type (Uttt.mmm)	Link to location information
ttt.710	"Locations — models 510, 51A and OpenPower 710" on page 15
ttt.720	"Locations — model 55x and OpenPower 720" on page 35
ttt.A50	"Locations — model 185 and A50"

Location code labels

The following table explains what the location code label prefixes mean.

Note: These labels apply to system units only.

Table 2. Location code label prefixes for system units

Prefix	Description	Example
A	Air-moving device	Fan, blower
C	Card connector	IOP, IOA, DIMM, processor card
D	Device	Diskette, control panel
E	Electrical	Battery, power supply, ac charger
L	Logical path SCSI target	IDE address, Fibre Channel LUN
N	Horizontal placement for an empty rack location	
P	Planar	System backplane
T	Port	
U	Unit	
V	Virtual planar	
W	Worldwide unique ID	
X	EIA value for an empty rack location	
Y	Firmware FRU	

Worldwide unique identifier

A worldwide unique identifier location label consists of the prefix "W" followed by a maximum of 16 uppercase hexadecimal digits with no leading zeros. A location code may or may not consist of a worldwide unique identifier. When present, the worldwide unique identifier location label follows the location label of the resource that interfaces with the resource having the worldwide unique identifier, usually a port.

Locations — model 185 and A50

Part locations.

Note: The logical location codes for this unit are listed next to the corresponding physical location in the following information. If you are working with a logical location code for this unit and it is not listed in the following information, contact your next level of support.

The following diagrams show field replaceable unit (FRU) layout in the system. Use these diagrams with the following tables to identify parts of the control panel.

The following table provides location codes for parts that make up the server.

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.

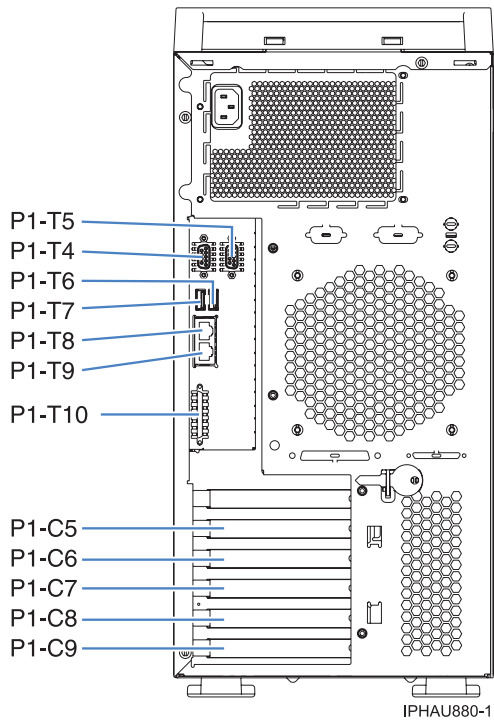


Figure 1. Back view, tower unit

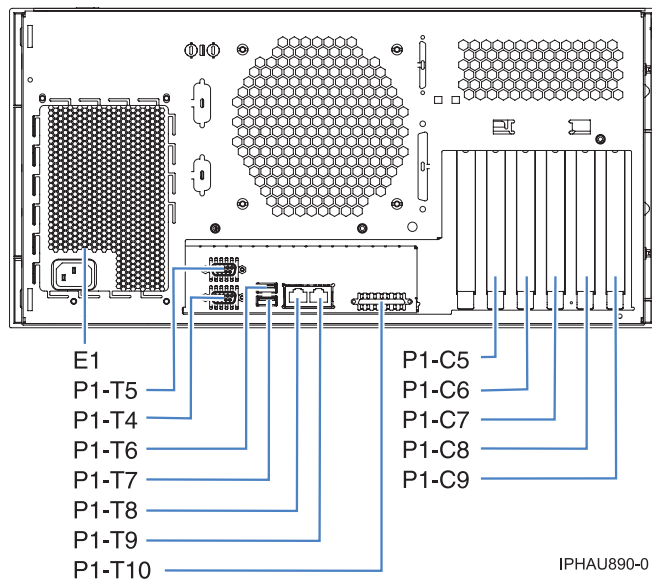


Figure 2. Back view, rack unit

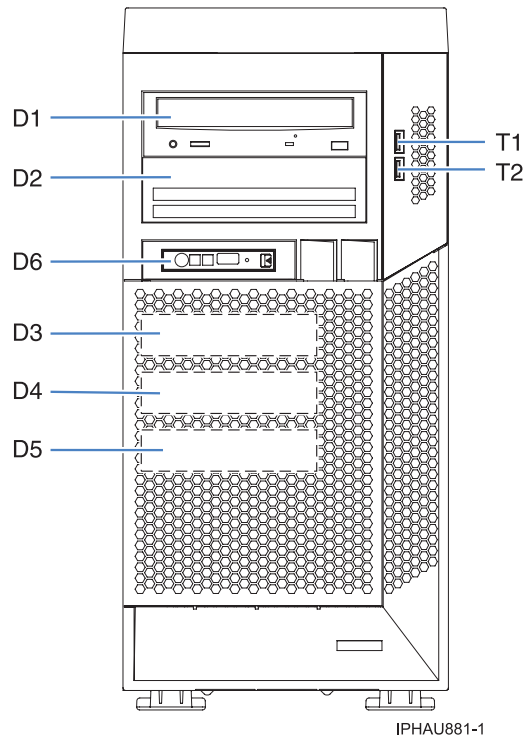


Figure 3. Front view, tower unit

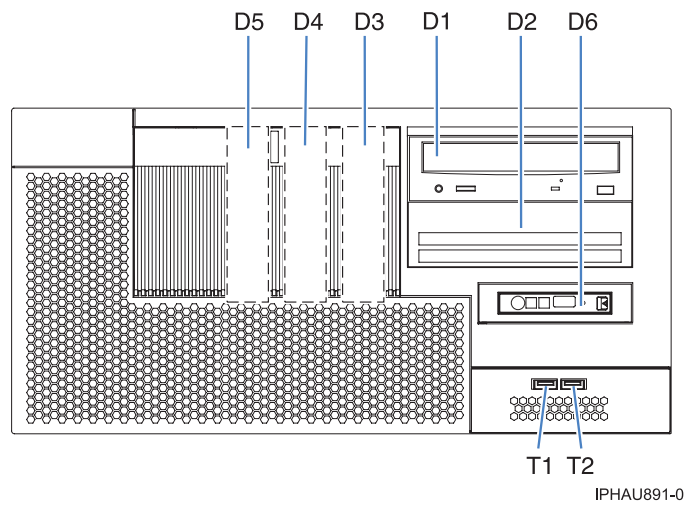


Figure 4. Front view, rack unit

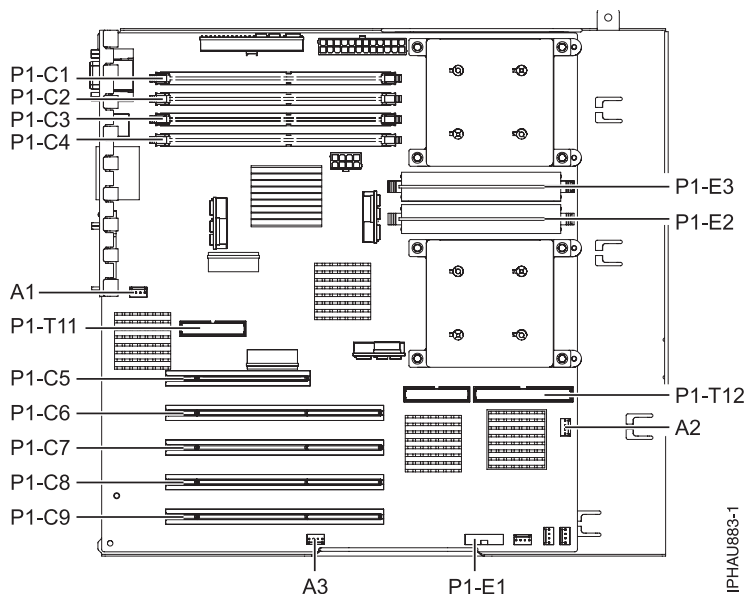


Figure 5. System board view, tower unit

Table 3. FRU locations and failing components

Failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
System unit	Un			
Fans				
Fan 1 (Processor cooling)	Un-A1	Yes	Part assembly diagrams	Fans
Fan 2 (Disk drive cooling)	Un-A2	Yes	Part assembly diagrams	Fans
Fan 3 (PCI adapter cooling)	Un-A3	Yes	Part assembly diagrams	Fans
Power supply				
Power supply	Un-E1	Yes	Part assembly diagrams	Power supply
Voltage regulators				
Voltage-regulator module	Un-E2	Yes	Voltage regulator modules are available as part of the System backplane FRU	Voltage regulator
Voltage-regulator module	Un-E3	Yes	Voltage regulator modules are available as part of the System backplane FRU	Voltage regulator
Backplane				
System backplane	Un-P1	Yes	System backplane	System backplane
NVRAM battery	Un-P1-E1		Power parts	Time-of-day battery

Table 3. FRU locations and failing components (continued)

Failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Light-path-diagnostic card	Un-P2			
System backplane ports				
Ethernet port 1 (top)	Un-P1-T8			
Ethernet port 2	Un-P1-T9			
External SCSI port	Un-P1-T10			
Serial port 1 (left)	Un-P1-T4			
Serial port 2	Un-P1-T5			
USB port 1 (left)	Un-P1-T6			
USB port 2	Un-P1-T7			
Internal SCSI port	Un-P1-T11			
IDE controller port	Un-P1-T12			
USB port 3 on front cover (top)	Un-T1			
USB port 4 on front cover	Un-T2			
Adapters				
PCI adapter in slot 1	Un-P1-C5	Yes	System parts	PCI adapter
PCI adapter in slot 2	Un-P1-C6	Yes	System parts	PCI adapter
PCI adapter in slot 3	Un-P1-C7	Yes	System parts	PCI adapter
PCI adapter in slot 4	Un-P1-C8	Yes	System parts	PCI adapter
PCI adapter in slot 5	Un-P1-C9	Yes	System parts	PCI adapter
Memory modules				
Memory DIMM 1	Un-P1-C1	Yes	Memory parts	Memory modules
Memory DIMM 2	Un-P1-C2	Yes	Memory parts	Memory modules
Memory DIMM 3	Un-P1-C3	Yes	Memory parts	Memory modules
Memory DIMM 4	Un-P1-C4	Yes	Memory parts	Memory modules
Device locations				
Media device (top)	Un-D1	Yes	Removable media device parts	
Disk drive 1 or media device	Un-D2 (Un-P1-T8-L0-L0 is the logical location code)	Yes	Disk unit parts or Removable media device parts	Disk drive
Disk drive 2	Un-D3 (Un-P1-T8-L1-L0 is the logical location code)	Yes	Disk unit parts	Disk drive
Disk drive 3	Un-D4 (Un-P1-T8-L2-L0 is the logical location code)	Yes	Disk unit parts	Disk drive

Table 3. FRU locations and failing components (continued)

Failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Disk drive 4	Un-D5 (Un-P1-T8-L3-L0 is the logical location code)	Yes	Disk unit parts	Disk drive
Control panel				
Control panel	Un-D6			Control panel

Locations — model 505

Part locations.

Note: The known logical location codes for this unit are listed next to the corresponding physical location in the following information. If you are working with a logical location code for this unit and it is not listed in the following information, contact your next level of support.

The following diagrams show field replaceable unit (FRU) layout in the system. Use these diagrams with the following tables.

Use the following illustration to help you identify parts of the control panel.

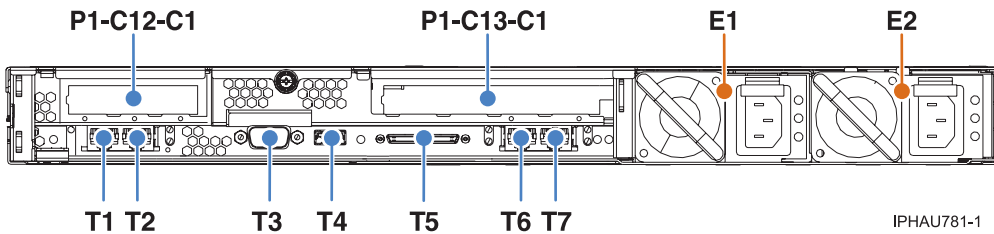


Figure 6. Back view of system

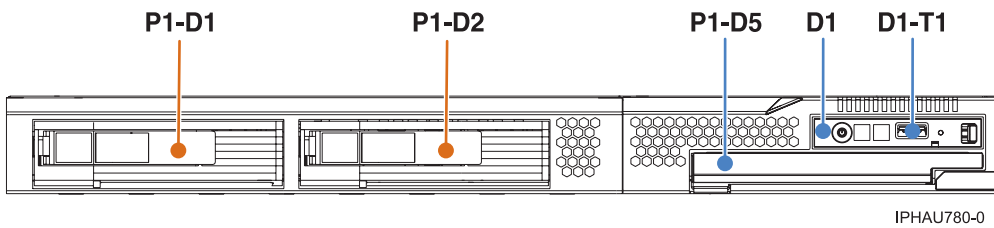


Figure 7. LED locations (back view)

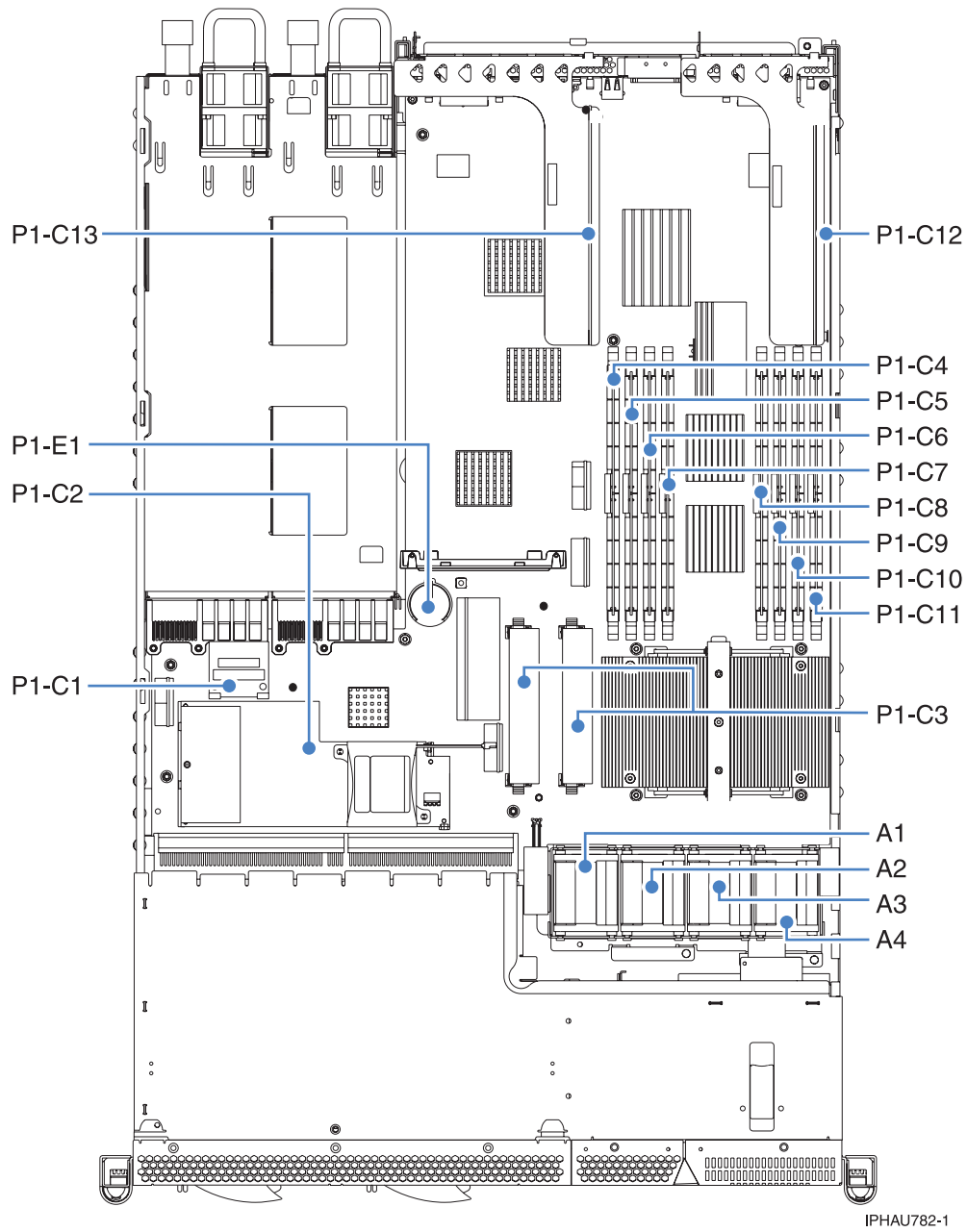


Figure 8. System backplane locations

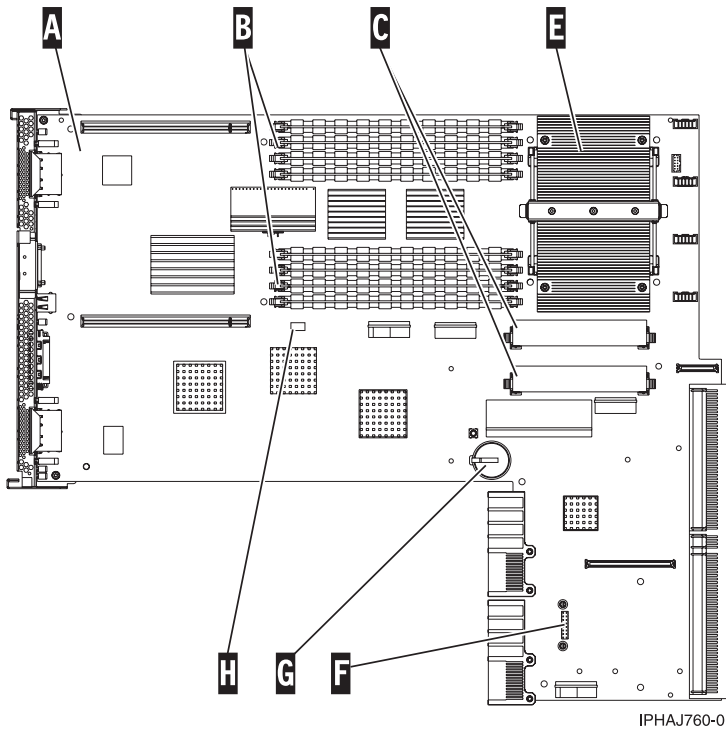


Table 4. System backplane layout

Index	Description
A	System backplane
B	Memory DIMM
C	VRM
E	Processor
F	VPD card
G	Battery
H	Service processor reset toggle switches

The following table provides location codes for parts that make up the server.

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.

Table 5. FRU locations and failing components

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
System unit		Un			
Fans					
Fan 1 (left)		Un-A1	Yes	Part assembly diagrams	Fan
Fan 2		Un-A2	Yes	Part assembly diagrams	Fan

Table 5. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Fan 3		Un-A3	Yes	Part assembly diagrams	Fan
Fan 4 (right)		Un-A4	Yes	Part assembly diagrams	Fan
Power supplies					
Power supply 1 (left)		Un-E1	Yes	Part assembly diagrams	Power supply
Power supply 2 (right)		Un-E2	Yes	Part assembly diagrams	Power supply
Backplanes					
System backplane	ANYPROC CLCKMOD IO_HUB IOBRDG MA_BRDG MEMBRD MEMCTLR NODEPL SI_CARD STORIOA SVCPROC SYSBKPL STORIOA	Un-P1	Yes	Part assembly diagrams	Backplane
NVRAM battery		Un-P1-E1		Part assembly diagrams	Battery
VPD card		Un-P1-C1	Yes	Part assembly diagrams	
RAID card		Un-P1-C2	Yes	Part assembly diagrams	
Processor core VRM		Un-P1-C3	Yes	Part assembly diagrams	
System backplane ports					
Ethernet Port 1 (left)		Un-P1-T1			
Ethernet Port 2 (right)		Un-P1-T2			
System port 1 (back)		Un-P1-T3			
USB port 0		Un-P1-T4			
SCSI port		Un-P1-T5			
HMC 1 (left)		Un-P1-T6			
HMC 2 (right)		Un-P1-T7			
Adapters					
PCI adapter in slot 1	PIOCARD	Un-P1-C12-C1	Yes	Part assembly diagrams	PCI adapter

Table 5. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
PCI adapter in slot 2	PIOCARD	Un-P1-C13-C1	Yes	Part assembly diagrams	PCI adapter
PCI riser card		Un-P1-C12	Yes		
PCI riser card		Un-P1-C13	Yes		
PCI bridge set 0	BRDGSET BRDGST1	Un-P1	Yes		Replace the system backplane and cards using the removal and replacement procedures corresponding to the locations indicated.
Memory modules					
Memory DIMM JOA (far left, front view)	MEMDIMM	Un-P1-C4	Yes	Part assembly diagrams	Memory module
Memory DIMM JOB (second from left, front view)	MEMDIMM	Un-P1-C5	Yes	Part assembly diagrams	Memory module
Memory DIMM JOC (third from left, front view)	MEMDIMM	Un-P1-C6	Yes	Part assembly diagrams	Memory module
Memory DIMM JOD (fourth from left, front view)	MEMDIMM	Un-P1-C7	Yes	Part assembly diagrams	Memory module
Memory DIMM J2D (fifth from left, front view)	MEMDIMM	Un-P1-C8	Yes	Part assembly diagrams	Memory module
Memory DIMM J2C (sixth from left, front view)	MEMDIMM	Un-P1-C9	Yes	Part assembly diagrams	Memory module
Memory DIMM J2B (seventh from left, front view)	MEMDIMM	Un-P1-C10	Yes	Part assembly diagrams	Memory module
Memory DIMM J2A (far right, front view)	MEMDIMM	Un-P1-C11	Yes	Part assembly diagrams	Memory module
Device locations					

Table 5. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Disk drive 1 (3.5 inch)		Un-P1-D1 (Un-P1-T9-L8-L0 is the logical location code)	Yes	Disk unit parts	
Disk drive 2 (3.5 inch)		Un-P1-D2 (Un-P1-T9-L5-L0 is the logical location code)	Yes	Disk unit parts	
Media device		Un-P1-D5		Removable media device parts	Media device
Control panel					
Control panel		Un-D1		Part assembly diagrams	Control panel
Control panel USB connector		Un-D1-T1		Part assembly diagrams	Control panel

Locations — models 510, 51A and OpenPower 710

Expansion unit part locations.

Note: The known logical location codes for this unit are listed next to the corresponding physical location in the following information. If you are working with a logical location code for this unit and it is not listed in the following information, contact your next level of support.

The following diagrams show field replaceable unit (FRU) layout in the system. Use these diagrams with the following tables.

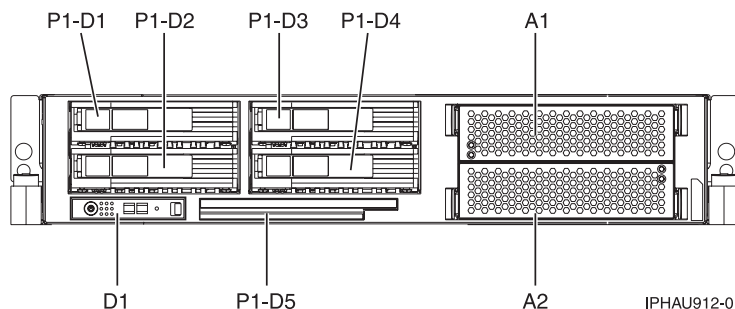


Figure 9. Front view of the 510, 51A and OpenPower 710

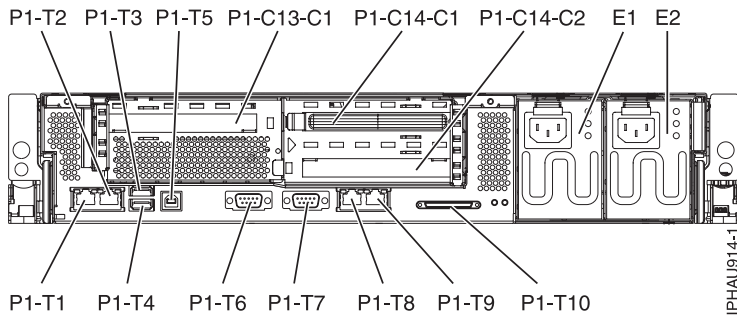


Figure 10. Back view of the 9110-51A

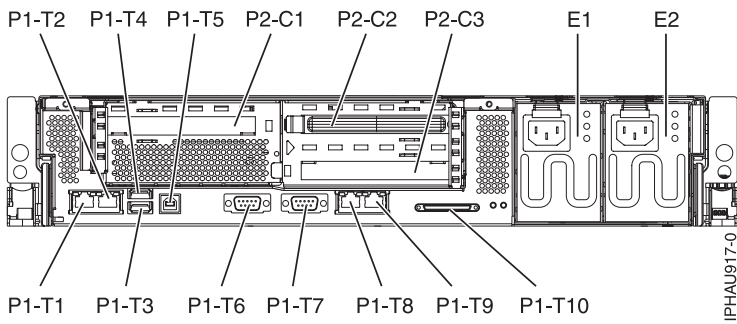


Figure 11. Back view of the 9110-510 and OpenPower 710

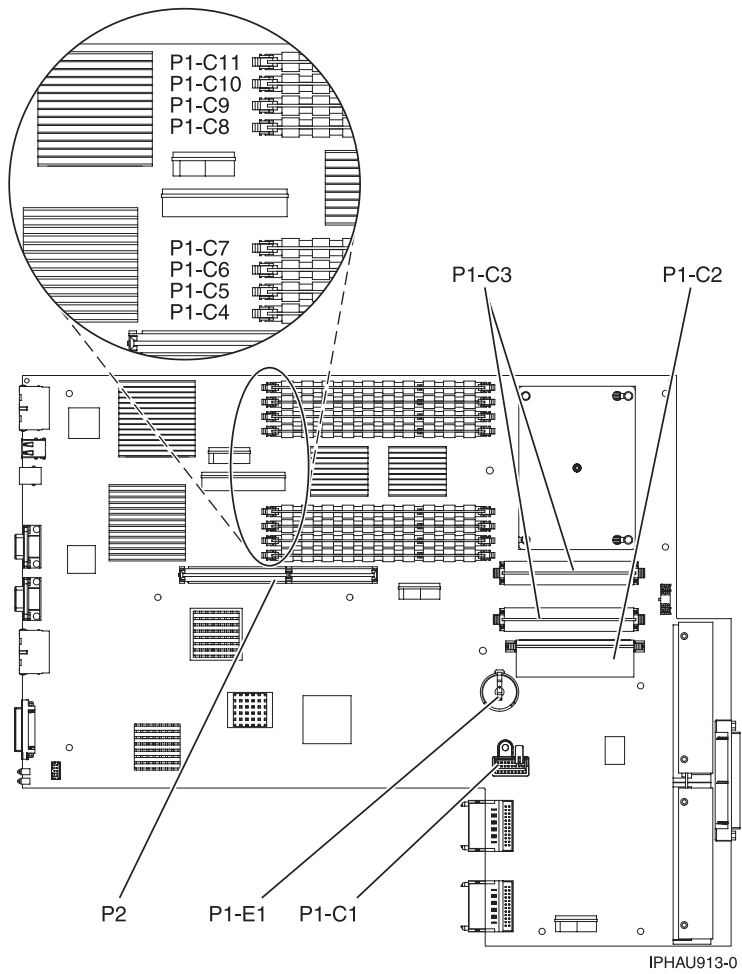


Figure 12. Top view of the 510 and OpenPower 710

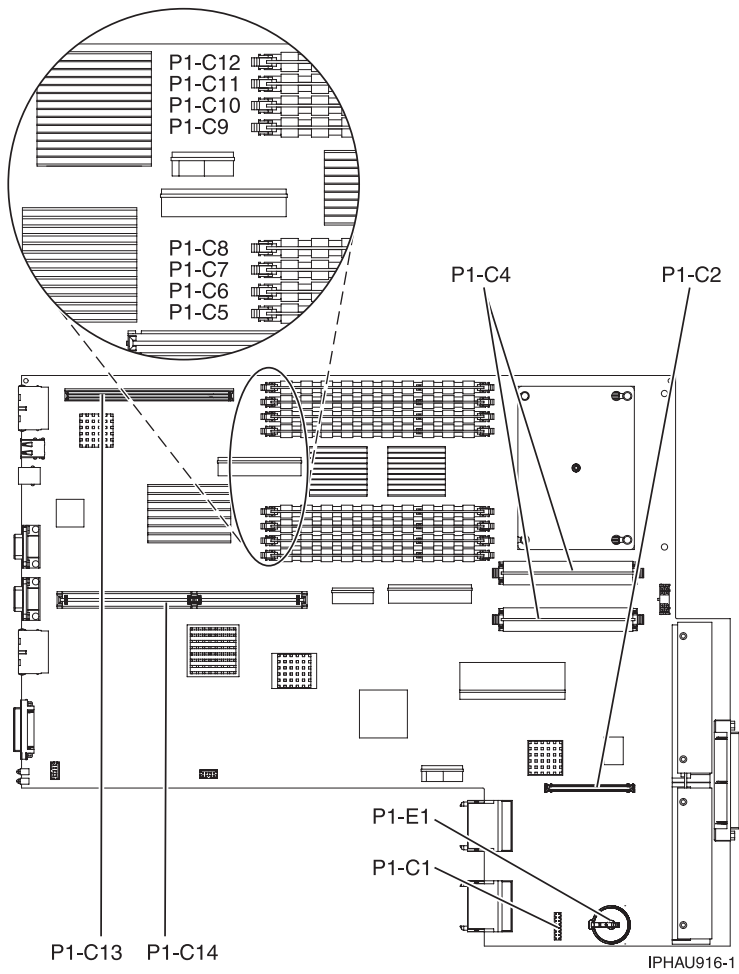


Figure 13. Top view of the 9110-51A

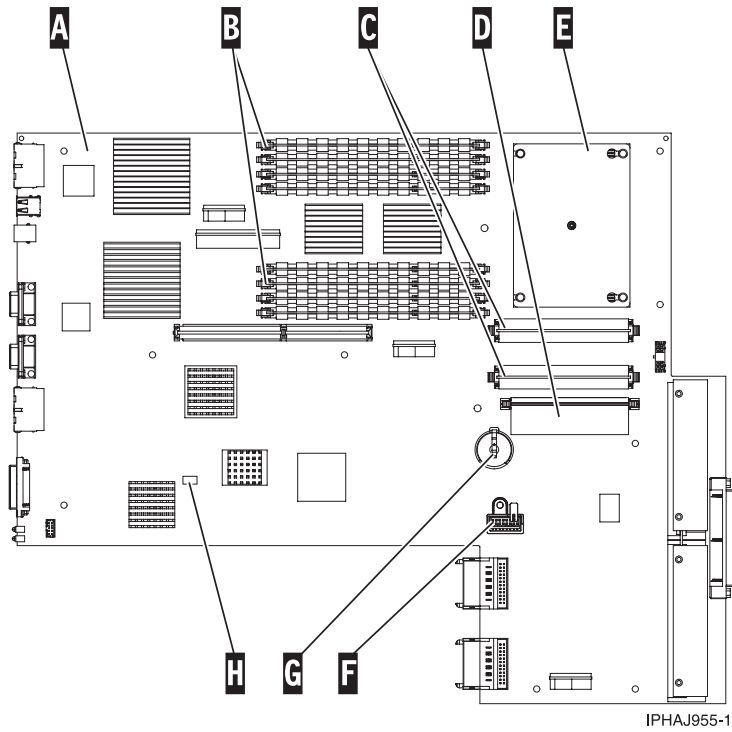
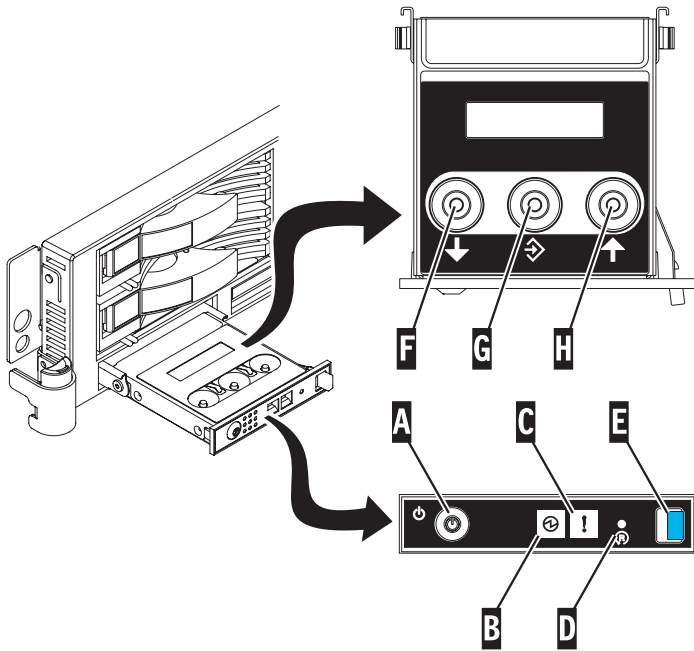


Figure 14. 510, 51A and OpenPower 710 backplane layout

Index Number	Description
A	System backplane
B	Memory DIMM
C	VRM
D	Voltage regulator
E	Processor
F	VPD card
G	Battery
H	Reset switch

Use the following illustration to help you identify parts of the control panel.



IPHAU915-0

Figure 15. Control panel

Letter	Name	Description
A	Power-on button	Turns the system power on and off.
B	Power LED	Blinking when connected to the power source (system is in standby mode). Solid when the power-on button has been pressed.
C	Attention LED	Normal state - LED is off.
D	Service processor reset switch (pinhole)	Service personnel use.
E	Control panel access tab	Press tab to gain access to the control panel display.
F	Increment down	Scrolls the information in the display down.
G	Enter	Enter.
H	Increment up	Scrolls the information in the display.

The following table provides location codes for parts that make up the server.

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.

Table 6. FRU locations and failing components

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
System unit		Un			
Fans					
Fan 1 (top)		Un-A1	Yes	Power parts	Fans

Table 6. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Fan 2 (bottom)		Un-A2	Yes	Power parts	Fans
Power supplies					
Power supply 1 (left)		Un-E1	Yes	Power parts	Power supply
Power supply 2 (right)		Un-E2	Yes	Power parts	Power supply
Backplane					
System backplane	ANYPROC CLCKMOD IO_HUB IOBRDG MA_BRDG MEMBRD MEMCTLR NODEPL SI_CARD SVCPROC SYSBKPL STORIOA	Un-P1	Yes	System parts	System backplane
VPD card	CAPACTY	Un-P1-C1		VPD parts	VPD card
Voltage regulator 2.5 V		Un-P1-C2	Yes	Power parts	Voltage regulator modules
Note: System diagnostics will specifically call out the 2.5 V regulator on the 9110-51A even though it can not be replaced.					
Voltage regulator 1.3 V		Un-P1-C3	Yes	Power parts	Voltage regulator modules
Time-of-day battery	TOD_BAT	Un-P1-E1		Power parts	Time-of-day battery
PCI adapter enclosure		Un-P2	Yes	6B15	PCI adapter
System backplane ports					
Ethernet Port 1 (left)		Un-P1-T1			
Ethernet Port 2		Un-P1-T2			
USB 0 (top)		Un-P1-T3			
USB 1 (bottom)		Un-P1-T4			
Rack indicator		Un-P1-T5			
system port 1 (left)		Un-P1-T6			
system port 2		Un-P1-T7			
HMC 1 (left)		Un-P1-T8			

Table 6. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
HMC 2		Un-P1-T9			
SCSI		Un-P1-T10			
Adapters					
PCI adapter in slot 1	PIOCARD MASBUS SLOTERR	Un-P2-C1 for 9110-510 and OpenPower 710. Un-P1-C13-C1 for 9110-51A.	Yes	System parts	PCI adapter
PCI adapter in slot 2	PIOCARD MASBUS SLOTERR	Un-P2-C2 for 9110-510 and OpenPower 710. Un-P1-C14-C1 for 9110-51A.	Yes	System parts	PCI adapter
PCI adapter in slot 3	PIOCARD MASBUS SLOTERR	Un-P2-C3 for 9110-510 and OpenPower 710. Un-P1-C14-C2 for 9110-51A.	Yes	System parts	PCI adapter
PCI bridge set 0	BRDGSET BRDGST1				Replace the system backplane and cards using the removal and replacement procedures corresponding to the locations indicated.
9110-510 and OpenPower 710 Memory modules					
Memory module J0A	MEMDIMM	Un-P1-C4	Yes	Memory parts	Memory modules
Memory module J0B	MEMDIMM	Un-P1-C5	Yes	Memory parts	Memory modules
Memory module J0C	MEMDIMM	Un-P1-C6	Yes	Memory parts	Memory modules
Memory module J0D	MEMDIMM	Un-P1-C7	Yes	Memory parts	Memory modules
Memory module J2D	MEMDIMM	Un-P1-C8	Yes	Memory parts	Memory modules
Memory module J2C	MEMDIMM	Un-P1-C9	Yes	Memory parts	Memory modules
Memory module J2B	MEMDIMM	Un-P1-C10	Yes	Memory parts	Memory modules
Memory module J2A	MEMDIMM	Un-P1-C11	Yes	Memory parts	Memory modules
9110-51A Memory modules					
Memory module J0A	MEMDIMM	Un-P1-C5	Yes	Memory parts	Memory modules
Memory module J0B	MEMDIMM	Un-P1-C6	Yes	Memory parts	Memory modules

Table 6. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Memory module J0C	MEMDIMM	Un-P1-C7	Yes	Memory parts	Memory modules
Memory module J0D	MEMDIMM	Un-P1-C8	Yes	Memory parts	Memory modules
Memory module J2D	MEMDIMM	Un-P1-C9	Yes	Memory parts	Memory modules
Memory module J2C	MEMDIMM	Un-P1-C10	Yes	Memory parts	Memory modules
Memory module J2B	MEMDIMM	Un-P1-C11	Yes	Memory parts	Memory modules
Memory module J2A	MEMDIMM	Un-P1-C12	Yes	Memory parts	Memory modules
Device locations					
Disk drive 1		Un-P1-D1 (Un-P1-T11-L8-L0 is the logical location code)	Yes	Disk unit parts	Disk drive
Disk drive 2		Un-P1-D2 (Un-P1-T11-L5-L0 is the logical location code)	Yes	Disk unit parts	Disk drive
Disk drive 3		Un-P1-D3 (Un-P1-T11-L4-L0 is the logical location code)	Yes	Disk unit parts	Disk drive
Disk drive 4		Un-P1-D4 (Un-P1-T11-L3-L0 is the logical location code)	Yes	Disk unit parts	Disk drive
IDE drive		Un-P1-D5 (Un-P1-T12-L0 is the logical location code)		Removable media device parts	Media device
Control panel					
Control panel		Un-D1		292F	Control panel

Locations — model 515, 52x, and 285

Use this information to help you map a location code to a position on the server for the 9111-285, 9407-515, 9405-520, 9406-520, 9111-520, 9406-525, and 9131-52A models.

Mapping physical location codes

Note: The known logical location codes for this unit are listed next to the corresponding physical location in the following information. If you are working with a logical location code for this unit and it is not listed in the following information, contact your next level of support.

For address information, see “Addresses – model 285, 515, and 52x” on page 136.

Use the following illustrations to help you map a location code to a position on the server.

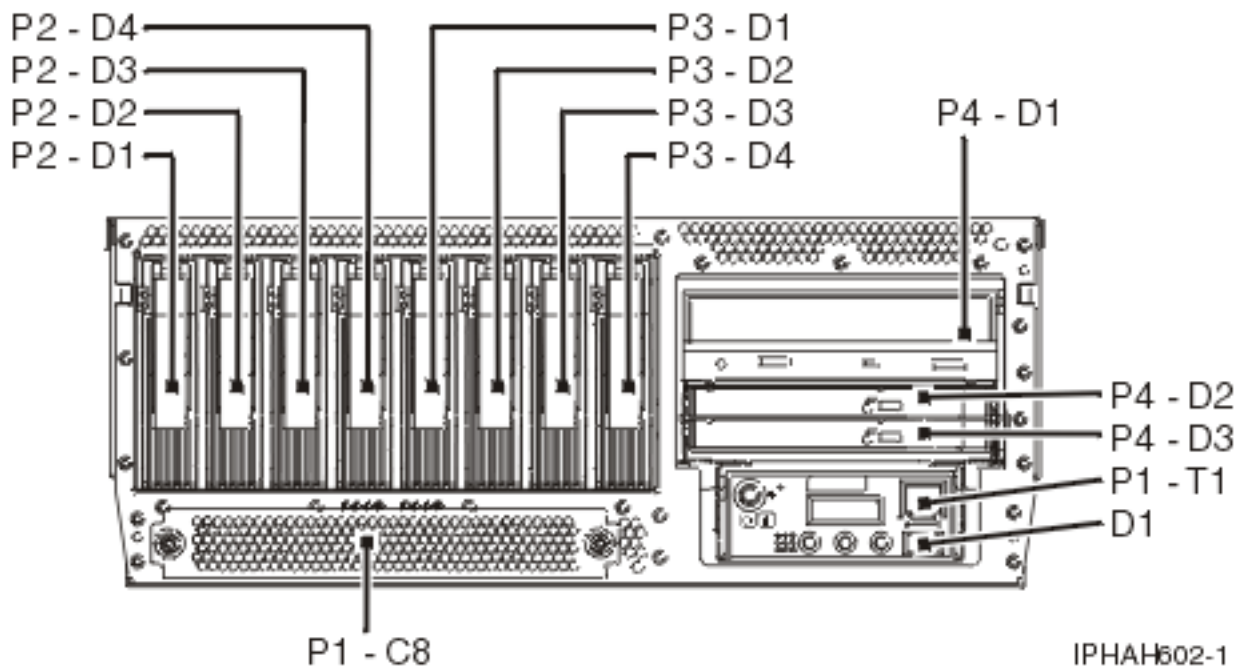


Figure 16. A view of the rack-mounted unit from the front.

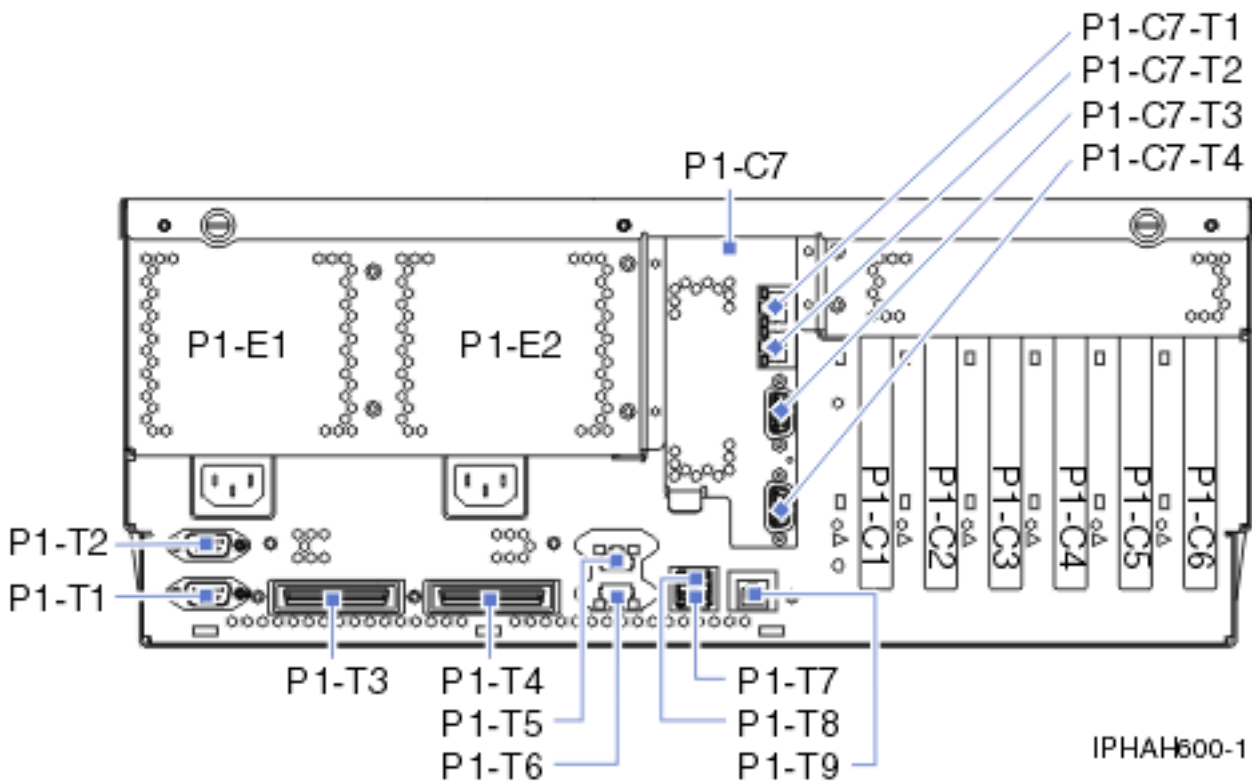


Figure 17. A view of the rack-mounted unit from the back with integrated HSL/RIO ports.

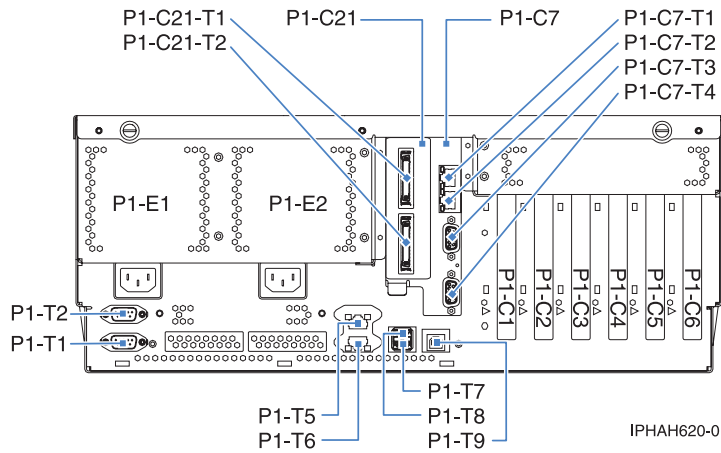


Figure 18. A view of the rack-mounted unit from the back with HSL/RIO ports located on HSL card.

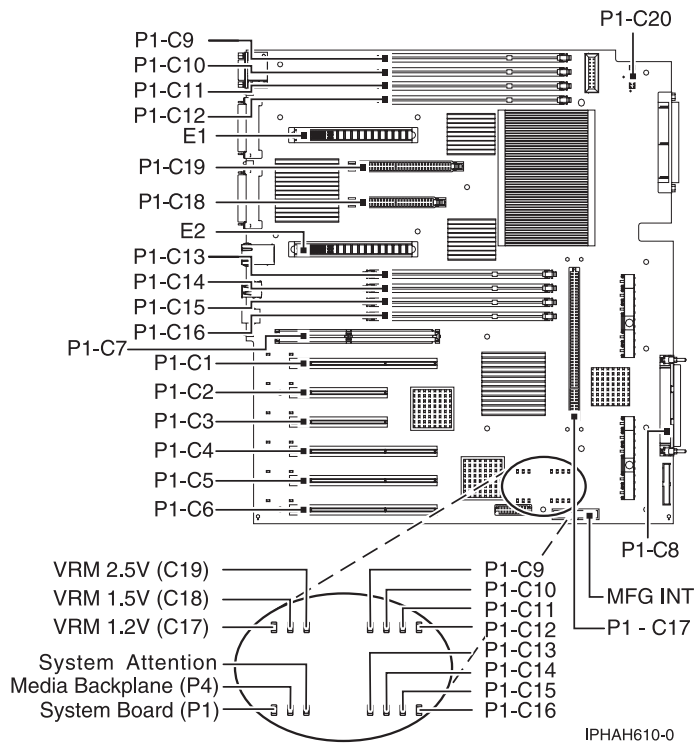


Figure 19. A view of the system backplane from the top having one voltage regulator (P1-C17) with integrated HSL/RIO ports (T3/T4). For 9405-520, 9406-520, and 9111-520 models.

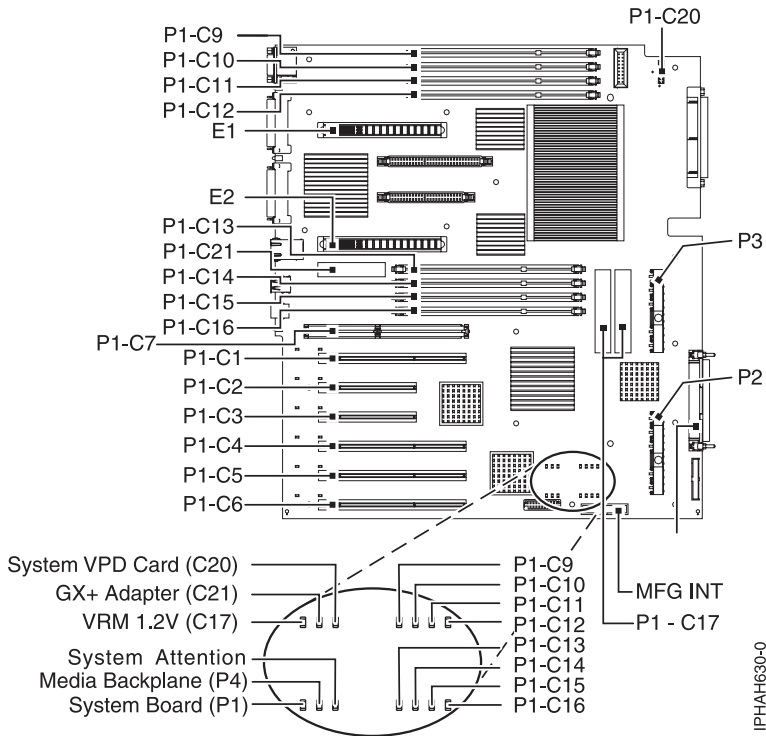


Figure 20. A view of the system backplane from the top having two voltage regulator slots (P1-C17) without integrated HSL/RIO ports (T3/T4). For 9111-285, 9407-515, 9405-520, 9406-520, 9406-525, and 9131-52A models.

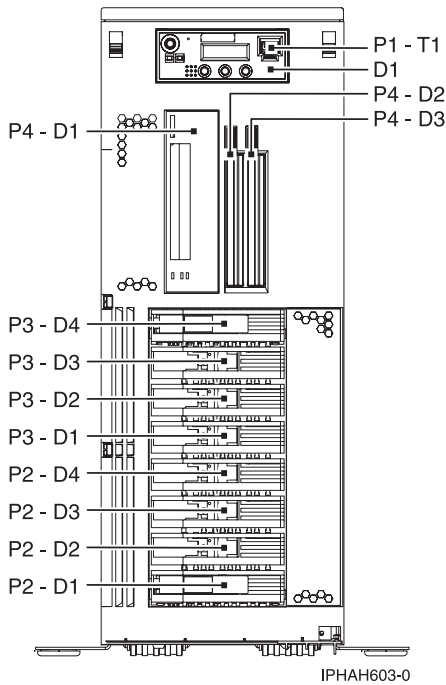


Figure 21. A view of stand-alone system from the front.

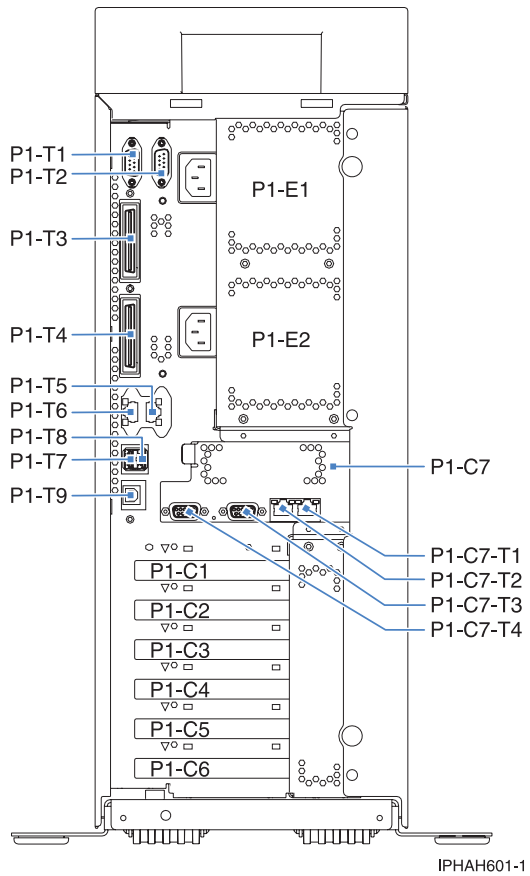


Figure 22. A view of stand-alone system from the back with integrated HSL ports.

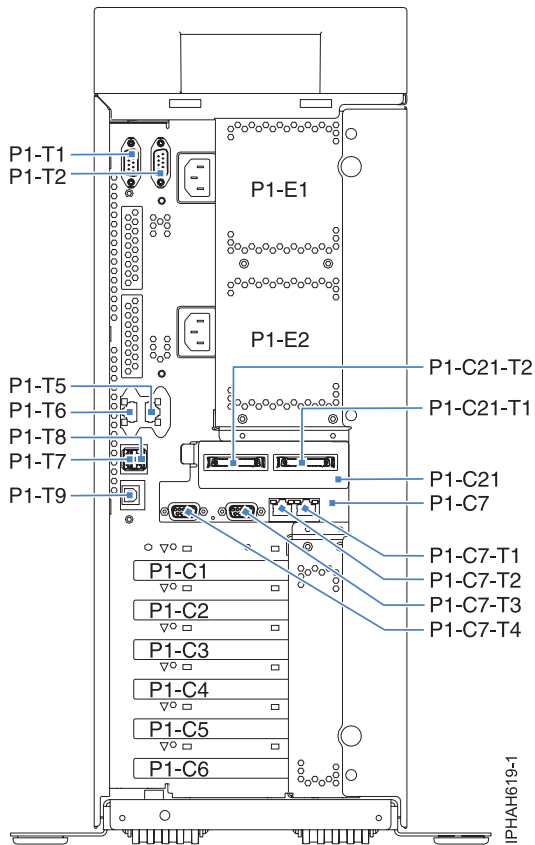


Figure 23. A view of stand-alone system from the back with HSL ports located on HSL card.

Use the following illustration to help you identify parts of the control panel.

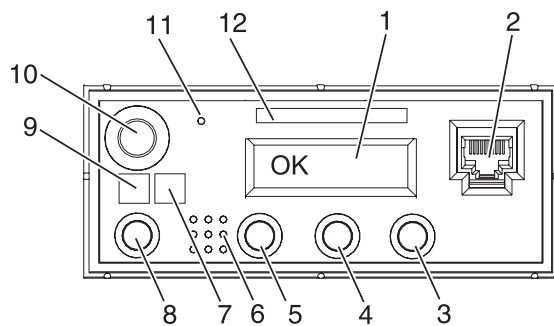


Figure 24. A view of the front of the control panel.

Number	Name	Description
1	Display	Displays current status of system startup, or diagnostic information in the event of a hardware problem.
2	Front system port	Port uses RJ-45 connector. Use to plug in external devices at the front of the system unit.
3	Increment up	Scrolls the information in the display up.
4	Enter	Enter
5	Increment down	Scrolls the information in the display down.
6		

Number	Name	Description
7	Attention LED	Normal state - LED is off
8	System reset button	Resets the system
9	Power LED	Blinking - When connected to the power source (System is in standby mode). Solid - When power-on button has been pressed. Note: There is approximately a 30-second transition period from the time the power-on button is pressed to when the power LED goes from blinking to on solid. During the transition period, you may observe the blinking intervals speed up.
10	Power-on button	Turns the system power on and off.
11	Service processor reset switch (pinhole)	Service personnel use
12	Serial number label	Displays the system serial number

The following table contains location codes for the parts that make up the server.

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.

Table 7. Physical location codes

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
System unit		Un			NA
Fans					
Fan 1 (front view, left side). Fan 1 is the front fan on the left for rack units and the bottom fan when installed in the deskside unit.		Un-A1	Yes	Part assembly diagrams	Fan
Fan 2		Un-A2	Yes	Part assembly diagrams	Fan
Fan 3 (front view, right side)		Un-A3	Yes	Part assembly diagrams	Fan
Power supplies					
Power supply 1	PWRSPLY	Un-E1	Yes	Power parts	Power supply
Power supply 2	PWRSPLY	Un-E2	Yes	Power parts	Power supply
Regulators					
Voltage regulator for 1.2 V dc		Un-P1-C17 (See the notes in the next row.)	Yes	Power parts	Voltage regulator module

Table 7. Physical location codes (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Note:					
<ul style="list-style-type: none"> Systems 9111-520 and 9406-520 with the HSL ports on the backplane contain one voltage regulator in the Un-P1-C17 location. Systems 9111-285, 9407-515, 9131-52A, 9405-520, 9406-520, and 9406-525 with HSL ports located on the HSL card (P1-C21), contain two voltage regulators on one card (one VRM for a 1-core system, and two VRMs for either a 2-core or 4-core system). 					
The following two regulators are only found on 9111-520 and 9406-520 systems with the HSL ports on the backplane.					
Voltage regulator for 1.5 V dc		Un-P1-C18	Yes	Power parts	Voltage regulator module
Voltage regulator for 2.5 V dc		Un-P1-C19	Yes	Power parts	Voltage regulator module
Backplanes					
System backplane <ul style="list-style-type: none"> Processors RIO Hub/HSL NIC RIO/HSL I/O Bridge RIO/HSL link Ethernet controller USB controller (AIX or Linux® only) IDE bridge (AIX or Linux only) SCSI controller Logic Oscillator InfiniBand host channel adapter Voltage regulators 1.5 V DC and 2.5 V DC are embedded in the backplane. 	ANYPROC CLCKMOD FRPORT HCA HSL_LNK IO_HUB IOBRDG MA_BRDGMABRCFG MASBUS MEMCTLR NODEPL PIOCARD PPCISYS PRI_PCI SI_PHB SICNTRL SIOADP SPBUS STORIOA SYSBKPL TOPORT	Un-P1	Yes	“System parts” on page 277	System backplane
Disk drive (1 - 4) backplane		Un-P2	Yes	28D2	Disk drive backplane
Disk drive (5 - 8) backplane		Un-P3	Yes	28D2	Disk drive backplane
Passthru card		Connects to internal SCSI busses			
Media drive backplane		Un-P4	Yes	291E 28D1	Removable media drive enclosure and backplane

Table 7. Physical location codes (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
System backplane ports					
system port 1 (back of system backplane)		Un-P1-T1			
S1 system port (front of control panel)		Un-P1-T1			
system port 2 (back of system backplane)		Un-P1-T2			
RIO/HSL left connector, port 0	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-P1-T3		"External cables" on page 410	RIO/HSL cables concurrent
RIO/HSL right connector, port 1	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-P1-T4		"External cables" on page 410	RIO/HSL cables concurrent
Integrated dual 1 GB Ethernet controller-port A		Un-P1-T5			
Integrated dual 1 GB Ethernet controller-port B		Un-P1-T6			
Integrated 2-port universal serial bus (USB) port 0 (AIX or Linux only)		Un-P1-T7			
Integrated 2-port universal serial bus (USB) port 1 (AIX or Linux only)		Un-P1-T8			
Rack indicator connector		Un-P1-T9			
Service processor					

Table 7. Physical location codes (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Service processor card	SVCPROC	Un-P1-C7		28D7 Use 28D7 for systems 9111-520, 9405-520, and 9406-520 with integrated HSL ports 293A Use 293A for systems 9111-285, 9407-515, 9405-520, 9406-520, 9406-525, and 9131-52A with RIO/HSL ports located on the RIO/HSL card.	Service processor
Time-of-day (TOD) battery	TOD_BAT	Un-P1-C7-E1		Power parts	Time-of-day battery
HMC 1 connector		Un-P1-C7-T1			
HMC 2 connector		Un-P1-C7-T2			
SPCN 0 connector		Un-P1-C7-T3			
SPCN 1 connector		Un-P1-C7-T4			
Adapters					
PCI adapter in slot 1	PIOCARD MASBUS SLOTERR	Un-P1-C1	Yes	"System parts" on page 277	PCI adapter
PCI adapter in slot 2	PIOCARD MASBUS SLOTERR	Un-P1-C2	Yes	"System parts" on page 277	PCI adapter
PCI adapter in slot 3	PIOCARD MASBUS SLOTERR	Un-P1-C3	Yes	"System parts" on page 277	PCI adapter
PCI adapter in slot 4	PIOCARD MASBUS SLOTERR	Un-P1-C4	Yes	"System parts" on page 277	PCI adapter
PCI adapter in slot 5	PIOCARD MASBUS SLOTERR	Un-P1-C5	Yes	"System parts" on page 277	PCI adapter
PCI adapter in slot 6	PIOCARD MASBUS SLOTERR	Un-P1-C6	Yes	"System parts" on page 277	PCI adapter
Dual channel SCSI RAID enablement card		Un-P1-C8	Yes	5709	RAID enablement card

Table 7. Physical location codes (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
PCI bridge set 1	BRDGSET BRDGST1	Un-P1 Un-P1-C1 Un-P1-C2			Replace the system backplane and cards using the removal and replacement procedures corresponding to the locations indicated.
PCI bridge set 2	BRDGSET BRDGST2	Un-P1 Un-P1-C3 Un-P1-C5 Un-P1-C6			Replace the system backplane and cards using the removal and replacement procedures corresponding to the locations indicated.
PCI bridge set 3	BRDGSET BRDGST3	Un-P1-C4			Replace the system backplane and cards using the removal and replacement procedures corresponding to the locations indicated.
HSL card	SICNTRL	Un-P1-C21	Yes	2888	RIO/HSL or InfiniBand host channel adapter
HSL card top connector, port 0		Un-P1-C21-T1	Yes		
HSL card bottom connector, port 1		Un-P1-C21-T2	Yes		
Memory modules					
Memory module 1	MEMDIMM	Un-P1-C9	Yes	Memory parts	Memory
Memory module 2	MEMDIMM	Un-P1-C10	Yes	Memory parts	Memory
Memory module 3	MEMDIMM	Un-P1-C11	Yes	Memory parts	Memory
Memory module 4	MEMDIMM	Un-P1-C12	Yes	Memory parts	Memory
Memory module 5	MEMDIMM	Un-P1-C13	Yes	Memory parts	Memory
Memory module 6	MEMDIMM	Un-P1-C14	Yes	Memory parts	Memory
Memory module 7	MEMDIMM	Un-P1-C15	Yes	Memory parts	Memory
Memory module 8	MEMDIMM	Un-P1-C16	Yes	Memory parts	Memory
Vital product data (VPD) card		Un-P1-C20		"System parts" on page 277	VPD card
Device physical locations					
Disk drive 1		Un-P2-D1 (logical location Un-P1-T11-L8-L0)	Yes	Disk unit parts	Disk drive
Disk drive 2		Un-P2-D2 (logical location Un-P1-T11-L5-L0)	Yes	Disk unit parts	Disk drive

Table 7. Physical location codes (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Disk drive 3		Un-P2-D3 (logical location Un-P1-T11-L4-L0)	Yes	Disk unit parts	Disk drive
Disk drive 4		Un-P2-D4 (logical location Un-P1-T11-L3-L0)	Yes	Disk unit parts	Disk drive
Disk drive 5		Un-P3-D1 (logical location Un-P1-T10-L8-L0)	Yes	Disk unit parts	Disk drive
Disk drive 6		Un-P3-D2 (logical location Un-P1-T10-L5-L0)	Yes	Disk unit parts	Disk drive
Disk drive 7		Un-P3-D3 (logical location Un-P1-T10-L4-L0)	Yes	Disk unit parts	Disk drive
Disk drive 8		Un-P3-D4 (logical location Un-P1-T10-L3-L0)	Yes	Disk unit parts	Disk drive
SCSI media device (top media bay)		Un -P4-D1 (logical location Un-P1-T10-L7-L0)		Removable media device parts	SCSI removable media
IDE drive 1 (2nd media bay from the top)		Un-P4-D2 (logical location Un-P1-T10-L6-L0)		Removable media device parts	Slimline media device
IDE drive 2 (3rd media bay from the top)		Un-P4-D3 (logical location Un-P1-T12-L1)		Removable media device parts	Slimline media device
Control panel					
Control panel (bottom media bay)		Un-D1		28E5, 250C, 247B	Control panel
Temperature sensor		Un-D1		28E5	Control panel
Server firmware					
Server firmware		Un-Y1			

Input/output adapter (IOA) assignment rules for i5/OS

The following table provides information necessary to identify the input/output processor (IOP) to which IOAs are assigned. The left column indicates the bridge set in which IOA assignment is allowed. Use the right column to determine the IOP to which an IOA is assigned. The first position in the list must be an IOP. The remaining positions might be IOPs or IOAs. IOAs are assigned to the first IOP located to their left in the list. Although IOAs can be manually reassigned using system service tools (SST)/dedicated service tools (DST), the IOA assignments return to the default order after each initial program load (IPL).

Table 8. 9405-520, 9406-520 with integrated HSL ports

Multi-adapter bridge domain / Peripheral Component Interconnect (PCI) bridge set	IOA assignment rules
PHB0	
C6, C3, C5	C6, C3, embedded SCSI, C5
PHB2	
C1, C2, C4	C1, C2, embedded Ethernet, C4

Table 9. Model 9407-515, 9405-520 9406-520, and 9406-525 with HSL/RIO ports located on HSL/RIO card

Multi-adapter bridge domain / Peripheral Component Interconnect (PCI) bridge set	IOA assignment rules
PHB0	
C1, C2	C1, C2, embedded Ethernet
PHB2 (high speed double data rate)	
C4	C4 (IOPless IOAs only)
PHB3	
C6, C3, C5	C6, C3, embedded SCSI, C5

Locations — model 55x and OpenPower 720

Use this information to help you map a location code to a position on the server for the 9133-55A, 9406-550, 9113-550, and OpenPower 720 models.

Note: The known logical location codes for this unit are listed next to the corresponding physical location in the following information. If you are working with a logical location code for this unit and it is not listed in the following information, contact your next level of support.

The following diagrams show field replaceable unit (FRU) layout in the system. Use these diagrams with the following tables.

If you need address information, refer to “Addresses – model 55x and OpenPower 720” on page 140.

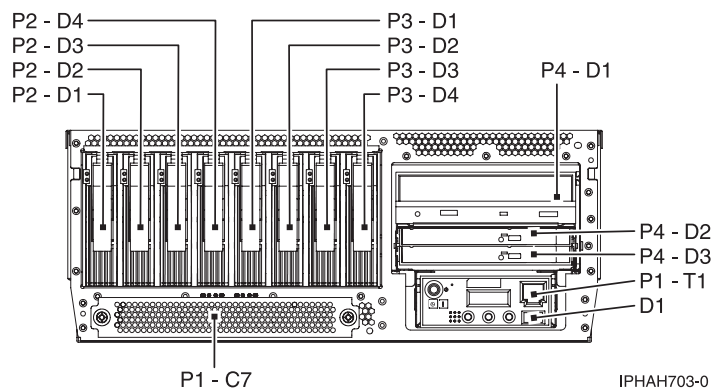
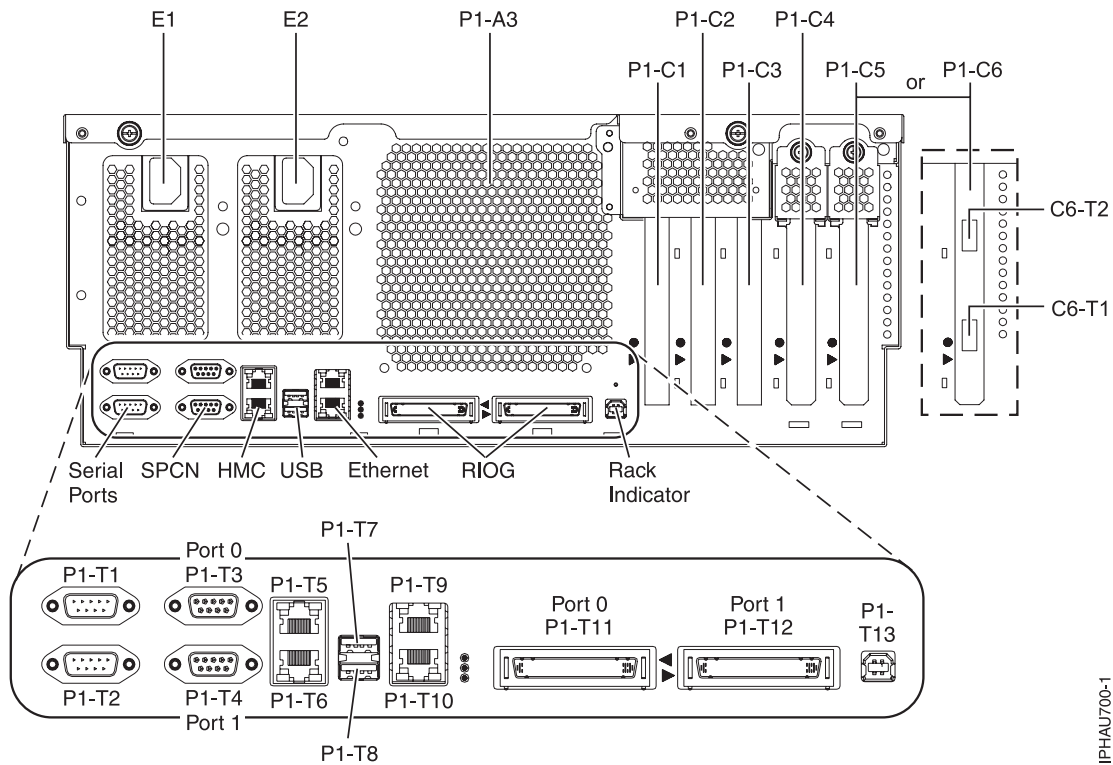


Figure 25. Front view of the system



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Figure 26. Back view of the system with 2 RIO/HSL ports on the planar and 1 bus card slot. Bus card is installed, port 1 is C6-T1 (closest to board) and port 0 is C6-T2 (towards the top of the card).

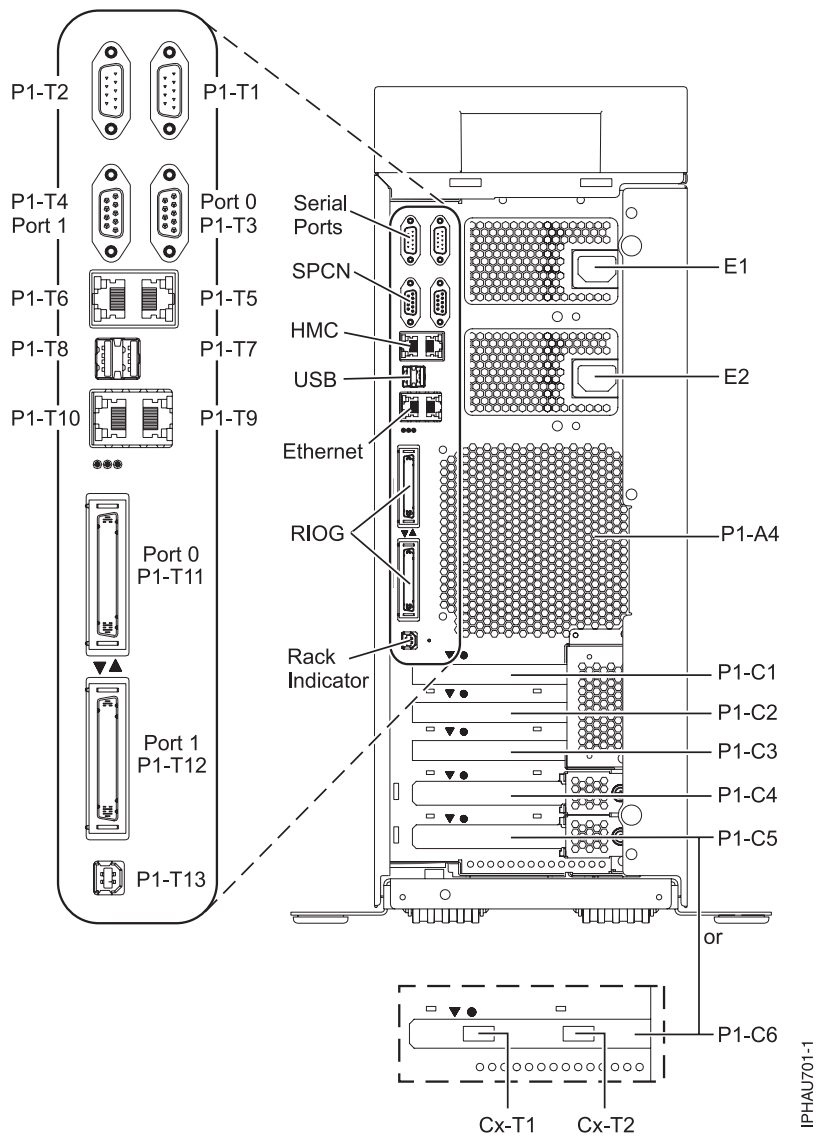
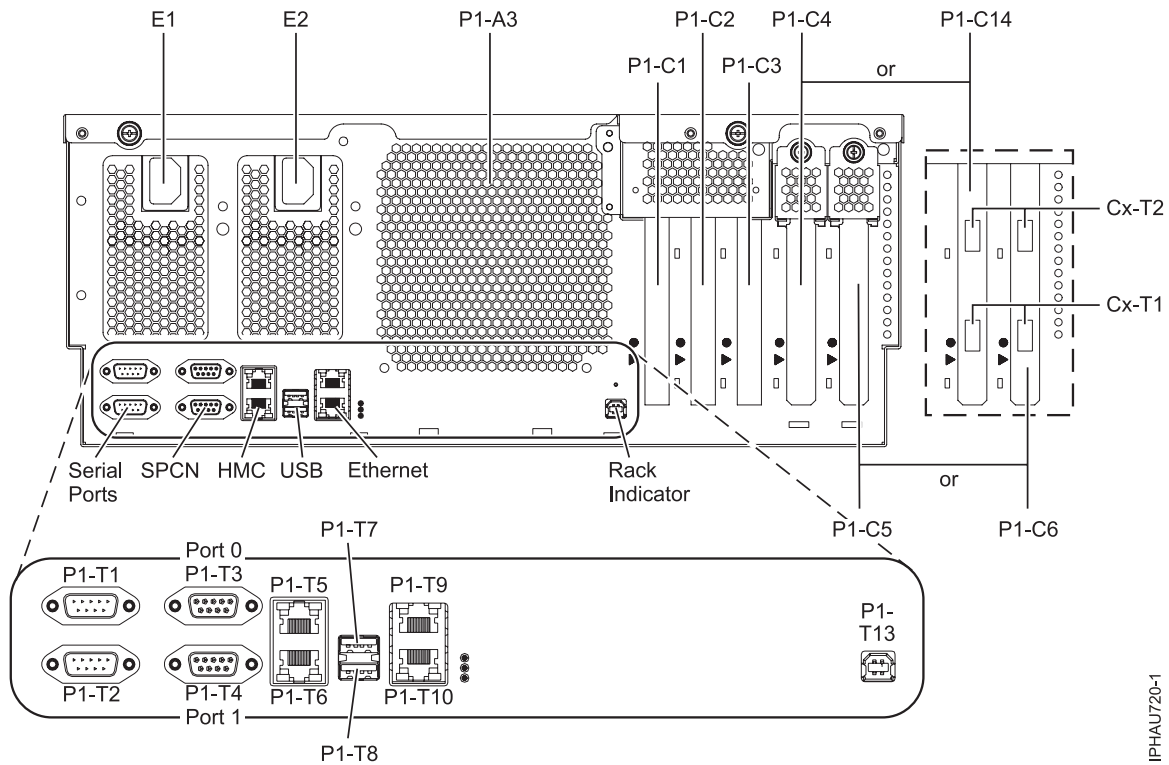


Figure 27. Back view of the stand-alone system with 2 RIO/HSL ports on the planar and 1 bus card slot. Bus card is installed, port 1 is C6-T1 (closest to board) and port 0 is C6-T2 (towards the top of the card).



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Figure 28. Back view of the system with no RIO/HSL ports on the planar, but has 2 bus card slots (C6 and C14). When bus card is installed port 1 is Cx-T1 (closest to board) and port 0 is Cx-T2 (towards the top of the card).

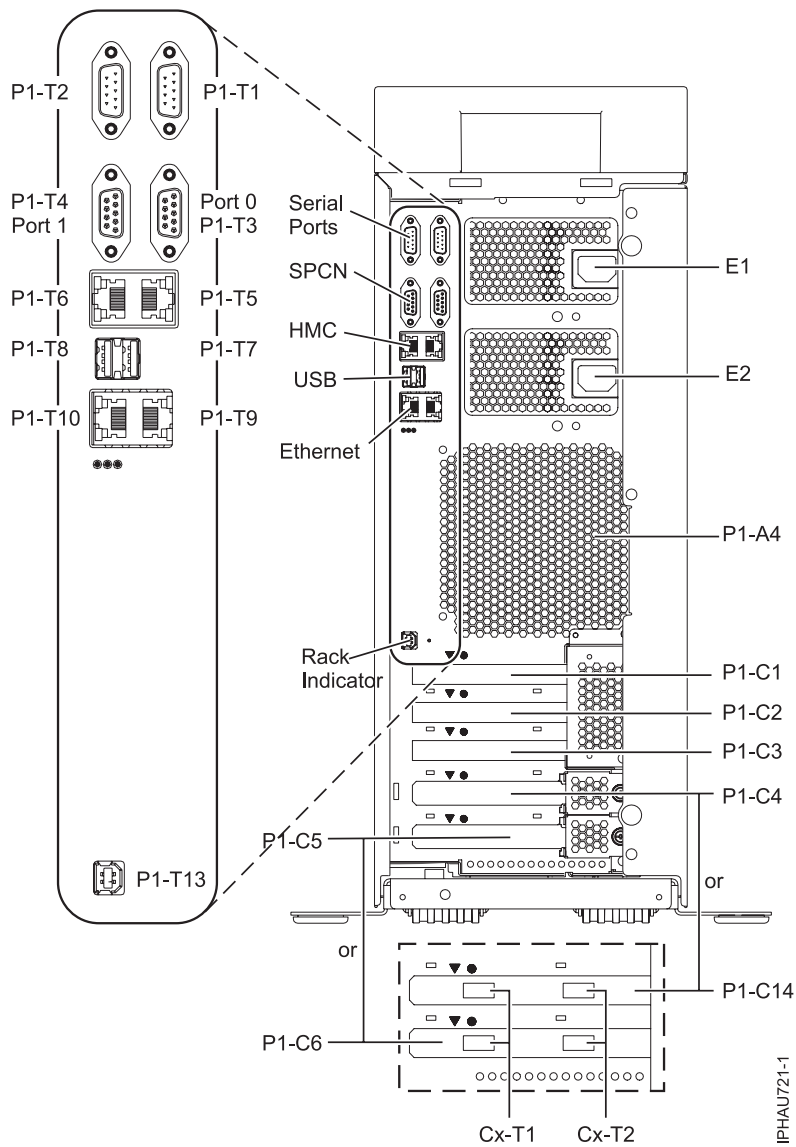


Figure 29. Back view of the stand-alone system with no RIO/HSL ports on the planar, but has 2 bus card slots (C6 and C14). When bus card is installed port 1 is Cx-T1 (closest to board) and port 0 is Cx-T2 (towards the top of the card).

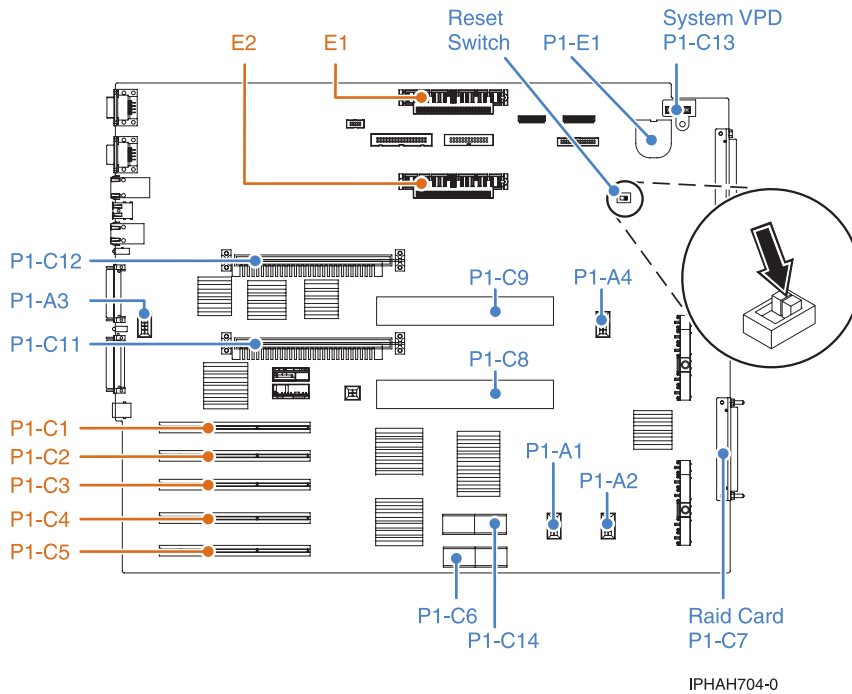


Figure 30. Top view of the system (including service processor reset switch)

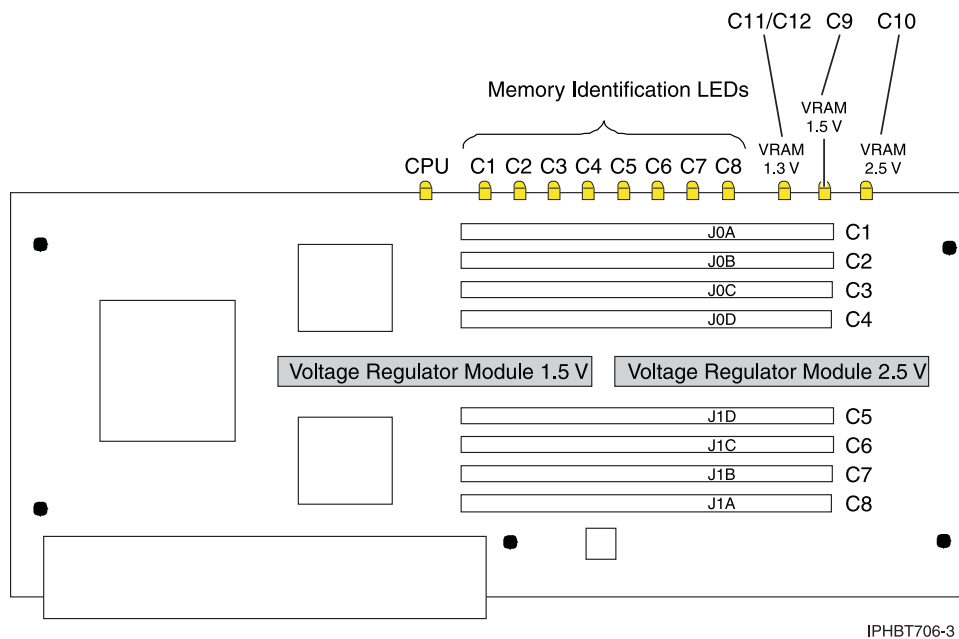


Figure 31. Memory module locations on the processor card

The following table provides location codes for parts that make up the server.

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.

Table 10. FRU locations and failing components

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
System unit		Un			
Fans					
PCI adapters fan 1		Un-A1	Yes	Part assembly diagrams	Fans
PCI adapters fan 2		Un-A2	Yes	Part assembly diagrams	Fans
Processor fan 1		Un-A3	Yes	Part assembly diagrams	Fans
Processor fan 2		Un-A4	Yes	Part assembly diagrams	Fans
Power supplies					
Power supply 1	PWRSPLY	Un-E1	Yes	51BA	Power supply
Power supply 2	PWRSPLY	Un-E2	Yes	51BA	Power supply
Backplanes					

Table 10. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
System backplane <ul style="list-style-type: none"> • SPCN • Card enclosure or backplane • Multi-adapter bridge (all) • Service processor • RIO Hub/HSL NIC • RIO/HSL I/O Bridge • RIO/HSL link • Ethernet controller • USB controller (AIX or Linux only) • IDE bridge (AIX or Linux only) • SCSI controller • Logic oscillator • InfiniBand host channel adapter 	HCA HSL_LNK MA_BRDG MABRCFG MASBUS NODEPL PIOCARD PPCITWR PRI_PCI SI_PHB SVCPROC SIIOADP SYSBKPL STORIOA TWRBKPL TWRCARD	Un-P1	Yes	28EC	System backplane
SCSI controller 0		Un-P1-T14			
SCSI controller 1		Un-P1-T15			
IDE controller		Un-P1-T16			
Time-of-day battery		Un-P1-E1		Power parts	Service processor time-of-day battery
Disk drive (1 - 4) backplane		Un-P2 (logical location Un-P1-T14-L15-L0)	Yes	28F6 28F7 292C 292E	Disk drive backplane

Table 10. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Disk drive (5 - 8) backplane		Un-P3 (logical location Un-P1-T15-L15-L0)	Yes	28F6 28F7 292C 292E	Disk drive backplane
Passthru card		Connects to internal SCSI busses			
Media drive backplane		Un-P4	Yes	28D1 291E	Media device enclosure
System backplane ports					
system port 1		Un-P1-T1			
S1 system port (front of control panel)		Un-P1-T1			
system port 2		Un-P1-T2			
SPCN 0 (upper connector)		Un-P1-T3			
SPCN 1 (lower connector)		Un-P1-T4			
HMC 1 (upper connector)		Un-P1-T5			
HMC 2 (lower connector)		Un-P1-T6			
USB port 0 (upper connector)		Un-P1-T7			
USB port 1 (lower connector)		Un-P1-T8			
Ethernet port A (0)		Un-P1-T9			
Ethernet port B (1)		Un-P1-T10			
RIO/HSL Port 0, left		Un-P1-T11, not available on 9133-55A			
RIO/HSL Port 1, right		Un-P1-T12, not available on 9133-55A			
Rack indicator		Un-P1-T13			
Processor and processor regulator					
Processor card 1		Un-P1-C9	Yes	26F0 26F1 5237 8312	

Table 10. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Processor card 2		Un-P1-C8	Yes	26F0 26F1 5237 8312	
Voltage regulator 1.5 V on Processor card 2		Un-P1-C8-C9	Yes	Power parts	Voltage regulator modules
Voltage regulator 2.5 V/1.8 V on Processor card 2		Un-P1-C8-C10	Yes	Power parts	Voltage regulator modules
Voltage regulator 1.5 V on Processor card 1		Un-P1-C9-C9	Yes	Power parts	Voltage regulator modules
Voltage regulator 2.5 V/1.8 V on Processor card 1		Un-P1-C9-C10	Yes	Power parts	Voltage regulator modules
Voltage regulator 1.2 V for Processor card 2		Un-P1-C11	Yes	Power parts	Voltage regulator modules
Voltage regulator 1.2 V for Processor card 1		Un-P1-C12	Yes	Power parts	Voltage regulator modules
VPD card		Un-P1-C13		System parts	VPD card
Adapters					
PCI adapter in slot 1	PIOCARD MASBUS SLOTERR	Un-P1-C1	Yes	System parts	PCI adapter
PCI adapter in slot 2	PIOCARD MASBUS SLOTERR	Un-P1-C2	Yes	System parts	PCI adapter
PCI adapter in slot 3	PIOCARD MASBUS SLOTERR	Un-P1-C3	Yes	System parts	PCI adapter
PCI adapter in slot 4	PIOCARD MASBUS SLOTERR	Un-P1-C4	Yes	System parts	PCI adapter

Table 10. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
PCI adapter in slot 5	PIOCARD MASBUS SLOTERR	Un-P1-C5	Yes	System parts	PCI adapter
GX adapter card	SIIOADP SIADPCD	Un-P1-C6	Yes	1806 1807	RIO/HSL adapter card
GX adapter card port 1 (bottom)		Un-P1-C6-T1	Yes		RIO/HSL cables concurrent
GX adapter card port 0 (top)		Un-P1-C6-T2	Yes		RIO/HSL cables concurrent
GX adapter card	SIIOADP SIADPCD	Un-P1-C14	Yes	1806 1807	RIO/HSL adapter card
GX adapter card port 1 (bottom)		Un-P1-C14-T1	Yes		RIO/HSL cables concurrent
GX adapter card port 0 (top)		Un-P1-C14-T2	Yes		RIO/HSL cables concurrent
RAID enablement card		Un-P1-C7	Yes	5709	RAID enablement card
PCI bridge set 1	BRDGSET BRDGST1	Un-P1 Un-P1-C1 Un-P1-C2			Replace the system backplane and cards using the removal and replacement procedures corresponding to the locations indicated.
PCI bridge set 2	BRDGSET BRDGST2	Un-P1 Un-P1-C4 Un-P1-C5			Replace the system backplane and cards using the removal and replacement procedures corresponding to the locations indicated.
PCI bridge set 3	BRDGSET BRDGST3	Un-P1 Un-P1-C3			
Memory modules					
Memory module 1	MEMDIMM	Un-P1-C8-C1	Yes	Memory parts	Memory modules
Memory module 2	MEMDIMM	Un-P1-C8-C2	Yes	Memory parts	Memory modules
Memory module 3	MEMDIMM	Un-P1-C8-C3	Yes	Memory parts	Memory modules
Memory module 4	MEMDIMM	Un-P1-C8-C4	Yes	Memory parts	Memory modules
Memory module 5	MEMDIMM	Un-P1-C8-C5	Yes	Memory parts	Memory modules

Table 10. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Memory module 6	MEMDIMM	Un-P1-C8-C6	Yes	Memory parts	Memory modules
Memory module 7	MEMDIMM	Un-P1-C8-C7	Yes	Memory parts	Memory modules
Memory module 8	MEMDIMM	Un-P1-C8-C8	Yes	Memory parts	Memory modules
Memory module 1	MEMDIMM	Un-P1-C9-C1	Yes	Memory parts	Memory modules
Memory module 2	MEMDIMM	Un-P1-C9-C2	Yes	Memory parts	Memory modules
Memory module 3	MEMDIMM	Un-P1-C9-C3	Yes	Memory parts	Memory modules
Memory module 4	MEMDIMM	Un-P1-C9-C4	Yes	Memory parts	Memory modules
Memory module 5	MEMDIMM	Un-P1-C9-C5	Yes	Memory parts	Memory modules
Memory module 6	MEMDIMM	Un-P1-C9-C6	Yes	Memory parts	Memory modules
Memory module 7	MEMDIMM	Un-P1-C9-C7	Yes	Memory parts	Memory modules
Memory module 8	MEMDIMM	Un-P1-C9-C8	Yes	Memory parts	Memory modules
Device physical locations					
Disk drive 1		Un-P2-D1 (logical location Un-P1-T14-L8-L0 or Un-P1-Cn-Tn-L8-L0 ¹)	Yes	Disk unit parts	Disk drive
Disk drive 2		Un-P2-D2 (logical location Un-P1-T14-L5-L0 or Un-P1-Cn-Tn-L5-L0 ¹)	Yes	Disk unit parts	Disk drive
Disk drive 3		Un-P2-D3 (logical location Un-P1-T14-L4-L0 or Un-P1-Cn-Tn-L4-L0 ¹)	Yes	Disk unit parts	Disk drive
Disk drive 4		Un-P2-D4 (logical location Un-P1-T14-L3-L0 or Un-P1-Cn-Tn-L3-L0 ¹)	Yes	Disk unit parts	Disk drive
Disk drive 5		Un-P3-D1 (logical location Un-P1-T15-L8-L0)	Yes	Disk unit parts	Disk drive

Table 10. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Disk drive 6		Un-P3-D2 (logical location Un-P1-T15-L5-L0)	Yes	Disk unit parts	Disk drive
Disk drive 7		Un-P3-D3 (logical location Un-P1-T15-L4-L0)	Yes	Disk unit parts	Disk drive
Disk drive 8		Un-P3-D4 (logical location Un-P1-T15-L3-L0)	Yes	Disk unit parts	Disk drive
SCSI device		Un-P4-D1 (logical location Un-P1-T14-L0-L0 with RPA partition and Un-P1-T14-L7-L0 with System i [®] partition)		Removable media device parts	Media device
IDE device 1		Un-P4-D2 (logical location Un-P1-T14-L1-L0 with RPA partition and Un-P1-T14-L6-L0 with System i partition)		Removable media device parts	Media device
IDE device 2		Un-P4-D3		Removable media device parts	Media device
¹ A logical location code with the form of Un-P1-Cn-Tn-Ln-Ln indicates that the disk is attached to a disk controller on a PCI adapter. Cn identifies the card slot of the PCI adapter. Tn identifies the port on the PCI adapter.					
Control panel					
Control panel		Un-D1		28E5, 250C	Control panel and signal cable
Temperature sensor		Un-D1		28E5seem	Control panel and signal cable

Input/output adapter (IOA) assignment rules for i5/OS

The following table provides information necessary to identify the input/output processor (IOP) to which IOAs are assigned. The left column indicates the bridge set in which IOA assignment is allowed. Use the right column to determine the IOP to which an IOA is assigned. The first position in the list must be an IOP. The remaining positions might be IOPs or IOAs. IOAs are assigned to the first IOP located to their left in the list. Although IOAs can be manually reassigned using system service tools (SST)/dedicated service tools (DST), the IOA assignments return to the default order after each initial program load (IPL).

Table 11. Model 550 adapter placement

Multi-adapter bridge domain / Peripheral Component Interconnect (PCI) bridge set	IOA assignment rules
PHB0	
C1, C2	C1, Embedded Ethernet, embedded SCSI, C2

Table 11. Model 550 adapter placement (continued)

Multi-adapter bridge domain / Peripheral Component Interconnect (PCI) bridge set	IOA assignment rules
PHB2	
C3, C4, C5	C3, C4, C5

Locations — model 561 and 570

Map location codes to hardware.

Mapping physical location codes

Note: The known logical location codes for this unit are listed next to the corresponding physical location in the following information. If you are working with a logical location code for this unit and it is not listed in the following information, contact your next level of support.

For address information, see “Addresses – model 561 and 570” on page 141.

Use the following illustrations to help you map a location code to a position on the server.

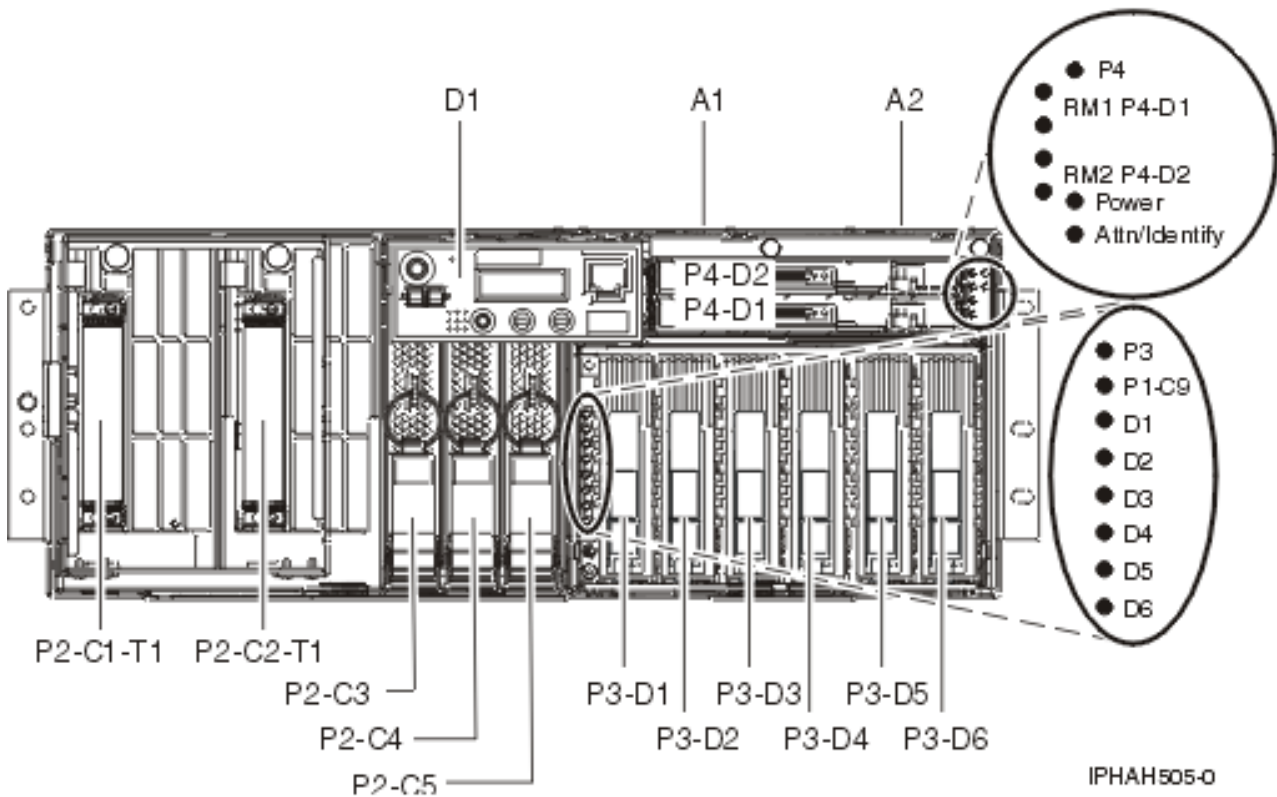


Figure 32. Front view of the system unit. P4-D1 and P4-D2 positions are for a 561. The 570 only has the top slot, the P4-D1 location.

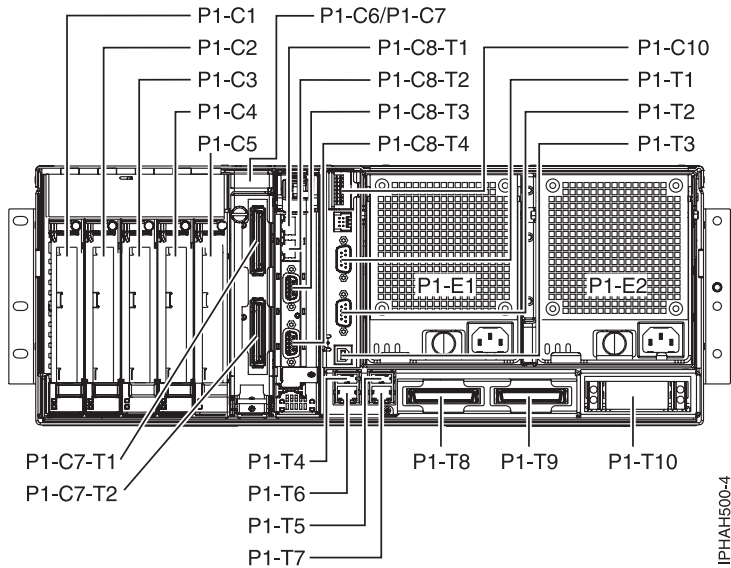


Figure 33. Back view of the system unit

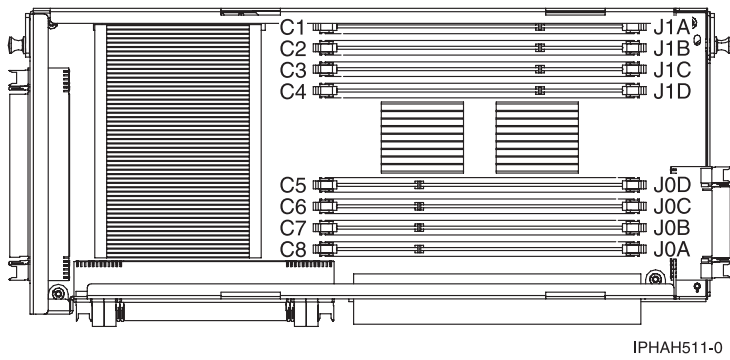


Figure 34. Memory module locations on the processor card (Un-P2-Cx)

Use the following illustration to map a node location when you are working with a multiple node installation. All of the nodes have the same location codes inside the system unit; only the serial number is different (Utttt.mmm.ssssss-).

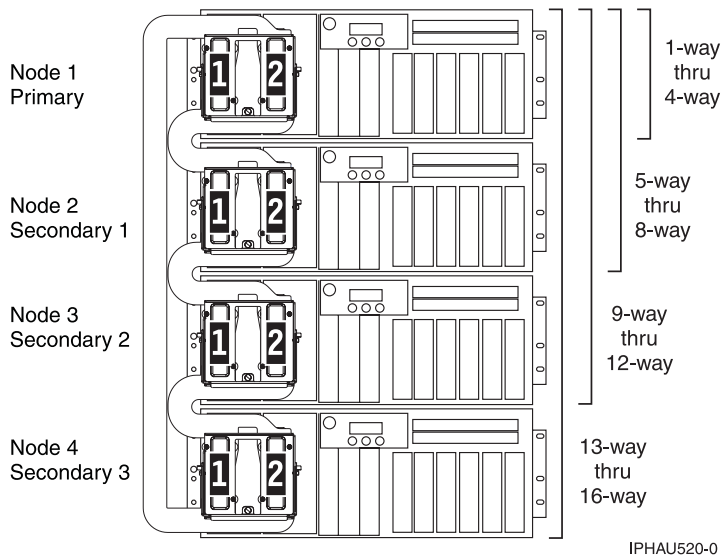


Figure 35. Multiple node locations with SMP processor cable shown

Use the following illustration to help you identify parts of the control panel.

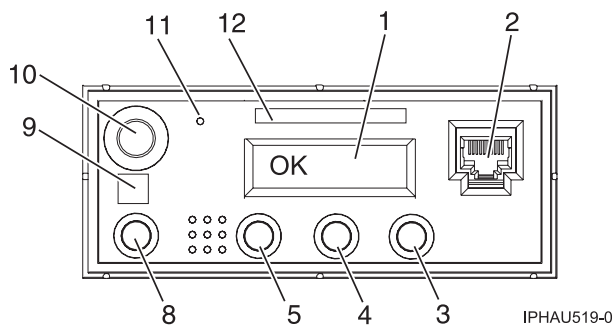


Figure 36. A view of the front of the control panel.

Number	Name	Description
1	Display	Displays current status of system startup, or diagnostic information in the event of a hardware problem.
2	Front serial port	Port uses RJ-45 connector. Use to plug in external devices at the front of the system unit.
3	Increment up	Scrolls the information in the display up.
4	Enter	Enter
5	Increment down	Scrolls the information in the display down.
8	System reset button	Resets the system
9	Power LED	Blinking - When connected to the power source (System is in standby mode). Solid - When power button has been pressed. Note: There is approximately a 30-second transition period from the time the power-on button is pressed to when the power LED goes from blinking to on solid. During the transition period, you may observe the blinking intervals speed up.

Number	Name	Description
10	Power-on button	Turns the system power on and off.
11	Service processor reset switch (pinhole)	Service Personnel Use
12	Serial number label	Displays the system serial number

The following table contains location codes for the parts that make up the server.

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.

Table 12. Physical location codes

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
System unit		Un		NA	NA
Fans					
Fan 1		Un-A1	Yes	Part assembly diagrams	Fan
Fan 2		Un-A2	Yes	Part assembly diagrams	Fan
Power supplies					
Power supply 1	PWRSPLY	Un-E1	Yes	Power parts	Power supply
Power supply 2	PWRSPLY	Un-E2	Yes	Power parts	Power supply
Backplanes					
Input/output backplane with embedded: <ul style="list-style-type: none"> • RIO Hub/HSL NIC • RIO/HSL link • Ethernet controller • USB controller (AIX or Linux only) • IDE bridge (AIX or Linux only) • SCSI controllers (2) • Logic oscillator 	CLCKMOD FRPORT HSL_LNK IOBRDG IO_HUB MA_BRDG MABRCFG MASBUSP PCISYS PRI_PCI PIOCARD SI_PHB SIOADP SICNTRL SYSBKPL SPBUS STORIOA TOPORT	Un-P1	Yes	28DA 7733 (used only with 2.2 GHz processor)	I/O backplane
SCSI controller 1–bus 0		Un-P1-T12			
SCSI controller 1–bus 1		Un-P1-T13			
SCSI controller 2–bus 0		Un-P1-T14			
IDE controller		Un-P1-T15			

Table 12. Physical location codes (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Passthru card		Provides connection for VPD card, system ports, and SPCN		25F8	
I/O backplane assembly	NODEPL	Un-P1	Yes	28DA 7733 (used only with 2.2 GHz processor)	I/O backplane
System processor backplane	MEMBRD	Un-P2		27AE	System backplane
Disk drive backplane		Un-P3	Yes	28DB	Disk drive enclosure
SCSI/IDE card		Un-P3-C1		180A	SCSI-IDE converter card
Media drive backplane		Un-P4	Yes	28DC	Media device enclosure
Ports					
system port 2 (back of system unit)		Un-P1-T1			NA
system port 1 (back of system unit)		Un-P1-T2			NA
S1 system port (front of control panel)		Un-P1-T2			NA
Rack indicator connector		Un-P1-T3			NA
Integrated 2-port USB port 1 (AIX or Linux only)		Un-P1-T4			NA
Integrated 2-port USB port 2 (AIX or Linux only)		Un-P1-T5			NA
Integrated dual 1 GB Ethernet controller-port 1		Un-P1-T6			NA
Integrated dual 1 GB Ethernet controller-port 2		Un-P1-T7			NA
RIO/HSL left connector	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-P1-T8	Yes	"External cables" on page 410	RIO/HSL cables (concurrent)

Table 12. Physical location codes (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
RIO/HSL right connector	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-P1-T9	Yes	"External cables" on page 410	RIO/HSL cables (concurrent)
System cable connector		Un-P1-T10			NA
Processor and processor regulator					
Processor card 1	MEMCTLR ANYPROC	Un-P2-C1	Yes	Processor parts	System processor
Processor card 2	MEMCTLR ANYPROC	Un-P2-C2	Yes	Processor parts	System processor
SMP processor cable		Un-P2-C1-T1 and Un-P2-C2-T1		"Model 561 and 570 cables" on page 387	SMP processor cable
Temperature sensor		Un -P2-C1 and Un -P2-C2		Processor parts	System processor
Voltage regulator 1		Un-P2-C3	Yes	Power parts	Voltage regulator card assembly
Voltage regulator 2		Un-P2-C4	Yes	Power parts	Voltage regulator card assembly
Voltage regulator 3		Un-P2-C5	Yes	Power parts	Voltage regulator card assembly
VPD card		Un-P1-T10		VPD parts	VPD card
Service processor					
Service processor card	SVCPROC	Un-P1-C8	Yes	28EA	Service processor assembly
Service processor cable	I2CBUS	Un-P1-T10		"Model 561 and 570 cables" on page 387	Service processor cable
Time-of-day (TOD)		Un -P1-C8		28EA	Service processor assembly
Time-of-day Battery	TOD_BAT	Un-P1-C8-E1		Power parts	Service processor time-of-day battery
HMC 1 connector		Un-P1-C8-T1			NA
HMC 2 connector		Un-P1-C8-T2			NA
SPCN 0 connector		Un-P1-C8-T3			NA
SPCN 1 connector		Un-P1-C8-T4			NA
Adapters					
PCI adapter in slot 1	PIOCARD MASBUS SLOTERR	Un-P1-C1	Yes	"System parts" on page 277	PCI adapter
PCI adapter in slot 2	PIOCARD MASBUS SLOTERR	Un-P1-C2	Yes	"System parts" on page 277	PCI adapter

Table 12. Physical location codes (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
PCI adapter in slot 3	PIOCARD MASBUS SLOTERR	Un-P1-C3	Yes	"System parts" on page 277	PCI adapter
PCI adapter in slot 4	PIOCARD MASBUS SLOTERR	Un-P1-C4	Yes	"System parts" on page 277	PCI adapter
PCI adapter in slot 5	PIOCARD MASBUS SLOTERR	Un-P1-C5	Yes	"System parts" on page 277	PCI adapter
PCI adapter in slot 6	PIOCARD MASBUS SLOTERR	Un-P1-C6	Yes	"System parts" on page 277	PCI adapter
RIO/HSL adapter/ InfiniBand host channel adapter ink	SI_CARD SICNTRL HCA	Un-P1-C7	Yes	"System parts" on page 277	RIO/HSL adapter/ InfiniBand host channel adapter
RIO/HSL adapter connector	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-P1-C7-T1	Yes	"External cables" on page 410	RIO/HSL cables (concurrent)
RIO/HSL adapter connector	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-P1-C7-T2	Yes	"External cables" on page 410	RIO/HSL cables (concurrent)
Dual channel SCSI RAID enablement card		Un-P1-C9		5709	RAID enablement card
PCI bridge set 1	BRDGSET BRDGST1	Un-P1		28DA 7733 (used only with 2.2 GHz processor)	I/O backplane
PCI bridge set 2	BRDGSET BRDGST2	Un-P1 Un-P1-C1 Un-P1-C2			Replace the I/O backplane and cards using the removal and replacement procedures corresponding to the locations indicated.
PCI bridge set 3	BRDGSET BRDGST3	Un-P1 Un-P1-C3 Un-P1-C4 Un-P1-C5 Un-P1-C6			Replace the I/O backplane and cards using the removal and replacement procedures corresponding to the locations indicated.
Memory modules					

Table 12. Physical location codes (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Memory module 1	MEMDIMM	Un-P2-C1-C1	Yes	Memory parts	Memory module
Memory module 2	MEMDIMM	Un-P2-C1-C2	Yes	Memory parts	Memory module
Memory module 3	MEMDIMM	Un-P2-C1-C3	Yes	Memory parts	Memory module
Memory module 4	MEMDIMM	Un-P2-C1-C4	Yes	Memory parts	Memory module
Memory module 5	MEMDIMM	Un-P2-C1-C5	Yes	Memory parts	Memory module
Memory module 6	MEMDIMM	Un-P2-C1-C6	Yes	Memory parts	Memory module
Memory module 7	MEMDIMM	Un-P2-C1-C7	Yes	Memory parts	Memory module
Memory module 8	MEMDIMM	Un-P2-C1-C8	Yes	Memory parts	Memory module
Memory module 1	MEMDIMM	Un-P2-C2-C1	Yes	Memory parts	Memory module
Memory module 2	MEMDIMM	Un-P2-C2-C2	Yes	Memory parts	Memory module
Memory module 3	MEMDIMM	Un-P2-C2-C3	Yes	Memory parts	Memory module
Memory module 4	MEMDIMM	Un-P2-C2-C4	Yes	Memory parts	Memory module
Memory module 5	MEMDIMM	Un-P2-C2-C5	Yes	Memory parts	Memory module
Memory module 6	MEMDIMM	Un-P2-C2-C6	Yes	Memory parts	Memory module
Memory module 7	MEMDIMM	Un-P2-C2-C7	Yes	Memory parts	Memory module
Memory module 8	MEMDIMM	Un-P2-C2-C8	Yes	Memory parts	Memory module
<p>Note: First quad of memory modules is plugged into memory module slots P2-Cx-C1, P2-Cx-C3, P2-Cx-C6, and P2-Cx-C8. Second quad of memory modules is plugged into memory module slots P2-Cx-C2, P2-Cx-C4, P2-Cx-C5, and P2-Cx-C7.</p>					
<p>Device physical locations</p>					
Disk drive 1		Un-P3-D1 (logical location with RAID card Un-P1-T13-L5-L0, logical location without RAID card Un-P1-T14-L5-L0)	Yes	Disk unit parts	Disk drive

Table 12. Physical location codes (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Disk drive 2		Un-P3-D2 (logical location with RAID card Un-P1-T13-L4-L0, logical location without RAID card Un-P1-T14-L4-L0)	Yes	Disk unit parts	Disk drive
Disk drive 3		Un-P3-D3 (logical location with RAID card Un-P1-T13-L3-L0, logical location without RAID card Un-P1-T14-L3-L0)	Yes	Disk unit parts	Disk drive
Disk drive 4		Un-P3-D4 (logical location with RAID card Un-P1-T12-L5-L0, logical location without RAID card Un-P1-T12-L5-L0)	Yes	Disk unit parts	Disk drive
Disk drive 5		Un-P3-D5 (logical location with RAID card Un-P1-T12-L4-L0, logical location without RAID card Un-P1-T12-L4-L0)	Yes	Disk unit parts	Disk drive
Disk drive 6		Un-P3-D6 (logical location with RAID card Un-P1-T12-L3-L0, logical location without RAID card Un-P1-T12-L3-L0)	Yes	Disk unit parts	Disk drive
IDE drive 1		Un-P4-D1	Yes	Removable media device parts	Media device
IDE drive 2 for 570		Un-P4-D2	Yes	Removable media device parts	Media device
Control panel					
Control panel (bottom media bay)		Un -D1		28D4	Control panel
Server firmware					
Server firmware		Un-Y1			

Input/output adapter (IOA) assignment rules for i5/OS

The following table provides information necessary to identify the input/output processor (IOP) to which IOAs are assigned. The left column indicates the bridge set in which IOA assignment is allowed. Use the right column to determine the IOP to which an IOA is assigned. The first position in the list must be an IOP. The remaining positions might be IOPs or IOAs. IOAs are assigned to the first IOP located to their left in the list. Although IOAs can be manually reassigned using system service tools (SST)/dedicated service tools (DST), the IOA assignments return to the default order after each initial program load (IPL).

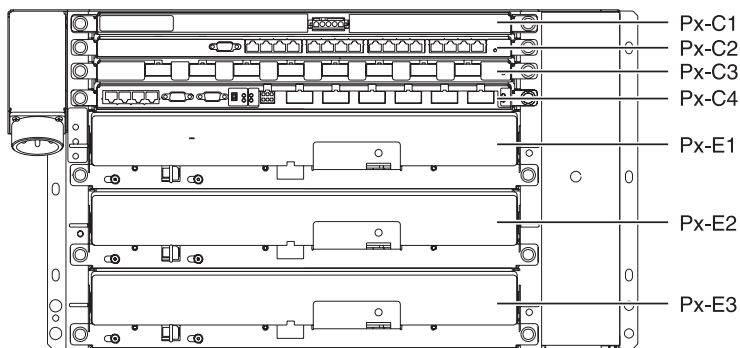
Multi-adapter bridge domain / Peripheral Component Interconnect (PCI) bridge set	IOA assignment rules
Adapters embedded in -P1 planar (no IOP)	Embedded SCSI, embedded Ethernet
C1 - C2	Embedded SCSI, C2
C3 - C6	C4, C5, C6

Locations — model 575

Expansion unit part locations.

Note: The known logical location codes for this unit are listed next to the corresponding physical location in the following information. If you are working with a logical location code for this unit and it is not listed in the following information, contact your next level of support.

The following diagrams show field replaceable unit (FRU) layout in the system. Use these diagrams with the following tables. To find bulk power assembly (BPA) location information for the 5792 rack, see “Locations — model 59x” on page 72.



IPHAU580-0

Figure 37. Bulk power assembly (BPA)

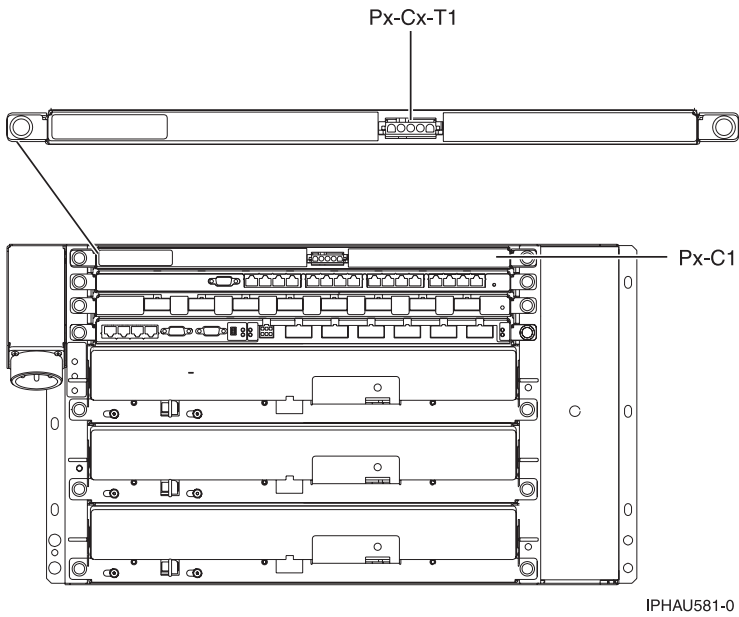


Figure 38. Bulk power jumper (BPJ)

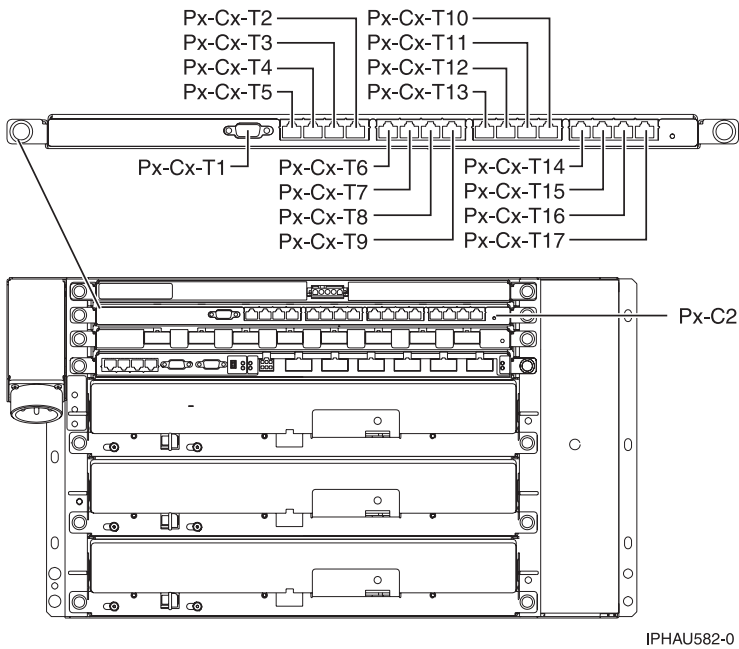


Figure 39. Bulk power hub (BPH)

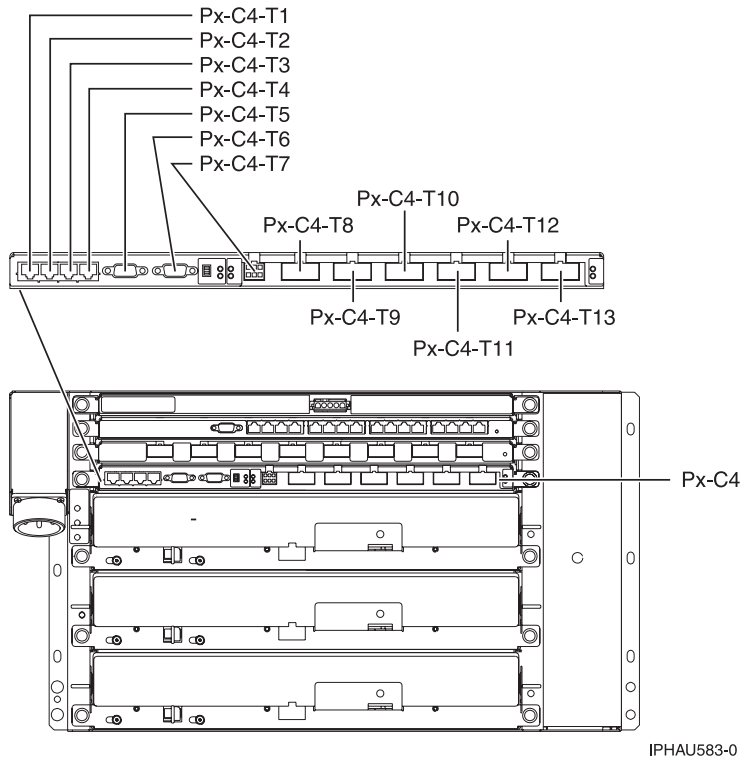


Figure 40. Bulk power controller (BPC)

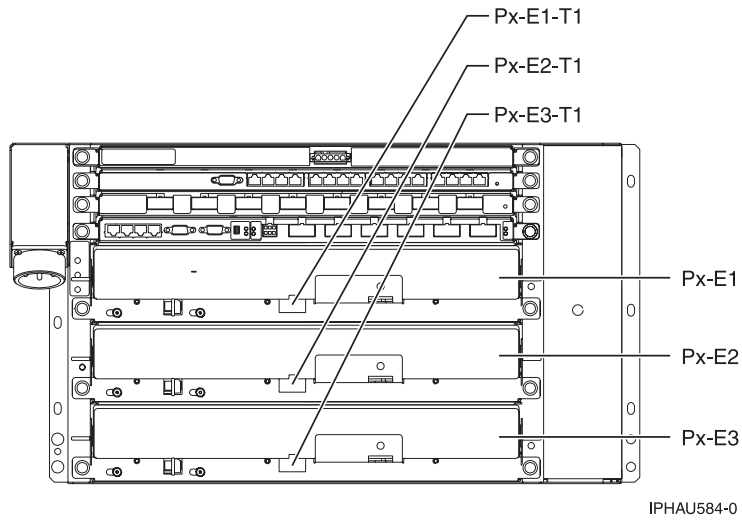


Figure 41. Bulk power regulator (BPR)

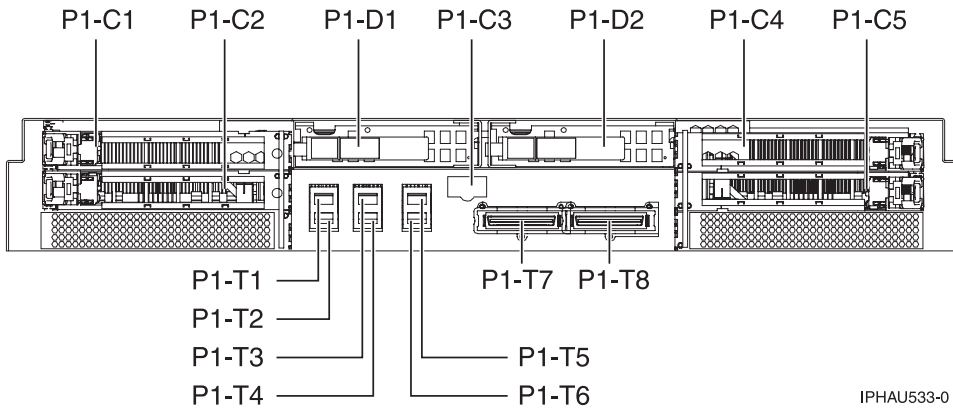


Figure 42. Back view of the system with four PCI adapters installed

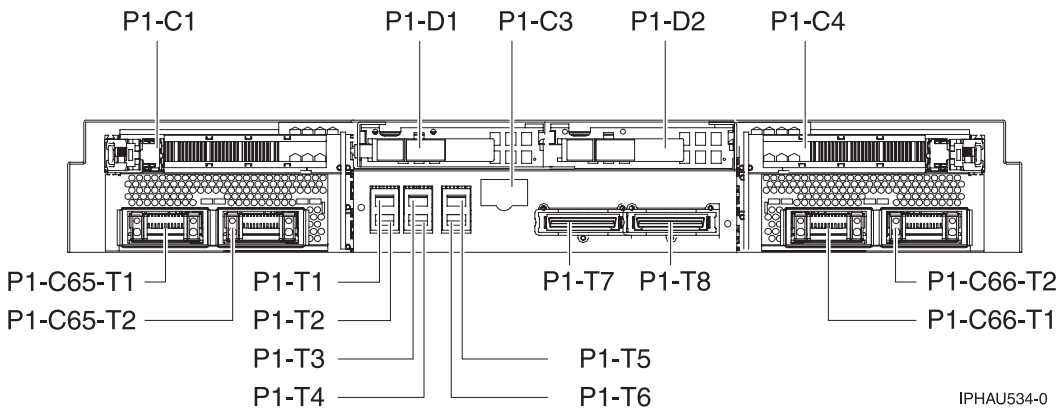


Figure 43. Back view of the system with two PCI adapters and two GX adapters installed

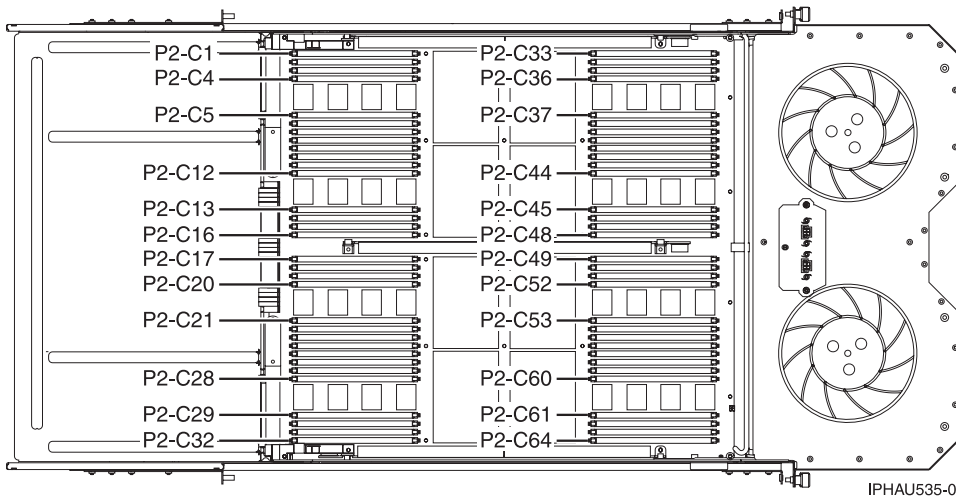


Figure 44. Top view of the system

The following table provides location codes for parts that make up the server.

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.

Table 13. Bulk power assembly (BPA) FRU locations and failing components

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
System unit bulk power assembly (BPA)		Un		
Bulk power jumper (BPJ)				
Bulk power jumper (BPJ) 1A (front)		Un-P1-C1	Power parts	"Removing and replacing parts in the model 575" on page 473
Bulk power jumper (BPJ) 1A connector J00		Un-P1-C1-T1		
Bulk power jumper (BPJ) 1B (back)		Un-P2-C1	Power parts	"Removing and replacing parts in the model 575" on page 473
Bulk power jumper (BPJ) 1B connector J00		Un-P2-C1-T1		
Bulk power hub (BPH) Where:				
<ul style="list-style-type: none"> • Bulk power hub (BPH) A (front) is Un-P1-C2 • Bulk power hub (BPH) B (back) is Un-P2-C2 				
Bulk power hub (BPH) x		Un-Px-C2	Power parts	"Removing and replacing parts in the model 575" on page 473
Bulk power hub (BPH) x connector J00		Un-Px-C2-T1		
Bulk power hub (BPH) x connector J01		Un-Px-C2-T2		
Bulk power hub (BPH) x connector J02		Un-Px-C2-T3		
Bulk power hub (BPH) x connector J03		Un-Px-C2-T4		
Bulk power hub (BPH) x connector J04		Un-Px-C2-T5		
Bulk power hub (BPH) x connector J05		Un-Px-C2-T6		
Bulk power hub (BPH) x connector J06		Un-Px-C2-T7		
Bulk power hub (BPH) x connector J07		Un-Px-C2-T8		
Bulk power hub (BPH) x connector J08		Un-Px-C2-T9		

Table 13. Bulk power assembly (BPA) FRU locations and failing components (continued)

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
Bulk power hub (BPH) <i>x</i> connector J09		Un-Px-C2-T10		
Bulk power hub (BPH) <i>x</i> connector J10		Un-Px-C2-T11		
Bulk power hub (BPH) <i>x</i> connector J11		Un-Px-C2-T12		
Bulk power hub (BPH) <i>x</i> connector J12		Un-Px-C2-T13		
Bulk power hub (BPH) <i>x</i> connector J13		Un-Px-C2-T14		
Bulk power hub (BPH) <i>x</i> connector J14		Un-Px-C2-T15		
Bulk power hub (BPH) <i>x</i> connector J15		Un-Px-C2-T16		
Bulk power hub (BPH) <i>x</i> connector J16		Un-Px-C2-T17		
Bulk power distribution (BPD) Where:				
<ul style="list-style-type: none"> • Bulk power distribution (BPD) 1A (front) is Un-P1-C3 • Bulk power distribution (BPD) 1B (back) is Un-P2-C3 				
Bulk power distribution (BPD) <i>x</i>		Un-Px-C3	Power parts	"Removing and replacing parts in the model 575" on page 473
Bulk power distribution (BPD) <i>x</i> connector J00		Un-Px-Cx-T1		
Bulk power distribution (BPD) <i>x</i> connector J01		Un-Px-Cx-T2		
Bulk power distribution (BPD) <i>x</i> connector J02		Un-Px-Cx-T3		
Bulk power distribution (BPD) <i>x</i> connector J03		Un-Px-Cx-T4		
Bulk power distribution (BPD) <i>x</i> connector J04		Un-Px-Cx-T5		

Table 13. Bulk power assembly (BPA) FRU locations and failing components (continued)

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
Bulk power distribution (BPD) <i>x</i> connector J05		Un-Px-Cx-T6		
Bulk power distribution (BPD) <i>n</i> connector J06		Un-Px-Cx-T7		
Bulk power distribution (BPD) <i>x</i> connector J07		Un-Px-Cx-T8		
Bulk power distribution (BPD) <i>x</i> connector J08		Un-Px-Cx-T9		
Bulk power distribution (BPD) <i>x</i> connector J09		Un-Px-Cx-T10		
Bulk power controller (BPC) Where:				
<ul style="list-style-type: none"> • Bulk power controller (BPC) A (front) is Un-P1-C4 • Bulk power controller (BPC) B (back) is Un-P2-C4 				
Bulk power controller (BPC) <i>x</i>		Un-Px-C4	Power parts	"Removing and replacing parts in the model 575" on page 473
Bulk power controller (BPC) <i>x</i> connector J00A		Un-Px-C4-T1		"Removing and replacing parts in the model 575" on page 473
Bulk power controller (BPC) <i>x</i> connector J00B		Un-Px-C4-T2		
Bulk power controller (BPC) <i>x</i> connector J00C		Un-Px-C4-T3		
Bulk power controller (BPC) <i>x</i> connector J00D		Un-Px-C4-T4		
Bulk power controller (BPC) <i>x</i> connector J01		Un-Px-C4-T5		
Bulk power controller (BPC) <i>x</i> connector J02		Un-Px-C4-T6		
Bulk power controller (BPC) <i>x</i> connector J03		Un-Px-C4-T7		

Table 13. Bulk power assembly (BPA) FRU locations and failing components (continued)

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
Bulk power controller (BPC) x connector J04		Un-Px-C4-T8		
Bulk power controller (BPC) x connector J05		Un-Px-C4-T9		
Bulk power controller (BPC) x connector J06		Un-Px-C4-T10		
Bulk power controller (BPC) x connector J07		Un-Px-C4-T11		
Bulk power controller (BPC) x connector J08		Un-Px-C4-T12		
Bulk power controller (BPC) x connector J09		Un-Px-C4-T13		
Bulk power regulator (BPR)				
Bulk power regulator (BPR) 3A (front)		Un-P1-E1	Power parts	"Removing and replacing parts in the model 575" on page 473
Bulk power regulator (BPR) 3A connector J00		Un-P1-E1-T1		
Bulk power regulator (BPR) 2A (front)		Un-P1-E2	Power parts	"Removing and replacing parts in the model 575" on page 473
Bulk power regulator (BPR) 2A connector J00		Un-P1-E2-T1		
Bulk power regulator (BPR) 1A (front)		Un-P1-E3	Power parts	"Removing and replacing parts in the model 575" on page 473
Bulk power regulator (BPR) 1A connector J00		Un-P1-E3-T1		
Bulk power regulator (BPR) 3B (back)		Un-P2-E1	Power parts	"Removing and replacing parts in the model 575" on page 473
Bulk power regulator (BPR) 3B connector J00		Un-P2-E1-T1		
Bulk power regulator (BPR) 2B (back)		Un-P2-E2	Power parts	"Removing and replacing parts in the model 575" on page 473

Table 13. Bulk power assembly (BPA) FRU locations and failing components (continued)

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
Bulk power regulator (BPR) 2B connector J00		Un-P2-E2-T1		
Bulk power regulator (BPR) 1B (back)		Un-P2-E3	Power parts	"Removing and replacing parts in the model 575" on page 473
Bulk power regulator (BPR) 1B connector J00		Un-P2-E3-T1		
Fans				
Bulk power fan (BPF) A (front)		Un-A1	Power parts	"Removing and replacing parts in the model 575" on page 473
Bulk power fan (BPF) B (back)		Un-A2	Power parts	"Removing and replacing parts in the model 575" on page 473
Emergency power off (EPO)				
Emergency power off (EPO)		Un-D1	Power parts	"Removing and replacing parts in the model 575" on page 473
Emergency power off (EPO) connector J00		Un-D1-T1		
Emergency power off (EPO) J01		Un-D1-T2		

Table 14. Processor subsystem assembly FRU locations and failing components

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
System unit		Un			
Fan					
Fan		Un-A1	Yes	Power parts	"Removing and replacing parts in the model 575" on page 473
Fan connector 1		Un-A1-T1			
Fan connector 2		Un-A1-T2			
Power supply					
Power supply		Un-E1	Yes	Power parts	"Removing and replacing parts in the model 575" on page 473
Power supply connector 1		Un-E1-T1			
Power supply connector 2		Un-E1-T2			
Backplane					

Table 14. Processor subsystem assembly FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
System backplane <ul style="list-style-type: none"> • SPCN • Multi-adapter bridge (all) • Service processor • RIO Hub/HSL NIC • RIO/HSL I/O Bridge • RIO/HSL link • Ethernet controller • SCSI controller • Logic oscillator • InfiniBand host channel adapter 	CLCKMOD HSL_LNK IO_HUB IOBRDG MA_BRDG MABRCFG MASBUS NODEPL PIOCARD PRI_PCI SI_CARD SI_PHB SIIOADP SVCPROC SYSBKPL TWRCARD HCA	Un-P1	Yes	28F0	“Removing and replacing parts in the model 575” on page 473
Time-of-day battery	TOD_BAT	Un-P1-E1		Power parts	“Removing and replacing parts in the model 575” on page 473
Processor backplane <ul style="list-style-type: none"> • System processor 	ANYPROC MEMBRD MEMCTLR	Un-P2	Yes		“Removing and replacing parts in the model 575” on page 473
System backplane ports					
Ethernet Port 1 (top left)		Un-P1-T1			
Ethernet Port 2 (bottom left)		Un-P1-T2			
Ethernet Port 3 (top middle)		Un-P1-T3			
Ethernet Port 4 (bottom middle)		Un-P1-T4			
HMC 1 (top right)		Un-P1-T5	Yes		
HMC 2 (bottom right)		Un-P1-T6	Yes		
RIO/HSL connector (left connector)		Un-P1-T7	Yes		RIO/HSL cables concurrent

Table 14. Processor subsystem assembly FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
RIO/HSL connector (right connector)		Un-P1-T8	Yes		RIO/HSL cables concurrent
Adapters					
PCI adapter in slot 1	PIOCARD MASBUS SLOTERR	Un-P1-C1	Yes	System parts	PCI adapter
PCI adapter in slot 2 Note: Un-P1-C2 and Un-P2-C65 cannot be in the system at the same time.	PIOCARD MASBUS SLOTERR	Un-P1-C2	Yes	System parts	PCI adapter
VPD card	CAPACTY PIOCARD MASBUS SLOTERR	Un-P1-C3	Yes	System parts	"Removing and replacing parts in the model 575" on page 473
PCI adapter in slot 4	PIOCARD MASBUS SLOTERR	Un-P1-C4	Yes	System parts	PCI adapter
PCI adapter in slot 5 Note: Un-P1-C5 and Un-P2-C66 cannot be in the system at the same time.	PIOCARD MASBUS SLOTERR	Un-P1-C5	Yes	System parts	PCI adapter
PCI bridge set 1	BRDGSET BRDGST1				Replace the system backplane and cards using the removal and replacement procedures corresponding to the locations indicated.
PCI bridge set 2	BRDGSET BRDGST2				Replace the system backplane and cards using the removal and replacement procedures corresponding to the locations indicated.
GX adapter Note: Un-P1-C2 and Un-P2-C65 cannot be in the system at the same time.		Un-P2-C65	Yes		"Removing and replacing parts in the model 575" on page 473
GX adapter connector port 1 (left)		Un-P2-C65-T1	Yes		

Table 14. Processor subsystem assembly FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
GX adapter connector port 0 (right)		Un-P2-C65-T2	Yes		
GX adapter Note: Un-P1-C5 and Un-P2-C66 cannot be in the system at the same time.		Un-P2-C66	Yes		"Removing and replacing parts in the model 575" on page 473
GX adapter connector port 1 (left)		Un-P2-C66-T1	Yes		
GX adapter connector port 0 (right)		Un-P2-C66-T2	Yes		
Memory modules					
Memory module 1	MEMDIMM	Un-P2-C1	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 2	MEMDIMM	Un-P2-C2	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 3	MEMDIMM	Un-P2-C3	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 4	MEMDIMM	Un-P2-C4	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 5	MEMDIMM	Un-P2-C5	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 6	MEMDIMM	Un-P2-C6	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 7	MEMDIMM	Un-P2-C7	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 8	MEMDIMM	Un-P2-C8	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 9	MEMDIMM	Un-P2-C9	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 10	MEMDIMM	Un-P2-C10	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 11	MEMDIMM	Un-P2-C11	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473

Table 14. Processor subsystem assembly FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Memory module 12	MEMDIMM	Un-P2-C12	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 13	MEMDIMM	Un-P2-C13	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 14	MEMDIMM	Un-P2-C14	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 15	MEMDIMM	Un-P2-C15	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 16	MEMDIMM	Un-P2-C16	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 17	MEMDIMM	Un-P2-C17	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 18	MEMDIMM	Un-P2-C18	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 19	MEMDIMM	Un-P2-C19	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 20	MEMDIMM	Un-P2-C20	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 21	MEMDIMM	Un-P2-C21	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 22	MEMDIMM	Un-P2-C22	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 23	MEMDIMM	Un-P2-C23	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 24	MEMDIMM	Un-P2-C24	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 25	MEMDIMM	Un-P2-C25	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 26	MEMDIMM	Un-P2-C26	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 27	MEMDIMM	Un-P2-C27	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473

Table 14. Processor subsystem assembly FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Memory module 28	MEMDIMM	Un-P2-C28	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 29	MEMDIMM	Un-P2-C29	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 30	MEMDIMM	Un-P2-C30	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 31	MEMDIMM	Un-P2-C31	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 32	MEMDIMM	Un-P2-C32	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 33	MEMDIMM	Un-P2-C33	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 34	MEMDIMM	Un-P2-C34	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 35	MEMDIMM	Un-P2-C35	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 36	MEMDIMM	Un-P2-C36	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 37	MEMDIMM	Un-P2-C37	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 38	MEMDIMM	Un-P2-C38	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 39	MEMDIMM	Un-P2-C39	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 40	MEMDIMM	Un-P2-C40	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 41	MEMDIMM	Un-P2-C41	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 42	MEMDIMM	Un-P2-C42	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 43	MEMDIMM	Un-P2-C43	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473

Table 14. Processor subsystem assembly FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Memory module 44	MEMDIMM	Un-P2-C44	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 45	MEMDIMM	Un-P2-C45	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 46	MEMDIMM	Un-P2-C46	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 47	MEMDIMM	Un-P2-C47	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 48	MEMDIMM	Un-P2-C48	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 49	MEMDIMM	Un-P2-C49	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 50	MEMDIMM	Un-P2-C50	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 51	MEMDIMM	Un-P2-C51	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 52	MEMDIMM	Un-P2-C52	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 53	MEMDIMM	Un-P2-C53	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 54	MEMDIMM	Un-P2-C54	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 55	MEMDIMM	Un-P2-C55	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 56	MEMDIMM	Un-P2-C56	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 57	MEMDIMM	Un-P2-C57	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 58	MEMDIMM	Un-P2-C58	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 59	MEMDIMM	Un-P2-C59	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473

Table 14. Processor subsystem assembly FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Memory module 60	MEMDIMM	Un-P2-C60	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 61	MEMDIMM	Un-P2-C61	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 62	MEMDIMM	Un-P2-C62	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 63	MEMDIMM	Un-P2-C63	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Memory module 64	MEMDIMM	Un-P2-C64	Yes	Memory parts	"Removing and replacing parts in the model 575" on page 473
Device locations					
Disk drive 1		Un-P1-D1 (Un-P1-T9-L8-L0 is the logical location code)	Yes	Disk unit parts	Disk drive
Disk drive 2		Un-P1-D2 (Un-P1-T10-L8-L0 is the logical location code)	Yes	Disk unit parts	Disk drive

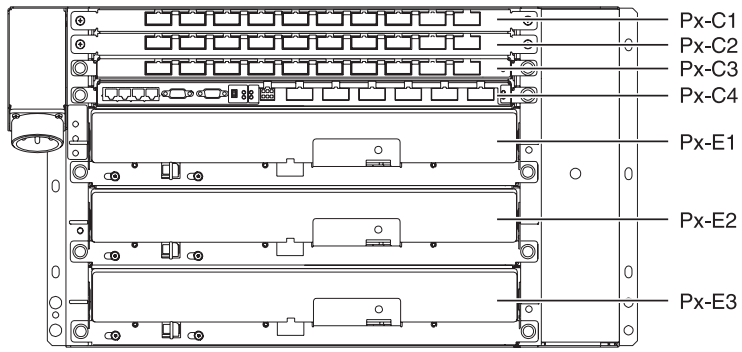
Locations — model 59x

Map a location code to a position on the server.

Note: The known logical location codes for this unit are listed next to the corresponding physical location in the following information. If you are working with a logical location code for this unit and it is not listed in the following information, contact your next level of support.

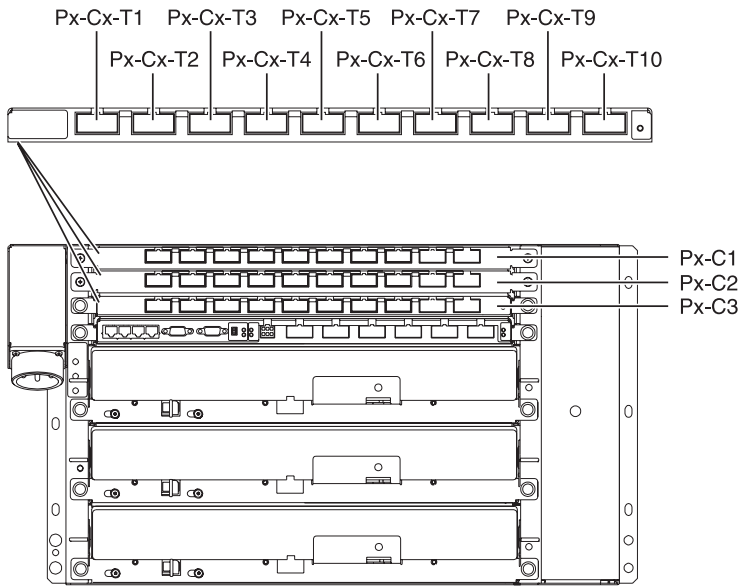
The following diagrams show field replaceable unit (FRU) layout in the system unit. Use them with the following tables.

Note: Some units may have labels that designate location codes other than those shown in the following illustrations and tables. If that is the case, use the location codes shown in the following illustrations and tables.



IPHAU851-1

Figure 45. Bulk power assembly (BPA)



IPHAU852-1

Figure 46. Bulk power distribution (BPD)

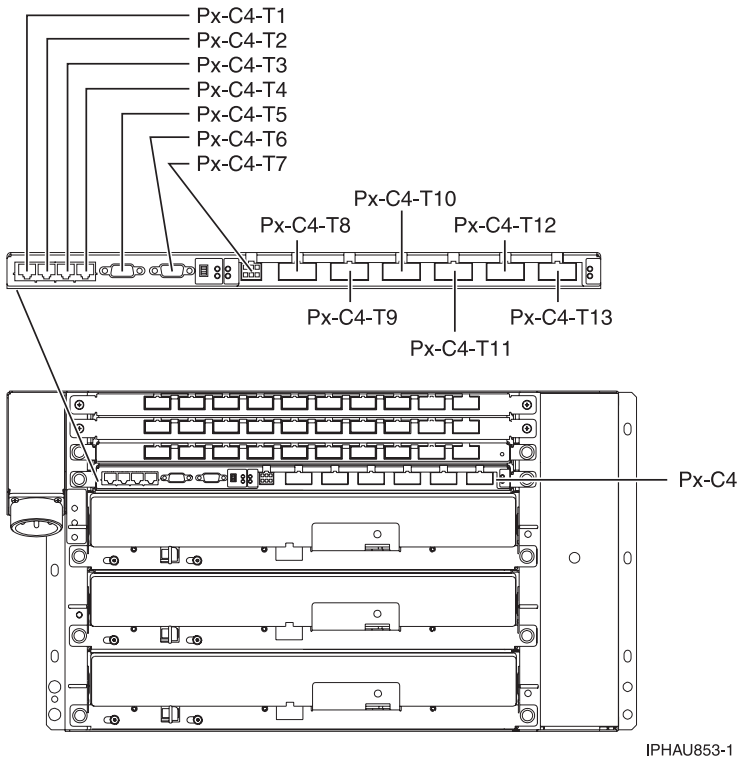


Figure 47. Bulk power controller (BPC)

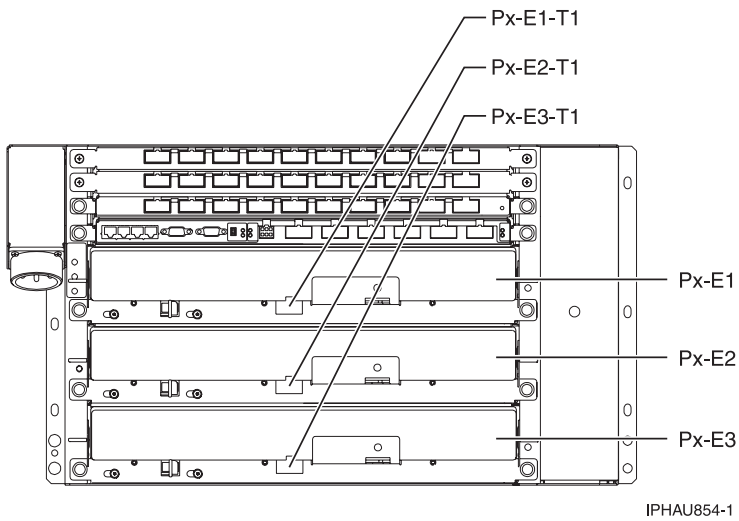
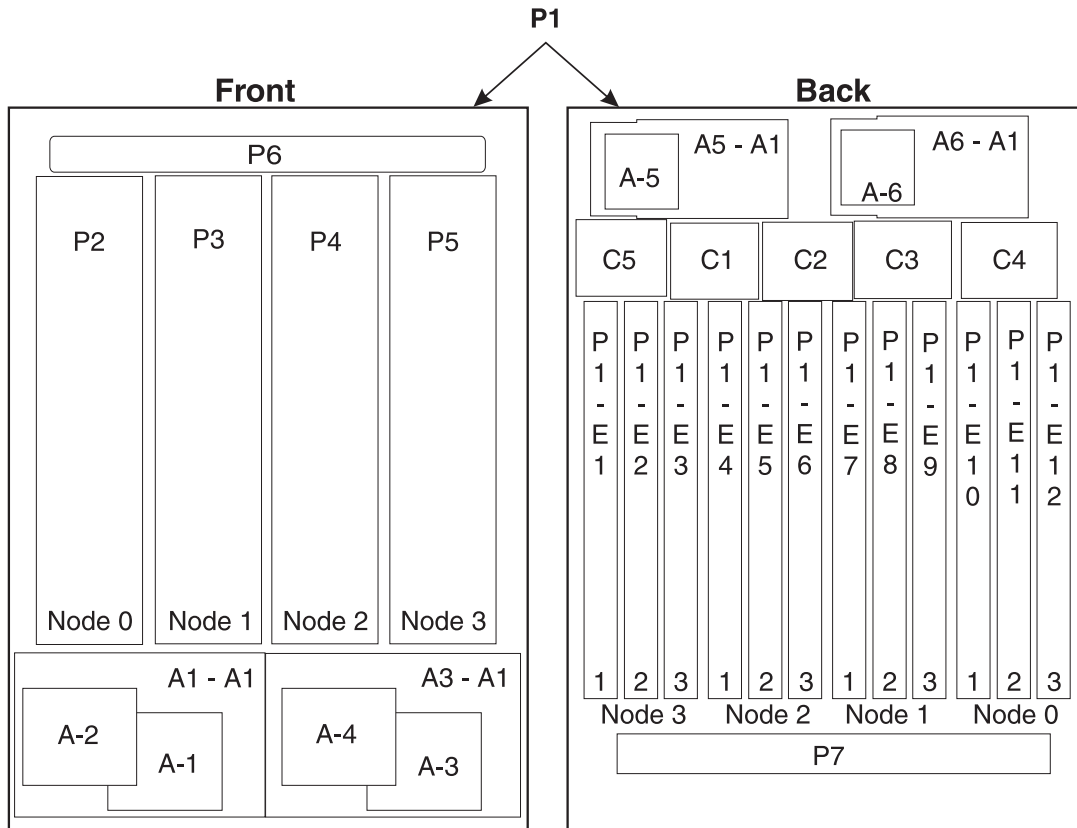
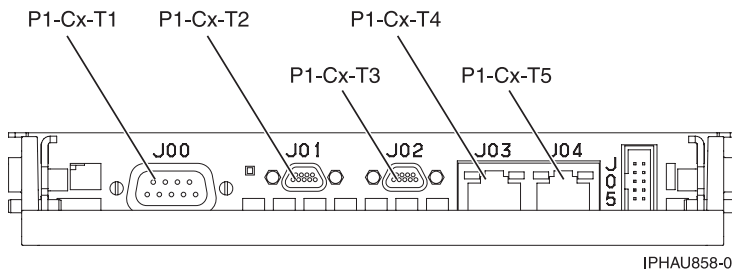


Figure 48. Bulk power regulator (BPR)



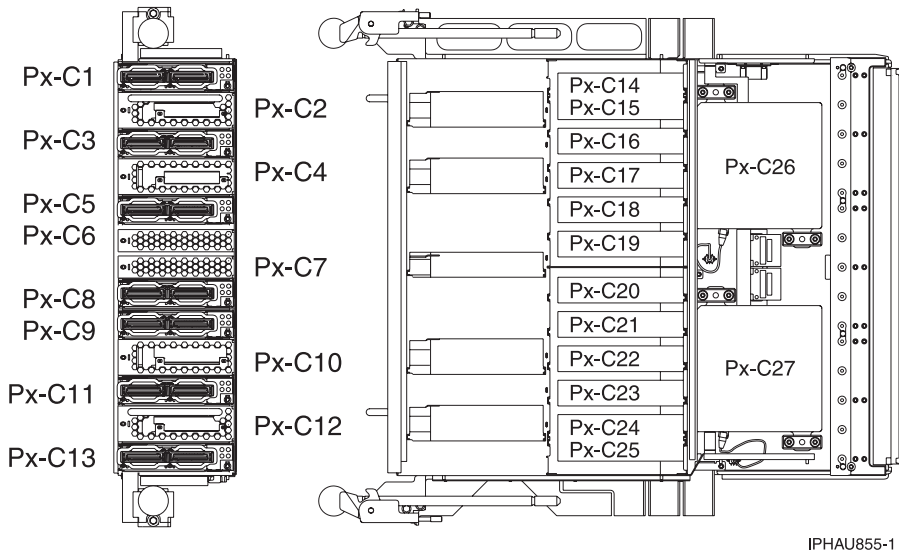
IPHAU857-2

Figure 49. Processor subsystem assembly



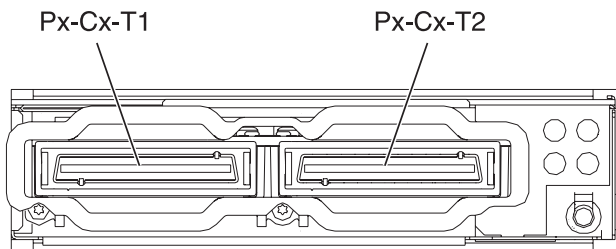
IPHAU858-0

Figure 50. Service processor



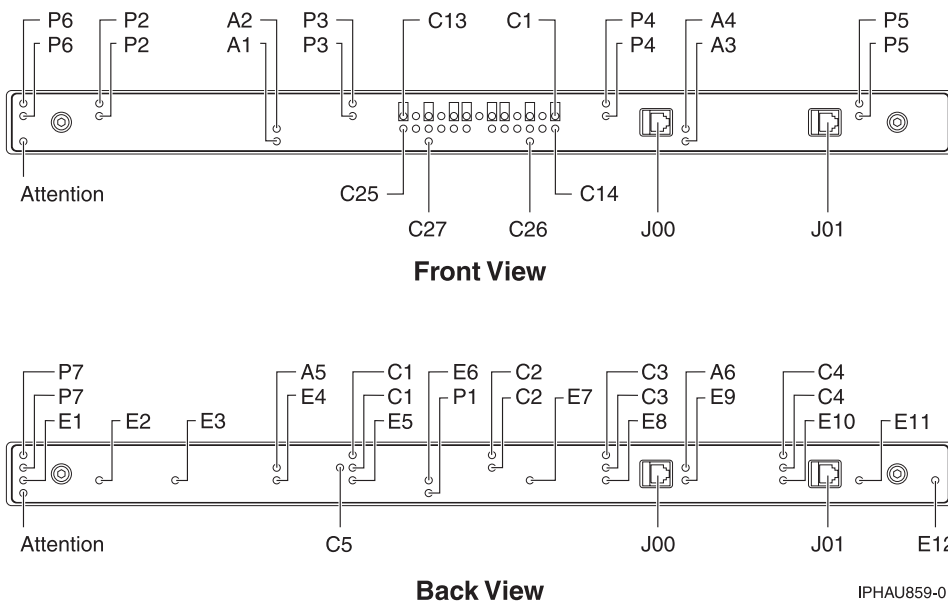
IPHAU855-1

Figure 51. Node assembly



IPHAU856-0

Figure 52. RIO/HSL cable connections



IPHAU859-0

Figure 53. Light strip

Use the following illustrations to help you map a location code to a position on the server. See “Understanding location codes” on page 1 for an explanation of *Un*. See “Model 59x cables” on page 394 for a listing of cables and plug locations.

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.

Table 15. Bulk power assembly (BPA) FRU locations and failing components

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
System unit bulk power assembly (BPA)		<i>Un</i>		
Bulk power distribution (BPD) Where: <ul style="list-style-type: none"> • Bulk power distribution (BPD) 3A (front) is <i>Un-P1-C1</i> • Bulk power distribution (BPD) 2A (front) is <i>Un-P1-C2</i> • Bulk power distribution (BPD) 1A (front) is <i>Un-P1-C3</i> • Bulk power distribution (BPD) 3B (back) is <i>Un-P2-C1</i> • Bulk power distribution (BPD) 2B (back) is <i>Un-P2-C2</i> • Bulk power distribution (BPD) 1B (back) is <i>Un-P2-C3</i> 				
Bulk power distribution (BPD) <i>x</i>		<i>Un-Px-Cx</i>	Power parts	“Removing and replacing parts in the model 59x” on page 473
Bulk power distribution (BPD) <i>x</i> connector J00		<i>Un-Px-Cx-T1</i>		
Bulk power distribution (BPD) <i>x</i> connector J01		<i>Un-Px-Cx-T2</i>		
Bulk power distribution (BPD) <i>x</i> connector J02		<i>Un-Px-Cx-T3</i>		
Bulk power distribution (BPD) <i>x</i> connector J03		<i>Un-Px-Cx-T4</i>		
Bulk power distribution (BPD) <i>x</i> connector J04		<i>Un-Px-Cx-T5</i>		
Bulk power distribution (BPD) <i>x</i> connector J05		<i>Un-Px-Cx-T6</i>		
Bulk power distribution (BPD) <i>x</i> connector J06		<i>Un-Px-Cx-T7</i>		
Bulk power distribution (BPD) <i>x</i> connector J07		<i>Un-Px-Cx-T8</i>		
Bulk power distribution (BPD) <i>x</i> connector J08		<i>Un-Px-Cx-T9</i>		

Table 15. Bulk power assembly (BPA) FRU locations and failing components (continued)

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
Bulk power distribution (BPD) <i>x</i> connector J09		Un-Px-Cx-T10		
Bulk power controller (BPC) Where:				
<ul style="list-style-type: none"> • Bulk power controller (BPC) A (front) is Un-P1-C4 • Bulk power controller (BPC) B (back) is Un-P2-C4 				
Bulk power controller (BPC) <i>x</i>		Un-Px-C4	Power parts	"Removing and replacing parts in the model 59x" on page 473
Bulk power controller (BPC) <i>x</i> connector J00A		Un-Px-C4-T1		"Removing and replacing parts in the model 59x" on page 473
Bulk power controller (BPC) <i>x</i> connector J00B		Un-Px-C4-T2		
Bulk power controller (BPC) <i>x</i> connector J00C		Un-Px-C4-T3		
Bulk power controller (BPC) <i>x</i> connector J00D		Un-Px-C4-T4		
Bulk power controller (BPC) <i>x</i> connector J01		Un-Px-C4-T5		
Bulk power controller (BPC) <i>x</i> connector J02		Un-Px-C4-T6		
Bulk power controller (BPC) <i>x</i> connector J03		Un-Px-C4-T7		
Bulk power controller (BPC) <i>x</i> connector J04		Un-Px-C4-T8		
Bulk power controller (BPC) <i>x</i> connector J05		Un-Px-C4-T9		
Bulk power controller (BPC) <i>x</i> connector J06		Un-Px-C4-T10		
Bulk power controller (BPC) <i>x</i> connector J07		Un-Px-C4-T11		
Bulk power controller (BPC) <i>x</i> connector J08		Un-Px-C4-T12		
Bulk power controller (BPC) <i>x</i> connector J09		Un-Px-C4-T13		
Bulk power regulator (BPR)				

Table 15. Bulk power assembly (BPA) FRU locations and failing components (continued)

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
Bulk power regulator (BPR) 3A (front)		Un-P1-E3	Power parts	"Removing and replacing parts in the model 59x" on page 473
Bulk power regulator (BPR) 3A connector J00		Un-P1-E3-T1		
Bulk power regulator (BPR) 2A (front)		Un-P1-E2	Power parts	"Removing and replacing parts in the model 59x" on page 473
Bulk power regulator (BPR) 2A connector J00		Un-P1-E2-T1		
Bulk power regulator (BPR) 1A (front)		Un-P1-E1	Power parts	"Removing and replacing parts in the model 59x" on page 473
Bulk power regulator (BPR) 1A connector J00		Un-P1-E1-T1		
Bulk power regulator (BPR) 3B (back)		Un-P2-E3	Power parts	"Removing and replacing parts in the model 59x" on page 473
Bulk power regulator (BPR) 3B connector J00		Un-P2-E3-T1		
Bulk power regulator (BPR) 2B (back)		Un-P2-E2	Power parts	"Removing and replacing parts in the model 59x" on page 473
Bulk power regulator (BPR) 2B connector J00		Un-P2-E2-T1		
Bulk power regulator (BPR) 1B (back)		Un-P2-E1	Power parts	"Removing and replacing parts in the model 59x" on page 473
Bulk power regulator (BPR) 1B connector J00		Un-P2-E1-T1		
Fans				
Bulk power fan (BPF) A (front)		Un-A1	Power parts	"Removing and replacing parts in the model 59x" on page 473
Bulk power fan (BPF) B (back)		Un-A2	Power parts	"Removing and replacing parts in the model 59x" on page 473
Emergency power off (EPO)				
Emergency power off (EPO)		Un-D1	Power parts	"Removing and replacing parts in the model 59x" on page 473

Table 15. Bulk power assembly (BPA) FRU locations and failing components (continued)

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
Emergency power off (EPO) connector J00		Un-D1-T1		
Emergency power off (EPO) J01		Un-D1-T2		

Table 16. Processor subsystem assembly FRU locations and failing components

Failing item name	Symbolic FRU name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
System unit processor subsystem assembly		Un			
Fans					
Motor drive assembly 1 (closest to the front)		Un-A1	Light strip, front	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Motor drive assembly 1 J00		Un-A1-T1			
Motor drive assembly 1 J01		Un-A1-T2			
Motor scroll assembly 1		Un-A1-A1		Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Motor drive assembly 2		Un-A2	Light strip, front	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Motor drive assembly 2 J00		Un-A2-T1			
Motor drive assembly 2 J01		Un-A2-T2			
Motor drive assembly 3 (closest to the front)		Un-A3	Light strip, front	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Motor drive assembly 3 J00		Un-A3-T1			
Motor drive assembly 3 J01		Un-A3-T2			
Motor scroll assembly 2		Un-A3-A1		Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Motor drive assembly 4		Un-A4	Light strip, front	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473

Table 16. Processor subsystem assembly FRU locations and failing components (continued)

Failing item name	Symbolic FRU name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Motor drive assembly 4 J00		Un-A4-T1			
Motor drive assembly 4 J01		Un-A4-T2			
Motor drive assembly 5		Un-A5	Light strip, back	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Motor drive assembly 5 J00		Un-A5-T1			
Motor drive assembly 5 J01		Un-A5-T2			
Motor scroll assembly 3		Un-A5-A1		Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Motor drive assembly 6		Un-A6	Light strip, back	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Motor drive assembly 6 J00		Un-A6-T1			
Motor drive assembly 6 J01		Un-A6-T2			
Motor scroll assembly 4		Un-A6-A1		Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Backplanes					
System backplane • SPCN • Card enclosure or backplane		Un-P1	Light strip, back	System parts	"Removing and replacing parts in the model 59x" on page 473
Node 0 backplane	NODEPL	Un-P2	Light strip, front	System parts	"Removing and replacing parts in the model 59x" on page 473
Node 1 backplane	NODEPL	Un-P3	Light strip, front	System parts	"Removing and replacing parts in the model 59x" on page 473
Node 2 backplane	NODEPL	Un-P4	Light strip, front	System parts	"Removing and replacing parts in the model 59x" on page 473
Node 3 backplane	NODEPL	Un-P5	Light strip, front	System parts	"Removing and replacing parts in the model 59x" on page 473
Service processors					
Service processor 0		Un-P1-C4	Light strip, back	System parts	"Removing and replacing parts in the model 59x" on page 473

Table 16. Processor subsystem assembly FRU locations and failing components (continued)

Failing item name	Symbolic FRU name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
SPCN connector		Un-P1-C4-T1			
Light strip connector (front)		Un-P1-C4-T2			
Light strip connector (back)		Un-P1-C4-T3			
HMC port 0 connector		Un-P1-C4-T4	Yes		
HMC port 1 connector		Un-P1-C4-T5	Yes		
Service processor 1		Un-P1-C1	Light strip, back	System parts	"Removing and replacing parts in the model 59x" on page 473
SPCN connector		Un-P1-C1-T1			
Light strip connector (front)		Un-P1-C1-T2			
Light strip connector (back)		Un-P1-C1-T3			
HMC port 0 connector		Un-P1-C1-T4	Yes		
HMC port 1 connector		Un-P1-C1-T5	Yes		
Processor and processor regulator Where Px is defined as:					
<ul style="list-style-type: none"> • P2 is node 0 • P3 is node 1 • P4 is node 2 • P5 is node 3 					
MCM 0 for node <i>n</i>		Un-Px-C26	Light strip, front	System parts	"Removing and replacing parts in the model 59x" on page 473
MCM 1 for node <i>n</i>		Un-Px-C27	Light strip, front	System parts	"Removing and replacing parts in the model 59x" on page 473
Distributed converter assembly (DCA) 31 for node 3		Un-P1-E1	Light strip, back	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Distributed converter assembly (DCA) 31 J00		Un-P1-E1-T1			

Table 16. Processor subsystem assembly FRU locations and failing components (continued)

Failing item name	Symbolic FRU name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Distributed converter assembly (DCA) 31 J01		Un-P1-E1-T2			
Distributed converter assembly (DCA) 32 for node 3		Un-P1-E2	Light strip, back	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Distributed converter assembly (DCA) 32 J00		Un-P1-E2-T1			
Distributed converter assembly (DCA) 32 J01		Un-P1-E2-T2			
Distributed converter assembly (DCA) 33 for node 3		Un-P1-E3	Light strip, back	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Distributed converter assembly (DCA) 33 J00		Un-P1-E3-T1			
Distributed converter assembly (DCA) 33 J01		Un-P1-E3-T2			
Distributed converter assembly (DCA) 21 for node 2		Un-P1-E4	Light strip, back	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Distributed converter assembly (DCA) 21 J00		Un-P1-E4-T1			
Distributed converter assembly (DCA) 21 J01		Un-P1-E4-T2			
Distributed converter assembly (DCA) 22 for node 2		Un-P1-E5	Light strip, back	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473

Table 16. Processor subsystem assembly FRU locations and failing components (continued)

Failing item name	Symbolic FRU name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Distributed converter assembly (DCA) 22 J00		Un-P1-E5-T1			
Distributed converter assembly (DCA) 22 J01		Un-P1-E5-T2			
Distributed converter assembly (DCA) 23 for node 2		Un-P1-E6	Light strip, back	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Distributed converter assembly (DCA) 23 J00		Un-P1-E6-T1			
Distributed converter assembly (DCA) 23 J01		Un-P1-E6-T2			
Distributed converter assembly (DCA) 11 for node 1		Un-P1-E7	Light strip, back	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Distributed converter assembly (DCA) 11 J00		Un-P1-E7-T1			
Distributed converter assembly (DCA) 11 J01		Un-P1-E7-T2			
Distributed converter assembly (DCA) 12 for node 1		Un-P1-E8	Light strip, back	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Distributed converter assembly (DCA) 12 J00		Un-P1-E8-T1			
Distributed converter assembly (DCA) 12 J01		Un-P1-E8-T2			

Table 16. Processor subsystem assembly FRU locations and failing components (continued)

Failing item name	Symbolic FRU name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Distributed converter assembly (DCA) 13 for node 1		Un-P1-E9	Light strip, back	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Distributed converter assembly (DCA) 13 J00		Un-P1-E9-T1			
Distributed converter assembly (DCA) 13 J01		Un-P1-E9-T2			
Distributed converter assembly (DCA) 01 for node 0		Un-P1-E10	Light strip, back	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Distributed converter assembly (DCA) 01 J00		Un-P1-E10-T1			
Distributed converter assembly (DCA) 01 J01		Un-P1-E10-T2			
Distributed converter assembly (DCA) 02 for node 0		Un-P1-E11	Light strip, back	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Distributed converter assembly (DCA) 02 J00		Un-P1-E11-T1			
Distributed converter assembly (DCA) 02 J01		Un-P1-E11-T2			
Distributed converter assembly (DCA) 03 for node 0		Un-P1-E12	Light strip, back	Part assembly diagrams	"Removing and replacing parts in the model 59x" on page 473
Distributed converter assembly (DCA) 03 J00		Un-P1-E12-T1			

Table 16. Processor subsystem assembly FRU locations and failing components (continued)

Failing item name	Symbolic FRU name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Distributed converter assembly (DCA) 03 J01		Un-P1-E12-T2			
Light strip, front		Un-P6	Yes	291A	"Removing and replacing parts in the model 59x" on page 473
Light strip, back		Un-P7	Yes	291B	"Removing and replacing parts in the model 59x" on page 473
Oscillator 0		Un-P1-C3	Light strip, back	28E4	"Removing and replacing parts in the model 59x" on page 473
Oscillator 1		Un-P1-C2	Light strip, back	28E4	"Removing and replacing parts in the model 59x" on page 473
Service processor 0		Un-P1-C4	Light strip, back	28DE	"Removing and replacing parts in the model 59x" on page 473
Service processor 1		Un-P1-C1	Light strip, back	28DE	"Removing and replacing parts in the model 59x" on page 473
VPD card		Un-P1-C5	Light strip, back	System parts	"Removing and replacing parts in the model 59x" on page 473
<p>Adapters Where Px is defined as:</p> <ul style="list-style-type: none"> • P2 is node 0 • P3 is node 1 • P4 is node 2 • P5 is node 3 					
Adapter 1 for node x	SI_CARD SICNTRL IO_HUB HCA	Un-Px-C1	Light strip, front	System parts	"Removing and replacing parts in the model 59x" on page 473
Adapter 2 for node x	SI_CARD SICNTRL IO_HUB HCA	Un-Px-C3	Light strip, front	System parts	"Removing and replacing parts in the model 59x" on page 473
Adapter 3 for node x Note: This card cannot have any RIO/HSL cables attached.	SI_CARD SICNTRL IO_HUB HCA	Un-Px-C5	Light strip, front	System parts	"Removing and replacing parts in the model 59x" on page 473
Adapter 4 for node x	SI_CARD SICNTRL IO_HUB HCA	Un-Px-C6	Light strip, front	System parts	"Removing and replacing parts in the model 59x" on page 473

Table 16. Processor subsystem assembly FRU locations and failing components (continued)

Failing item name	Symbolic FRU name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Adapter 5 for node <i>x</i>	SI_CARD SICNTRL IO_HUB HCA	<i>Un-Px-C8</i>	Light strip, front	System parts	"Removing and replacing parts in the model 59 <i>x</i> " on page 473
Adapter6 for node <i>x</i>	SI_CARD SICNTRL IO_HUB HCA	<i>Un-Px-C9</i>	Light strip, front	System parts	"Removing and replacing parts in the model 59 <i>x</i> " on page 473
Adapter 7 for node <i>x</i>	SI_CARD SICNTRL IO_HUB HCA	<i>Un-Px-C11</i>	Light strip, front	System parts	"Removing and replacing parts in the model 59 <i>x</i> " on page 473
Adapter 8 for node <i>x</i>	SI_CARD SICNTRL IO_HUB HCA	<i>Un-Px-C13</i>	Light strip, front	System parts	"Removing and replacing parts in the model 59 <i>x</i> " on page 473
Multiplexer card for node <i>x</i>		<i>Un-Px-C7</i>	Light strip, front	28E6	"Removing and replacing parts in the model 59 <i>x</i> " on page 473
<p>Adapter ports Where <i>Px</i> is defined as:</p> <ul style="list-style-type: none"> • P2 is node 0 • P3 is node 1 • P4 is node 2 • P5 is node 3 <p>And where <i>Cx</i> is defined as:</p> <ul style="list-style-type: none"> • C1 is adapter 1 • C3 is adapter 2 • C5 is adapter 3 • C6 is adapter 4 • C8 is adapter 5 • C9 is adapter 6 • C11 is adapter 7 • C13 is adapter 8 					
RIO/HSL connector J00		<i>Un-Px-Cx -T1</i>	Yes		
RIO/HSL connector J01		<i>Un-Px-Cx -T2</i>	Yes		
<p>Memory parts Where <i>Px</i> is defined as:</p> <ul style="list-style-type: none"> • P2 is node 0 • P3 is node 1 • P4 is node 2 • P5 is node 3 					
Memory card 1 for node <i>x</i>	MEMDIMM	<i>Un-Px-C2</i>	Light strip, front	Memory parts	"Removing and replacing parts in the model 59 <i>x</i> " on page 473

Table 16. Processor subsystem assembly FRU locations and failing components (continued)

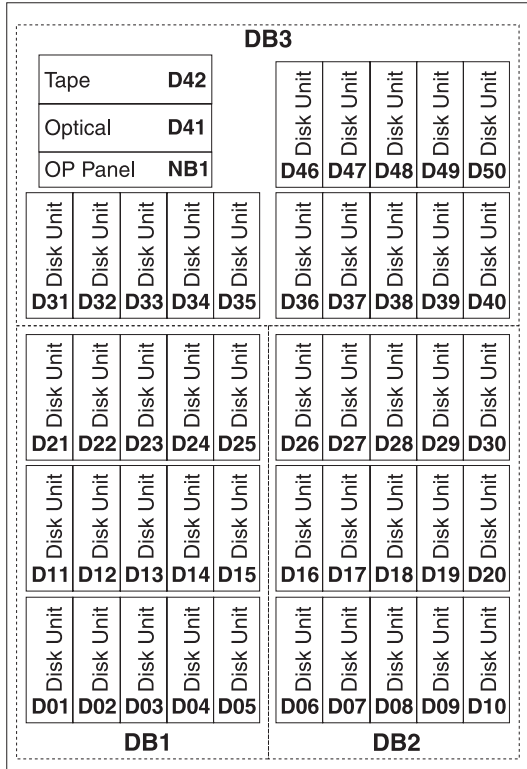
Failing item name	Symbolic FRU name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Memory card 2 for node <i>x</i>	MEMDIMM	Un-Px-C4	Light strip, front	Memory parts	"Removing and replacing parts in the model 59x" on page 473
Memory card 3 for node <i>x</i>	MEMDIMM	Un-Px-C10	Light strip, front	Memory parts	"Removing and replacing parts in the model 59x" on page 473
Memory card 4 for node <i>x</i>	MEMDIMM	Un-Px-C12	Light strip, front	Memory parts	"Removing and replacing parts in the model 59x" on page 473
Memory card 5 for node <i>x</i>	MEMDIMM	Un-Px-C14	Light strip, front	Memory parts	"Removing and replacing parts in the model 59x" on page 473
Memory card 6 for node <i>x</i>	MEMDIMM	Un-Px-C15	Light strip, front	Memory parts	"Removing and replacing parts in the model 59x" on page 473
Memory card 7 for node <i>x</i>	MEMDIMM	Un-Px-C16	Light strip, front	Memory parts	"Removing and replacing parts in the model 59x" on page 473
Memory card 8 for node <i>x</i>	MEMDIMM	Un-Px-C17	Light strip, front	Memory parts	"Removing and replacing parts in the model 59x" on page 473
Memory card 9 for node <i>x</i>	MEMDIMM	Un-Px-C18	Light strip, front	Memory parts	"Removing and replacing parts in the model 59x" on page 473
Memory card 10 for node <i>x</i>	MEMDIMM	Un-Px-C19	Light strip, front	Memory parts	"Removing and replacing parts in the model 59x" on page 473
Memory card 11 for node <i>x</i>	MEMDIMM	Un-Px-C20	Light strip, front	Memory parts	"Removing and replacing parts in the model 59x" on page 473
Memory card 12 for node <i>x</i>	MEMDIMM	Un-Px-C21	Light strip, front	Memory parts	"Removing and replacing parts in the model 59x" on page 473
Memory card 13 for node <i>x</i>	MEMDIMM	Un-Px-C22	Light strip, front	Memory parts	"Removing and replacing parts in the model 59x" on page 473
Memory card 14 for node <i>x</i>	MEMDIMM	Un-Px-C23	Light strip, front	Memory parts	"Removing and replacing parts in the model 59x" on page 473
Memory card 15 for node <i>x</i>	MEMDIMM	Un-Px-C24	Light strip, front	Memory parts	"Removing and replacing parts in the model 59x" on page 473
Memory card 16 for node <i>x</i>	MEMDIMM	Un-Px-C25	Light strip, front	Memory parts	"Removing and replacing parts in the model 59x" on page 473

Locations — 5074, 8079-002, and 8093-002 expansion units

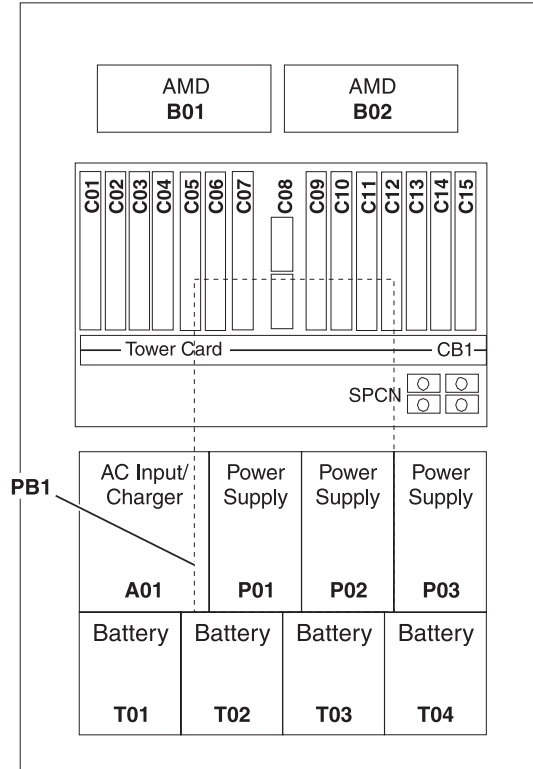
Part locations.

Note: The known logical location codes for this unit are listed next to the corresponding physical location in the following information. If you are working with a logical location code for this unit and it is not listed in the following information, contact your next level of support.

The following diagram shows the FRU layout in the 5074 expansion unit. Use it with the following tables. If you need address information, refer to “Addresses — 5074, 5079, 8079-002, and 8093-002 expansion units” on page 143.

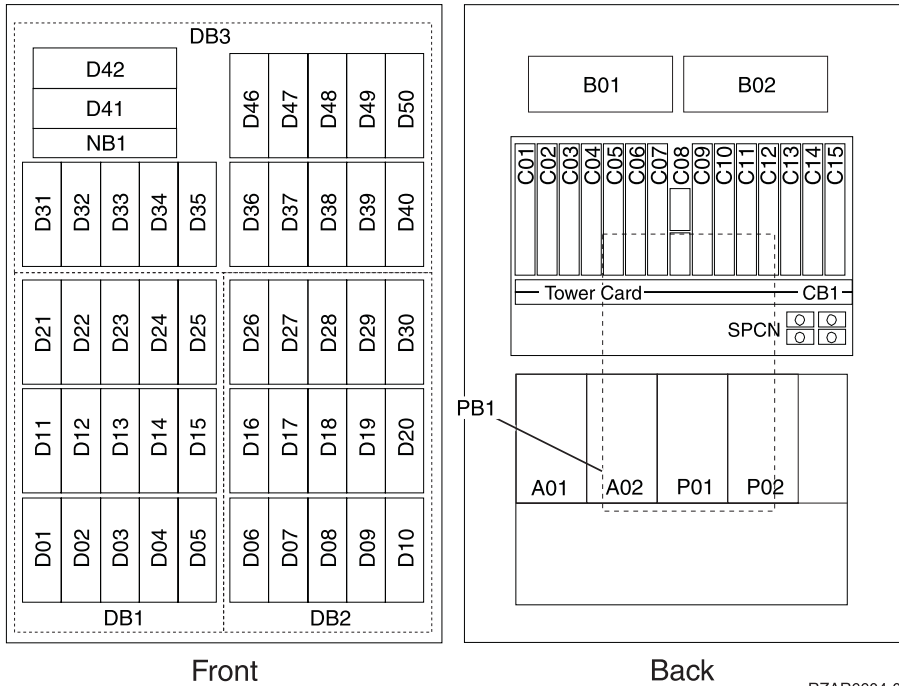


Front



Back

RZAQ2507-4



RZAR6604-0

The following table provides the components available for the expansion units. It matches those components with the FRU containing the component. The other columns provide location information, a link to a removal and replacement procedure, and additional information.

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.

Table 17. FRU locations and failing components for expansion units

Failing item name	Symbolic failing item name	Physical location code	Link to part number	Failing item removal and replacement procedures
Expansion unit backplane <ul style="list-style-type: none"> • SPCN • Card enclosure or backplane • Multi-adapter bridge (all) 	TWRCARD MA_BRDG MABRCFG PPCITWR PRI_PCI HSL_LNK PIOCARD MASBUS TWRBKPL TWRPLNR	U _n -CB1	28AB	“Exchanging the tower card in the 5074, 5079, 8079-002, and 8093-002 expansion units” on page 486

Table 17. FRU locations and failing components for expansion units (continued)

Failing item name	Symbolic failing item name	Physical location code	Link to part number	Failing item removal and replacement procedures
PCI adapter in slot 1	PIOCARD MASBUS SLOTERR	Un-CB1-C01	"Part number catalog" on page 160	PCI adapters in the Installing hardware topic.
PCI adapter in slot 2	PIOCARD MASBUS SLOTERR	Un-CB1-C02		
PCI adapter in slot 3	PIOCARD MASBUS SLOTERR	Un-CB1-C03		
PCI adapter in slot 4	PIOCARD MASBUS SLOTERR	Un-CB1-C04		
PCI adapter in slot 5	PIOCARD MASBUS SLOTERR	Un-CB1-C05		
PCI adapter in slot 6	PIOCARD MASBUS SLOTERR	Un-CB1-C06		
PCI adapter in slot 7	PIOCARD MASBUS SLOTERR	Un-CB1-C07		
RIO/HSL adapter card • HSL adapter • PCI host bridge adapter	SIIOADP SIADPCD SI_PHB	Un-CB1-C08	2691	FC 5074, FC 5079, FC 5094, FC 5294 - Cards (dedicated)
PCI adapter in slot 9	PIOCARD MASBUS SLOTERR	Un-CB1-C09	"Part number catalog" on page 160	PCI adapters in the Installing hardware topic.
PCI adapter in slot 10	PIOCARD MASBUS SLOTERR	Un-CB1-C10		
PCI adapter in slot 11	PIOCARD MASBUS SLOTERR	Un-CB1-C11		
PCI adapter in slot 12	PIOCARD MASBUS SLOTERR	Un-CB1-C12		
PCI adapter in slot 13	PIOCARD MASBUS SLOTERR	Un-CB1-C13		
PCI adapter in slot 14	PIOCARD MASBUS SLOTERR	Un-CB1-C14		
PCI adapter in slot 15	PIOCARD MASBUS SLOTERR	Un-CB1-C15		

Table 17. FRU locations and failing components for expansion units (continued)

Failing item name	Symbolic failing item name	Physical location code	Link to part number	Failing item removal and replacement procedures
PCI bridge set 1	BRDGSET BRDGST1	Un-CB1-C01 Un-CB1-C02 Un-CB1-C03 Un-CB1-C04		Replace the cards using the removal and replacement procedures corresponding to the locations indicated.
PCI bridge set 2	BRDGSET BRDGST2	Un-CB1-C05 Un-CB1-C06 Un-CB1-C07 Un-CB1-C09 Un-CB1-C10		
PCI bridge set 3	BRDGSET BRDGST3	Un-CB1-C11 Un-CB1-C12 Un-CB1-C13 Un-CB1-C14 Un-CB1-C15		
Fan 1		Un-B01	"Part assembly diagrams for 5094, 5096,5074, 8294, and 9194 expansion units" on page 213	"Exchanging the air-moving devices in the 5074, 5079, 8079-002, and 8093-002 expansion units" on page 474
Fan 2		Un-B02		
Power board		Un-PB1	"Part assembly diagrams for 5094, 5096,5074, 8294, and 9194 expansion units" on page 213	"Exchanging the power distribution board in the 5074, 5079, 8079-002, and 8093-002 expansion units" on page 484
AC module / charger (single line cord)		Un-A01	"Part assembly diagrams for 5094, 5096,5074, 8294, and 9194 expansion units" on page 213	"Exchanging the ac charger (A01) in the 5074, 5079, 8079-002, and 8093-002 expansion units (single line cord)" on page 473
AC module (dual line cord)		Un-A01	"Part assembly diagrams for 5094, 5096,5074, 8294, and 9194 expansion units" on page 213	"Exchanging ac modules (A01 and A02) in the 5074, 5079, 8079-002, and 8093-002 expansion units (dual line cord)" on page 474
AC module (dual line cord)		Un-A02		
Power supply 1		Un-P01	"Part assembly diagrams for 5094, 5096,5074, 8294, and 9194 expansion units" on page 213	"Exchanging the power supplies in the 5074, 5079, 8079-002, and 8093-002 expansion units" on page 485
Power supply 2		Un-P02		
Power supply 3		Un-P03		
Battery 1		Un-T01	Power parts	"Exchanging the batteries in the 5074, 5079, 8079-002, and 8093-002 expansion units" on page 475
Battery 2		Un-T02		
Battery 3		Un-T03		
Battery 4		Un-T04		
Device board 1		Un-DB1	283D	"Exchanging the device boards in the 5074, 5079, 8079-002, and 8093-002 expansion units" on page 481
Device board 2		Un-DB2		

Table 17. FRU locations and failing components for expansion units (continued)

Failing item name	Symbolic failing item name	Physical location code	Link to part number	Failing item removal and replacement procedures
Device board 3		Un-DB3	283C	“Exchanging the device boards in the 5074, 5079, 8079-002, and 8093-002 expansion units” on page 481
Display panel		Un-NB1	247B	“Exchanging the control panel in the 5074, 5079, 8079-002, and 8093-002 expansion units” on page 483
Disk units 1–5		Un-DB1-D01 Un-DB1-D02 Un-DB1-D03 Un-DB1-D04 Un-DB1-D05	“Part number catalog” on page 160	Disk unit recovery procedures
Disk units 6–10		Un-DB2-D06 Un-DB2-D07 Un-DB2-D08 Un-DB2-D09 Un-DB2-D10	“Part number catalog” on page 160	Disk unit recovery procedures
Disk units 11–15		Un-DB1-D11 Un-DB1-D12 Un-DB1-D13 Un-DB1-D14 Un-DB1-D15	“Part number catalog” on page 160	Disk unit recovery procedures
Disk units 16–20		Un-DB2-D16 Un-DB2-D17 Un-DB2-D18 Un-DB2-D19 Un-DB2-D20	“Part number catalog” on page 160	Disk unit recovery procedures
Disk units 21–25		Un-DB1-D21 Un-DB1-D22 Un-DB1-D23 Un-DB1-D24 Un-DB1-D25	“Part number catalog” on page 160	Disk unit recovery procedures
Disk units 26–30		Un-DB2-D26 Un-DB2-D27 Un-DB2-D28 Un-DB2-D29 Un-DB2-D30	“Part number catalog” on page 160	Disk unit recovery procedures
Disk units 31–40		Un-DB3-D31 Un-DB3-D32 Un-DB3-D33 Un-DB3-D34 Un-DB3-D35 Un-DB3-D36 Un-DB3-D37 Un-DB3-D38 Un-DB3-D39 Un-DB3-D40	“Part number catalog” on page 160	Disk unit recovery procedures

Table 17. FRU locations and failing components for expansion units (continued)

Failing item name	Symbolic failing item name	Physical location code	Link to part number	Failing item removal and replacement procedures
Optical		Un-DB3-D41	"Part number catalog" on page 160	Media device in an expansion unit in the Installing hardware topic.
Tape		Un-DB3-D42		
Disk units 46–50		Un-DB3-D46 Un-DB3-D47 Un-DB3-D48 Un-DB3-D49 Un-DB3-D50	"Part number catalog" on page 160	Disk unit recovery procedures
RIO/HSL adapter card connector	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-CB1-C08-00	"Part number catalog" on page 160	"Exchanging RIO/HSL cables" on page 523
RIO/HSL adapter card connector	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-CB1-C08-01		

Notes:

1. Card position C01 must be a processor.
2. Card positions C05 and C11 must be either processors or Integrated xSeries® servers (IXS).
3. J11 is an RPO connection, J14 is an uninterruptible power supply (UPS) connector, J15 is an SPCN 1 connector, and J16 is an SPCN 2 connector.
4. Multi-adapter bridge domains are labeled **PCI Bridge Set** inside the unit.
5. The following table provides information necessary to identify the input/output processor (IOP) to which input/output adapters (IOAs) are assigned.
 - The left column indicates the domain in which IOA assignment is allowed.
 - The right column is used to determine the IOP to which an IOA is assigned.
 - The first position in the list must be an IOP. The remaining positions may be IOPs or IOAs. IOAs are assigned to the first IOP located to their left in the list. Although IOAs can be manually reassigned using SST/DST, the IOA assignments return to the default order after each IPL.

Table 18. IOA assignment rules

Multi-adapter bridge domain / PCI bridge set	IOA assignment rules
C01 - C04	C01, C02, C03, C04
C05 - C10 (Not including C08)	C05, C06, C07, C09, C10
C11 - C15	C11, C12, C13, C14, C15

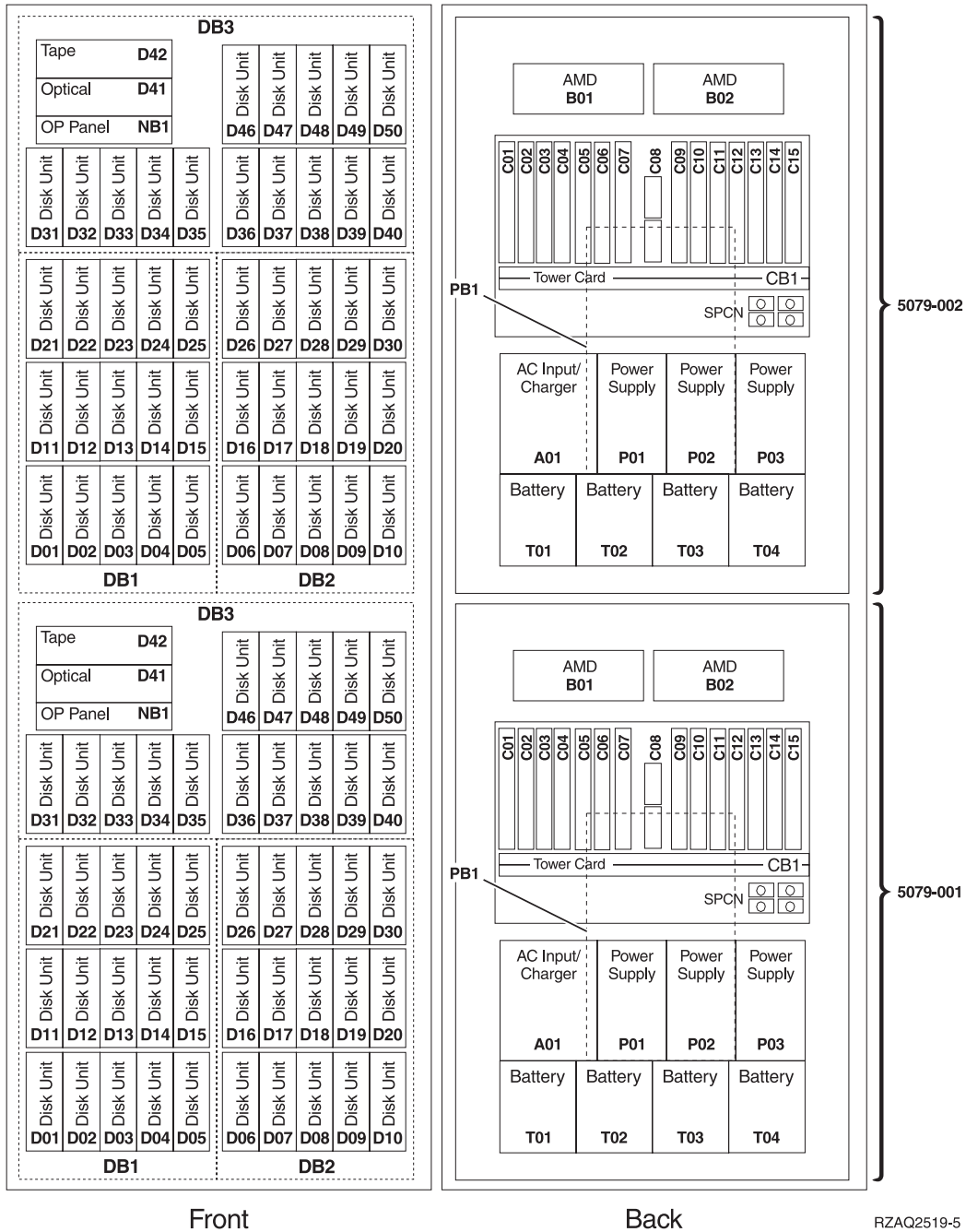
Locations — 5079 expansion unit

Part locations.

The following diagram shows field replaceable unit (FRU) layout in the expansion unit. Use the diagram with the information that follows. Service the 5079 as two independent 5074 units in the same 1.8 meter

rack (see “Locations — 5074, 8079-002, and 8093-002 expansion units” on page 88). If you need address information, refer to “Addresses — 5074, 5079, 8079-002, and 8093-002 expansion units” on page 143.

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.



Locations — 0588 and 5088 expansion units

Expansion unit part locations.

Note: The known logical location codes for this unit are listed next to the corresponding physical location in the following information. If you are working with a logical location code for this unit and it is not listed in the following information, contact your next level of support.

The following diagram shows field replaceable unit (FRU) layout in the expansion units. Use it with the following tables. If you need address information, refer to "Addresses — 0588 and 5088 expansion units" on page 148.

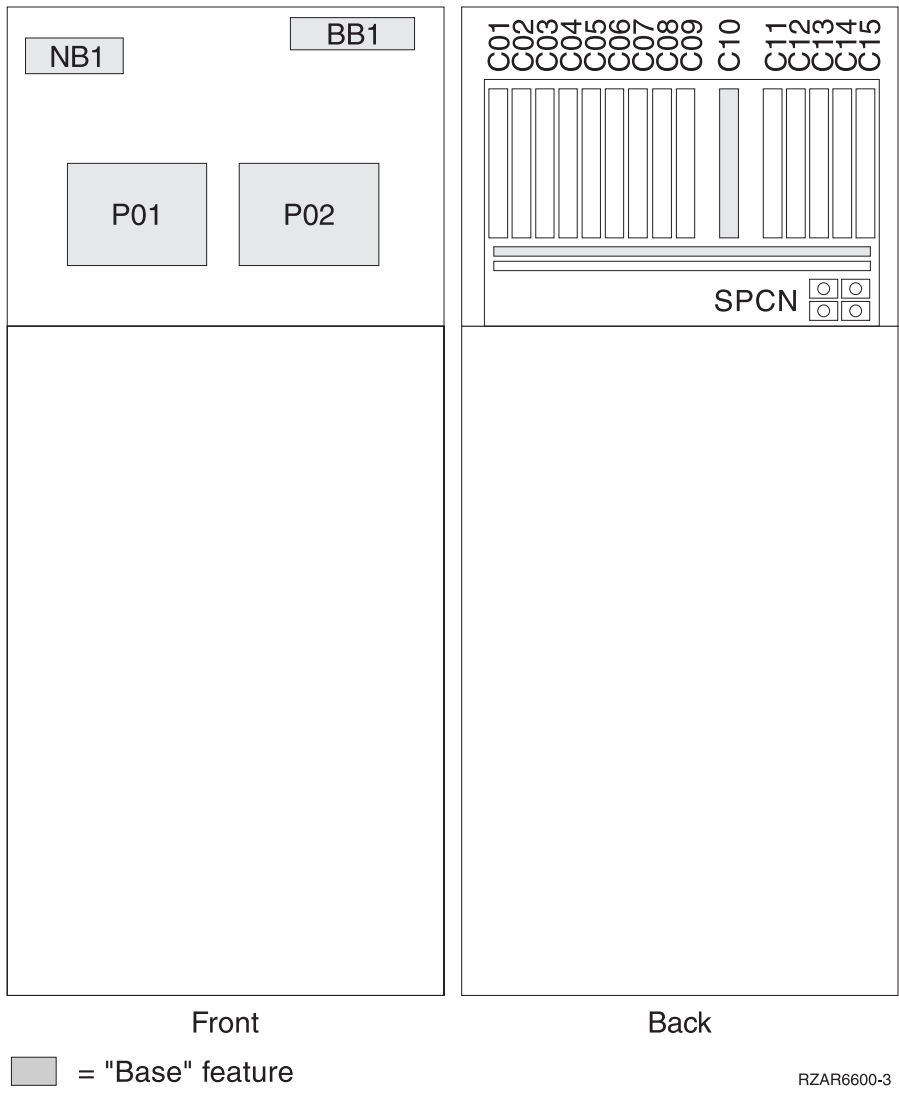


Figure 54. Expansion units

RZAR6600-3

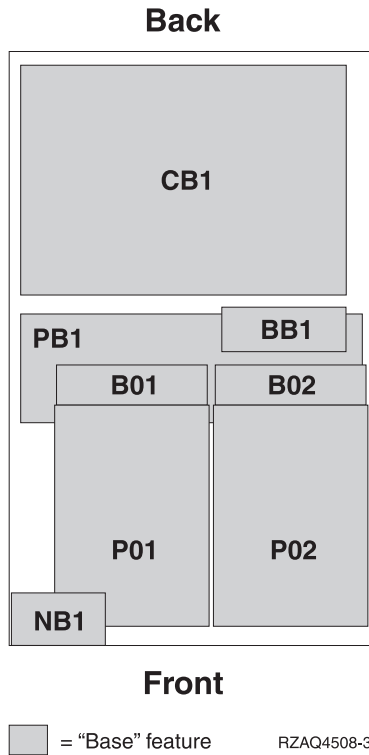


Figure 55. Expansion units, top view

The following table provides the components available for callout on the expansion units. It matches those components with the FRU containing the component. The other columns give location information, a link to a removal and replacement procedure, and additional information.

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.

Table 19. FRU locations and failing components

Failing item name	Symbolic failing item name	Physical location code	Link to part number	Failing item removal and replacement procedures
Expansion unit backplane <ul style="list-style-type: none"> • SPCN • Card enclosure or backplane • Multi-adapter bridge (all) 	TWRCARD MA_BRDG MABRCFG PPCITWR PRI_PCI HSL_LNK PIOCARD MASBUST WRBKPLT WRPLNR	Un-CB1	28B8	“Exchanging the tower card in the 5088 and 0588 expansion units” on page 493
PCI adapter in slot 1	PIOCARD MASBUS SLOTERR	Un-CB1-C01	“Part number catalog” on page 160	“Exchanging cards (concurrent) in the 5088 and 0588 expansion units” on page 489

Table 19. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Link to part number	Failing item removal and replacement procedures
PCI adapter in slot 2	PIOCARD MASBUS SLOTERR	Un-CB1-C02	"Part number catalog" on page 160	"Exchanging cards (concurrent) in the 5088 and 0588 expansion units" on page 489
PCI adapter in slot 3	PIOCARD MASBUS SLOTERR	Un-CB1-C03	"Part number catalog" on page 160	"Exchanging cards (concurrent) in the 5088 and 0588 expansion units" on page 489
PCI adapter in slot 4	PIOCARD MASBUS SLOTERR	Un-CB1-C04	"Part number catalog" on page 160	"Exchanging cards (concurrent) in the 5088 and 0588 expansion units" on page 489
PCI adapter in slot 5	PIOCARD MASBUS SLOTERR	Un-CB1-C05	"Part number catalog" on page 160	"Exchanging cards (concurrent) in the 5088 and 0588 expansion units" on page 489
PCI adapter in slot 6	PIOCARD MASBUS SLOTERR	Un-CB1-C06	"Part number catalog" on page 160	"Exchanging cards (concurrent) in the 5088 and 0588 expansion units" on page 489
PCI adapter in slot 7	PIOCARD MASBUS SLOTERR	Un-CB1-C07	"Part number catalog" on page 160	"Exchanging cards (concurrent) in the 5088 and 0588 expansion units" on page 489
PCI adapter in slot 8	PIOCARD MASBUS SLOTERR	Un-CB1-C08	"Part number catalog" on page 160	"Exchanging cards (concurrent) in the 5088 and 0588 expansion units" on page 489
PCI adapter in slot 9	PIOCARD MASBUS SLOTERR	Un-CB1-C09	"Part number catalog" on page 160	"Exchanging cards (concurrent) in the 5088 and 0588 expansion units" on page 489
RIO/HSL adapter card • HSL I/O adapter • PCI host bridge adapter	SIIOADP SIADPCD SI_PHB	Un-CB1-C10	"Part number catalog" on page 160	"Exchanging cards (concurrent) in the 5088 and 0588 expansion units" on page 489
PCI adapter in slot 11	PIOCARD MASBUS SLOTERR	Un-CB1-C11	"Part number catalog" on page 160	"Exchanging cards (concurrent) in the 5088 and 0588 expansion units" on page 489

Table 19. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Link to part number	Failing item removal and replacement procedures
PCI adapter in slot 12	PIOCARD MASBUS SLOTERR	Un-CB1-C12	"Part number catalog" on page 160	"Exchanging cards (concurrent) in the 5088 and 0588 expansion units" on page 489
PCI adapter in slot 13	PIOCARD MASBUS SLOTERR	Un-CB1-C13	"Part number catalog" on page 160	"Exchanging cards (concurrent) in the 5088 and 0588 expansion units" on page 489
PCI adapter in slot 14	PIOCARD MASBUS SLOTERR	Un-CB1-C14	"Part number catalog" on page 160	"Exchanging cards (concurrent) in the 5088 and 0588 expansion units" on page 489
PCI adapter in slot 15	PIOCARD MASBUS SLOTERR	Un-CB1-C15	"Part number catalog" on page 160	"Exchanging cards (concurrent) in the 5088 and 0588 expansion units" on page 489
PCI bridge set 1	BRDGSET BRDGST1	Un-CB1-C01 Un-CB1-C02 Un-CB1-C03 Un-CB1-C04		Replace the cards using the remove and replace procedures corresponding to the locations indicated.
PCI bridge set 2	BRDGSET BRDGST2	Un-CB1-C05 Un-CB1-C06 Un-CB1-C07 Un-CB1-C08 Un-CB1-C09		Replace the cards using the remove and replace procedures corresponding to the locations indicated.
PCI bridge set 3	BRDGSET BRDGST3	Un-CB1-C11 Un-CB1-C12 Un-CB1-C13 Un-CB1-C14 Un-CB1-C15		Replace the cards using the remove and replace procedures corresponding to the locations indicated.
Power distribution board		Un-PB1	"Part assembly diagrams for 0551, 0588, 5079, 5088, 5294, and 5296" on page 204	"Exchanging the power distribution board in the 5088 and 0588 expansion units" on page 492

Table 19. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Link to part number	Failing item removal and replacement procedures
Power supply 1		Un-P01	"Part assembly diagrams for 0551, 0588, 5079, 5088, 5294, and 5296" on page 204	"Exchanging the power supplies in the 5088 and 0588 expansion units" on page 493
Power supply 2		Un-P02	"Part assembly diagrams for 0551, 0588, 5079, 5088, 5294, and 5296" on page 204	"Exchanging the power supplies in the 5088 and 0588 expansion units" on page 493
Fan 1		Un-B01	"Part assembly diagrams for 0551, 0588, 5079, 5088, 5294, and 5296" on page 204	"Exchanging the air-moving device (AMD) in the 5088 and 0588 expansion units" on page 488
Fan 2		Un-B02	"Part assembly diagrams for 0551, 0588, 5079, 5088, 5294, and 5296" on page 204	"Exchanging the air-moving device (AMD) in the 5088 and 0588 expansion units" on page 488
Fan controller card	AMDCTRL	Un-BB1	"Part assembly diagrams for 0551, 0588, 5079, 5088, 5294, and 5296" on page 204	"Exchanging the AMD controller card in the 5088 and 0588 expansion units" on page 489
Display panel		Un-NB1	"Part number catalog" on page 160	"Exchanging the control panel in the 5088 and 0588 expansion units" on page 492
RIO/HSL adapter card connector	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-CB1-C10-00	"Part number catalog" on page 160	"Exchanging RIO/HSL cables" on page 523
RIO/HSL adapter card connector	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-CB1-C10-01	"Part number catalog" on page 160	"Exchanging RIO/HSL cables" on page 523

Notes:

1. Card positions C01, C05, and C11 are required to be either I/O processors or Integrated xSeries servers (IXS).
2. J11 is an RPO connection, J14 is a uninterruptible power supply connector, J15 is an SPCN 1 connector, and J16 is an SPCN 2 connector.

3. Multi-adapter bridge domains are labeled **PCI Bridge Set** inside the I/O unit.
4. The following table provides information necessary to identify the IOP to which IOAs are assigned.
 - The left column indicates the domain in which IOA assignment is allowed.
 - The right column is used to determine the IOP to which an IOA is assigned.
 - The first position in the list must be an IOP. The remaining positions may be IOPs or IOAs. IOAs are assigned to the first IOP located to their left in the list. Although IOAs can be manually reassigned using SST/DST, the IOA assignments return to the default order after each IPL.

Table 20. Identify the IOP to which IOAs are assigned

Multi-adapter bridge domain / PCI bridge set	IOA assignment rules
C01 - C04	C01, C02, C03, C04
C05 - C09	C05, C06, C07, C08, C09
C11 - C15	C11, C12, C13, C14, C15

Locations — 5094, 5294, 5096, 5296, 8094-002, 8294, and 9194 expansion unit

Use this reference topic to look up FRU locations and failing components for: 5094, 5294, 5096, 5296, 8094-002, 8294, and 9194 expansion units.

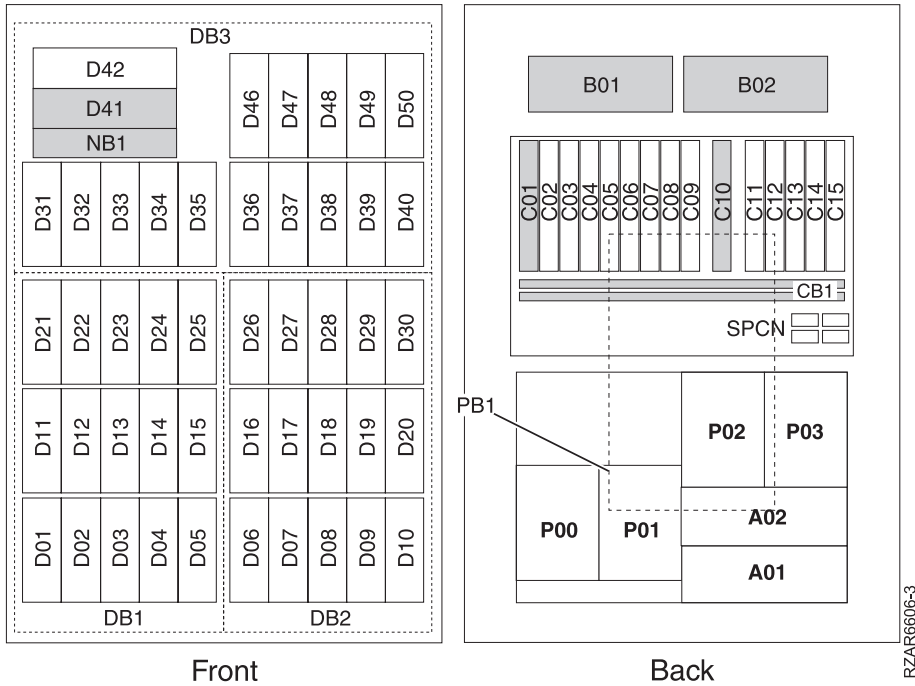
Note:

- The known logical location codes for this unit are listed next to the corresponding physical location in the following information.
- If you are working with a logical location code for your expansion unit and it is not listed in the following information, contact your next level of support.
- The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.

The following diagram shows the FRU layout in the 5094 expansion unit but can be used in conjunction with the following tables for the 5294, 5096, 5296, 8094-002, 8294, and 9194 expansion units.

Remember: References to disk units, media (optical and tape), and device boards in either the following diagram or table do not apply to the 5096, or 5296.

If you need address information, refer to “Addresses — 5094, 5294, 5096, 5296, 8094-002, and 8294 expansion units” on page 150.



Note: Do not install power supplies P00 and P01 ac jumper cables on the same ac module.

The following table gives the components available for callout on the expansion units. It matches those components with the FRU containing the component. The other columns give location information, a link to a removal and replacement procedure, and additional comments.

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.

Table 21. FRU locations and failing components for expansion units

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
Expansion unit backplane <ul style="list-style-type: none"> • SPCN • Card enclosure or backplane • Multi-adapter bridge (all) 	TWRCARD MA_BRDG MABRCFG PPCITWR PRI_PCI HSL_LNK PIOCARD MASBUS TWRBKPL TWRPLNR	Un-CB1	28B7	“Exchanging the backplane in the 5094, 5294, 5096, 5296, and 8294 expansion units” on page 497

Table 21. FRU locations and failing components for expansion units (continued)

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
PCI adapter in slot 1	PIOCARD MASBUS SLOTERR	Un-CB1-C01	"Part number catalog" on page 160	PCI adapter in the Installing hardware topic.
PCI adapter in slot 2	PIOCARD MASBUS SLOTERR	Un-CB1-C02		
PCI adapter in slot 3	PIOCARD MASBUS SLOTERR	Un-CB1-C03		
PCI adapter in slot 4	PIOCARD MASBUS SLOTERR	Un-CB1-C04		
PCI adapter in slot 5	PIOCARD MASBUS SLOTERR	Un-CB1-C05		
PCI adapter in slot 6	PIOCARD MASBUS SLOTERR	Un-CB1-C06		
PCI adapter in slot 7	PIOCARD MASBUS SLOTERR	Un-CB1-C07		
PCI adapter in slot 8	PIOCARD MASBUS SLOTERR	Un-CB1-C08		
PCI adapter in slot 9	PIOCARD MASBUS SLOTERR	Un-CB1-C09		
RIO/HSL adapter card • HSL I/O adapter • PCI host bridge adapter	SIIOADP SIADPCD SI_PHB	Un-CB1-C10	2886, 2887, 28E7	FC 5074, FC 5079, FC 5094, FC 5294 - Cards (dedicated)
PCI adapter in slot 11	PIOCARD MASBUS SLOTERR	Un-CB1-C11	"Part number catalog" on page 160	PCI adapter in the Installing hardware topic.
PCI adapter in slot 12	PIOCARD MASBUS SLOTERR	Un-CB1-C12		
PCI adapter in slot 13	PIOCARD MASBUS SLOTERR	Un-CB1-C13		
PCI adapter in slot 14	PIOCARD MASBUS SLOTERR	Un-CB1-C14		
PCI adapter in slot 15	PIOCARD MASBUS SLOTERR	Un-CB1-C15		

Table 21. FRU locations and failing components for expansion units (continued)

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
PCI bridge set 1	BRDGSET BRDGST1	Un-CB1-C01 Un-CB1-C02 Un-CB1-C03 Un-CB1-C04		Replace the cards using the removal and replacement procedures corresponding to the locations indicated.
PCI bridge set 2	BRDGSET BRDGST2	Un-CB1-C05 Un-CB1-C06 Un-CB1-C07 Un-CB1-C08 Un-CB1-C09		
PCI bridge set 3	BRDGSET BRDGST3	Un-CB1-C11 Un-CB1-C12 Un-CB1-C13 Un-CB1-C14 Un-CB1-C15		
Fan 1		Un-B01	"Part assembly diagrams for 5094, 5096,5074, 8294, and 9194 expansion units" on page 213	"Exchanging air moving devices in the 5094, 5294, 5096, 5296, and 8294 expansion units" on page 504
Fan 2		Un-B02		
Power board		Un-PB1	"Part assembly diagrams for 5094, 5096,5074, 8294, and 9194 expansion units" on page 213	"Exchanging the power distribution backplane in the 5094, 5294, 5096, 5296, and 8294 expansion units" on page 504
AC module 1		Un-A01	Power parts	"Exchanging ac modules in the 5094, 5294, 5096, 5296 and 8294 expansion units (single line cord)" on page 495 or "Exchanging ac modules in the 5094, 5294, 5096, 5296, and 8294 expansion units (dual line cord)" on page 496
AC module 2		Un-A02		
Power supply 0 (dual line cord only)		Un-P00	"Part assembly diagrams for 5094, 5096,5074, 8294, and 9194 expansion units" on page 213	"Exchanging power supplies in the 5094, 5294, 5096, 5296, and 8294 expansion units" on page 506
Power supply 1 (single or dual line cord)		Un-P01		
Power supply 2 (single or dual line cord)		Un-P02		
Power supply 3 (single or dual line cord)		Un-P03		
Remember: If you are servicing a 5096, or a 5296 that references to disk units, media (optical and tape), and device boards in the location tables do not apply to either of these models.				

Table 21. FRU locations and failing components for expansion units (continued)

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
Device board 1		Un-DB1	28CC	“Exchanging device board DB1 and device board 2 in the 5094, 5294, and 8294 expansion units” on page 497 Note: Not applicable to the 5096, or a 5296.
Device board 2		Un-DB2		
Device board 3		Un-DB3	28CB	“Exchanging device board (DB3) in the 5094, 5294, and 8294 expansion units” on page 499 Note: Not applicable to the 5096, or a 5296.
Display panel		Un-NB1	247B	“Exchanging the control panel in the 5094, 5294, 5096, 5296, and 8294 expansion units” on page 503
Disk units 1–5		Un-DB1-D01 Un-DB1-D02 Un-DB1-D03 Un-DB1-D04 Un-DB1-D05	“Part number catalog” on page 160	Disk unit recovery procedures Note: Not applicable to the 5096, or a 5296.
Disk units 6–10		Un-DB2-D06 Un-DB2-D07 Un-DB2-D08 Un-DB2-D09 Un-DB2-D10	“Part number catalog” on page 160	Disk unit recovery procedures Note: Not applicable to the 5096, or a 5296.
Disk units 11–15		Un-DB1-D11 Un-DB1-D12 Un-DB1-D13 Un-DB1-D14 Un-DB1-D15	“Part number catalog” on page 160	Disk unit recovery procedures Note: Not applicable to the 5096, or a 5296.
Disk units 16–20		Un-DB2-D16 Un-DB2-D17 Un-DB2-D18 Un-DB2-D19 Un-DB2-D20	“Part number catalog” on page 160	Disk unit recovery procedures Note: Not applicable to the 5096, or a 5296.
Disk units 21–25		Un-DB1-D21 Un-DB1-D22 Un-DB1-D23 Un-DB1-D24 Un-DB1-D25	“Part number catalog” on page 160	Disk unit recovery procedures Note: Not applicable to the 5096, or a 5296.
Disk units 26–30		Un-DB2-D26 Un-DB2-D27 Un-DB2-D28 Un-DB2-D29 Un-DB2-D30	“Part number catalog” on page 160	Disk unit recovery procedures Note: Not applicable to the 5096, or a 5296.

Table 21. FRU locations and failing components for expansion units (continued)

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
Disk units 31–40		Un-DB3-D31 Un-DB3-D32 Un-DB3-D33 Un-DB3-D34 Un-DB3-D35 Un-DB3-D36 Un-DB3-D37 Un-DB3-D38 Un-DB3-D39 Un-DB3-D40	“Part number catalog” on page 160	Disk unit recovery procedures Note: Not applicable to the 5096, or a 5296.
Media (optical)		Un-DB3-D41	“Part number catalog” on page 160	Media device in an expansion unit in the Installing hardware topic. Note: Not applicable to the 5096, or a 5296.
Media (tape)		Un-DB3-D42		
Disk units 46–50		Un-DB3-D46 Un-DB3-D47 Un-DB3-D48 Un-DB3-D49 Un-DB3-D50	“Part number catalog” on page 160	Disk unit recovery procedures Note: Not applicable to the 5096, or a 5296.
RIO/HSL adapter card connector	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-CB1-C10-00	“Part number catalog” on page 160	“Exchanging RIO/HSL cables” on page 523
RIO/HSL adapter card connector	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-CB1-C10-01		

Notes:

1. Card positions C01, C05, and C11 are required to be either I/O processors or Integrated xSeries servers (IXS).
2. J11 is a RPO connection, J14 is an uninterruptible power supply connector, J15 is a SPCN 1 connector, and J16 is a SPCN 2 connector.
3. Multi-adapter bridge domains are labeled **PCI Bridge Set** inside the I/O unit.
4. The following table provides information necessary to identify the IOP to which IOAs are assigned.
 - The left column indicates the domain in which IOA assignment is allowed.
 - The right column is used to determine the IOP to which an IOA is assigned.
 - The first position in the list must be an IOP. The remaining positions may be IOPs or IOAs. IOAs are assigned to the first IOP located to their left in the list. Although IOAs can be manually reassigned using SST/DST, the IOA assignments return to the default order after each IPL.

Table 22. Identify the IOP to which IOAs are assigned

Multi-adapter bridge domain / PCI bridge set	IOA assignment rules
C01 - C04	C01, C02, C03, C04

Table 22. Identify the IOP to which IOAs are assigned (continued)

Multi-adapter bridge domain / PCI bridge set	IOA assignment rules
C05 - C09	C05, C06, C07, C08, C09
C11 - C15	C11, C12, C13, C14, C15

Locations — 0595 and 5095 expansion units

Expansion unit part locations.

Note: The known logical location codes for this unit are listed next to the corresponding physical location in the following information. If you are working with a logical location code for this unit and it is not listed in the following information, contact your next level of support.

The following diagrams show field replaceable unit (FRU) layout in the expansion units. Use them with the following tables. If you need address information, refer to “Addresses — 0595 and 5095 expansion units” on page 156.

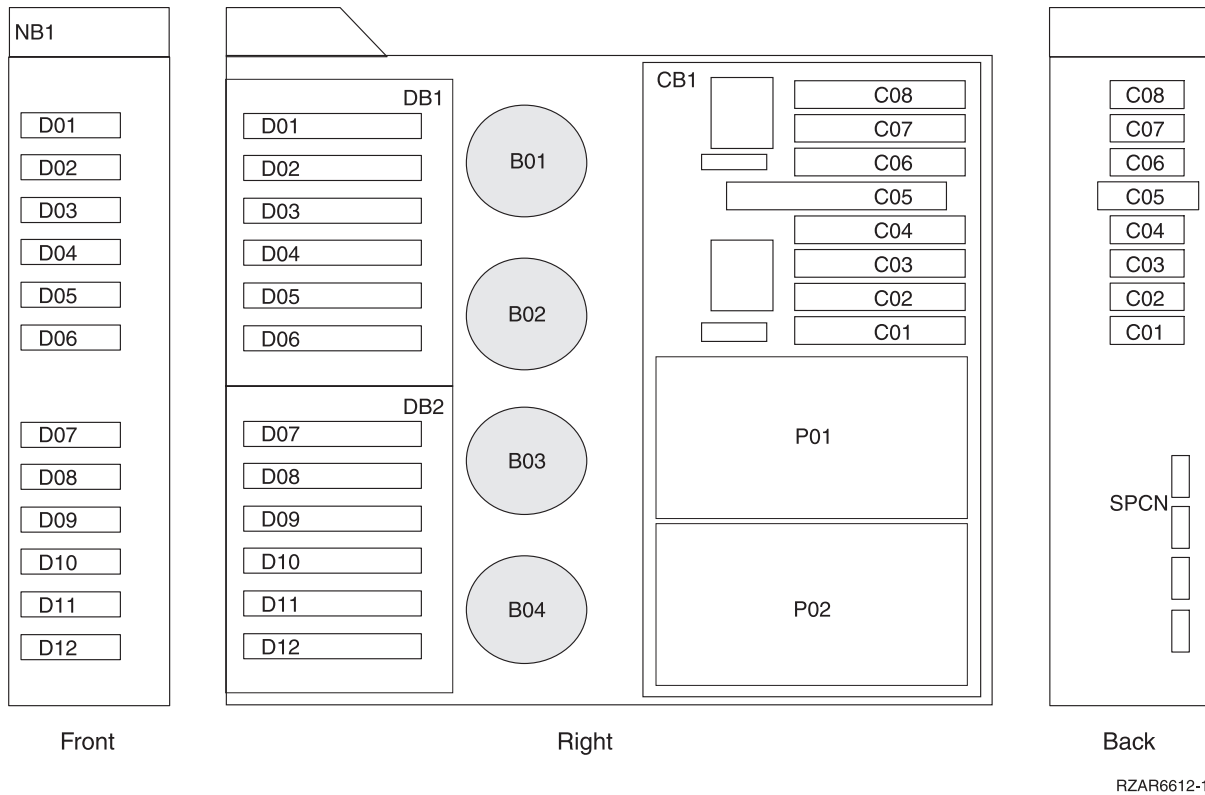
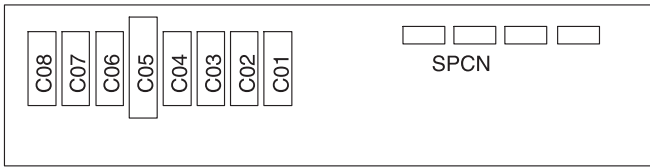
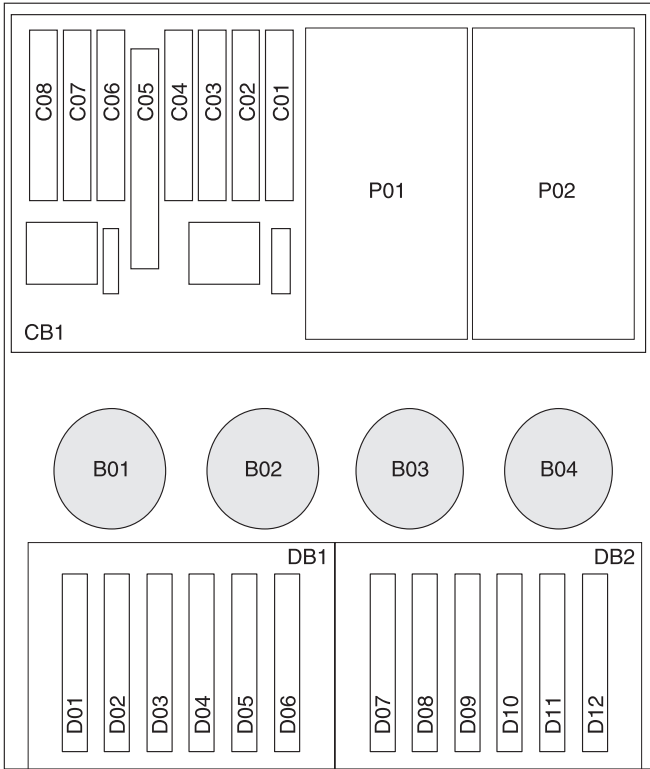


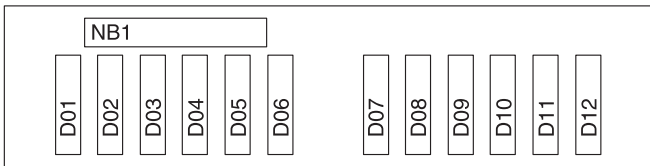
Figure 56. 5095 expansion unit



Back



Top



Front

RZAR6601-2

Figure 57. 0595 expansion unit

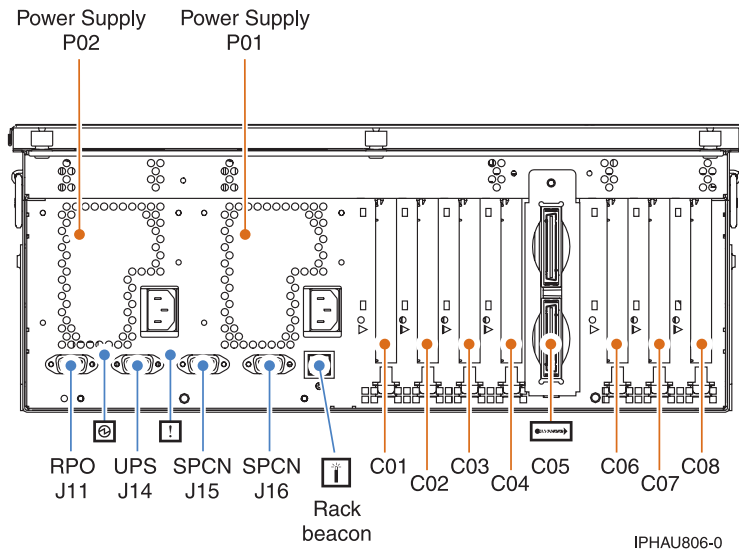


Figure 58. Back view of the expansion unit

The following table gives the components available for callout on the expansion units. It matches those components with the FRU containing the component. The other columns give location information, a link to a removal and replacement procedure, and additional information.

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.

Table 23. FRU locations and failing components

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
Backplane <ul style="list-style-type: none"> • SPCN • Card enclosure or backplane • Multi-adapter bridge (all) 	TWRCARD MA_BRDG MABRCFG PPCITWR PRI_PCI HSL_LNK PIOCARD MASBUS TWRBKPL	Un-CB1	28BE	“Exchanging the I/O backplane assembly in the 5095, 0595, and 7311-D20 expansion units” on page 512
PCI adapter in slot 1	PIOCARD MASBUS SLOTERR	Un-CB1-C01	“Part number catalog” on page 160	PCI adapter
PCI adapter in slot 2	PIOCARD MASBUS SLOTERR	Un-CB1-C02	“Part number catalog” on page 160	PCI adapter
PCI adapter in slot 3	PIOCARD MASBUS SLOTERR	Un-CB1-C03	“Part number catalog” on page 160	PCI adapter
PCI adapter in slot 4	PIOCARD MASBUS SLOTERR	Un-CB1-C04	“Part number catalog” on page 160	PCI adapter

Table 23. FRU locations and failing components (continued)

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
RIO/HSL adapter card • HSL I/O adapter • RIO host bridge adapter	SIIOADP SIADPCD SI_PHB	Un-CB1-C05	2886 288728E7	
PCI adapter in slot 6	PIOCARD MASBUS SLOTERR	Un-CB1-C06	"Part number catalog" on page 160	PCI adapter
PCI adapter in slot 7	PIOCARD MASBUS SLOTERR	Un-CB1-C07	"Part number catalog" on page 160	PCI adapter
PCI adapter in slot 8	PIOCARD MASBUS SLOTERR	Un-CB1-C08	"Part number catalog" on page 160	PCI adapter
PCI bridge set 1	BRDGSET BRDGST1	Un-CB1-C01 Un-CB1-C02 Un-CB1-C03 Un-CB1-C04		Replace the system backplane and cards using the remove and replace procedures corresponding to the locations indicated.
PCI bridge set 2	BRDGSET BRDGST2	Un-CB1-C06 Un-CB1-C07 Un-CB1-C08		Replace the system backplane and cards using the remove and replace procedures corresponding to the locations indicated.
Fan 1		Un-B01	"Part assembly diagrams for 0595 and 5095 expansion units" on page 226	"Exchanging fans in the 5095, 0595, and 7311-D20 expansion units" on page 511
Fan 2		Un-B02	"Part assembly diagrams for 0595 and 5095 expansion units" on page 226	"Exchanging fans in the 5095, 0595, and 7311-D20 expansion units" on page 511
Fan 3		Un-B03	"Part assembly diagrams for 0595 and 5095 expansion units" on page 226	"Exchanging fans in the 5095, 0595, and 7311-D20 expansion units" on page 511
Fan 4		Un-B04	"Part assembly diagrams for 0595 and 5095 expansion units" on page 226	"Exchanging fans in the 5095, 0595, and 7311-D20 expansion units" on page 511
Disk unit 1		Un-DB1-D01	"Part number catalog" on page 160	Disk drive
Disk unit 2		Un-DB1-D02	"Part number catalog" on page 160	Disk drive

Table 23. FRU locations and failing components (continued)

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
Disk unit 3		Un-DB1-D03	"Part number catalog" on page 160	Disk drive
Disk unit 4		Un-DB1-D04	"Part number catalog" on page 160	Disk drive
Disk unit 5		Un-DB1-D05	"Part number catalog" on page 160	Disk drive
Disk unit 6		Un-DB1-D06	"Part number catalog" on page 160	Disk drive
Disk unit 7		Un-DB2-D07	"Part number catalog" on page 160	Disk drive
Disk unit 8		Un-DB2-D08	"Part number catalog" on page 160	Disk drive
Disk unit 9		Un-DB2-D09	"Part number catalog" on page 160	Disk drive
Disk unit 10		Un-DB2-D10	"Part number catalog" on page 160	Disk drive
Disk unit 11		Un-DB2-D11	"Part number catalog" on page 160	Disk drive
Disk unit 12		Un-DB2-D12	"Part number catalog" on page 160	Disk drive
Power supply 1		Un-P01	"Part assembly diagrams for 0595 and 5095 expansion units" on page 226	Power supply
Power supply 2		Un-P02	"Part assembly diagrams for 0595 and 5095 expansion units" on page 226	Power supply
Device board 1		Un-DB1	28B9	"Exchanging disk drive backplane in the 5095, 0595, and 7311-D20 expansion units" on page 511
Device board 2		Un-DB2	28B9	"Exchanging disk drive backplane in the 5095, 0595, and 7311-D20 expansion units" on page 511
Display panel		Un-NB1	250C	"Exchanging the control panel in the 5095, 0595, and 7311-D20 expansion units" on page 510

Table 23. FRU locations and failing components (continued)

Failing item name	Symbolic FRU name	Physical location code	Link to part number	Failing item removal and replacement procedures
RIO/HSL adapter card connector (bottom connector)	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-CB1-C05-00	"Part number catalog" on page 160	"Exchanging RIO/HSL cables" on page 523
RIO/HSL adapter card connector	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-CB1-C05-01	"Part number catalog" on page 160	"Exchanging RIO/HSL cables" on page 523

Notes:

1. Card positions C01 and C06 are required to be either I/O processors or Integrated xSeries servers (IXS).
2. J11 is an RPO connection, J14 is a uninterruptible power supply connector, J15 is an SPCN 1 connector, and J16 is an SPCN 2 connector.
3. Multi-adapter bridge domains are labeled **PCI Bridge Set** inside the expansion unit.
4. The following table provides information necessary to identify the IOP to which IOAs are assigned.
 - The left column indicates the domain in which IOA assignment is allowed.
 - The right column is used to determine the IOP to which an IOA is assigned.
 - The first position in the list must be an IOP. The remaining positions may be IOPs or IOAs. IOAs are assigned to the first IOP located to their left in the list. Although IOAs can be manually reassigned using SST/DST, the IOA assignments return to the default order after each IPL.

Table 24. Identify the IOP to which IOAs are assigned

Multi-adapter bridge domain / PCI bridge set	IOA assignment rules
C01 - C04	C01, C02, C03, C04
C06 - C08	C06, C07, C08

Locations — 5786, 5787, 7031-D24, and 7031-T24 expansion units

Expansion unit part locations.

Note: The known logical location codes for this unit are listed next to the corresponding physical location in the following information. If you are working with a logical location code for this unit and it is not listed in the following information, contact your next level of support.

The following diagrams show the field replaceable unit (FRU) layout. Use them with the following tables.

The following table gives the components available for callout. It matches those components with the FRU containing the component. The other columns give location information, a link to a removal and replacement procedure, and additional information.

If you need address information, refer to Addresses — 5786, 5787, 7031-D24, and 7031-T24 expansion units.

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.

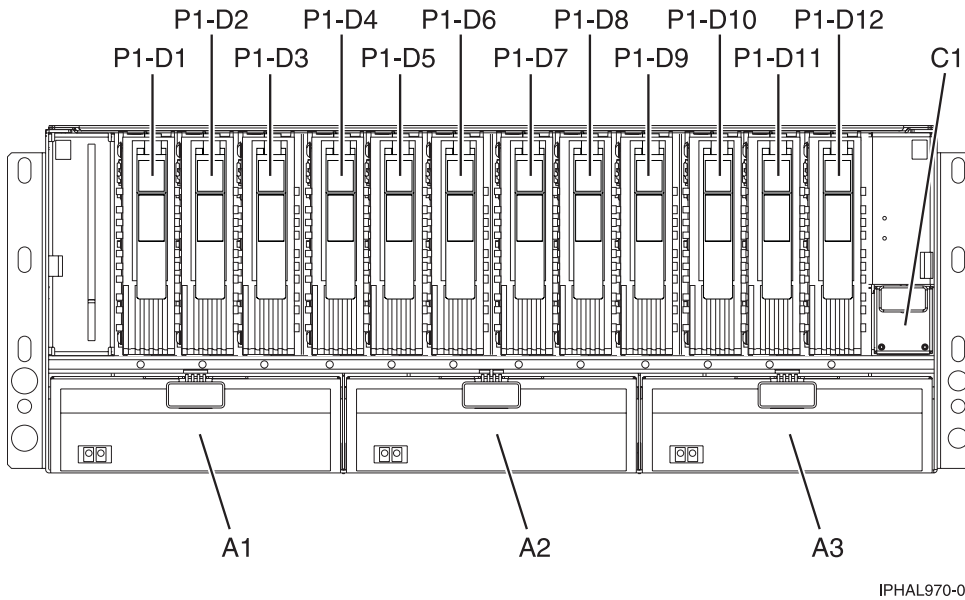


Figure 59. Front view

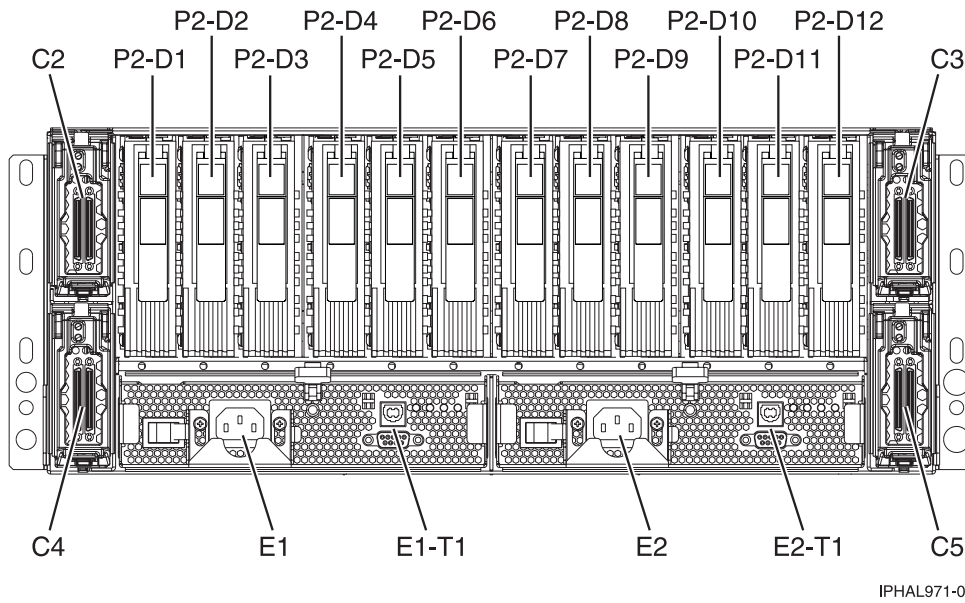


Figure 60. Back view

Table 25. FRU locations and failing components

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Disk drive backplane 1		Un-P1	No	The disk drive backplane is part of the chassis assembly FRU, see Part assembly diagrams. Chassis removal and replacement procedures are sent with the FRU.	The disk drive backplane is part of the chassis assembly FRU, see Part assembly diagrams. Chassis removal and replacement procedures are sent with the FRU.
Disk drive backplane 2		Un-P2	No	The disk drive backplane is part of the chassis assembly FRU, see Part assembly diagrams. Chassis removal and replacement procedures are sent with the FRU.	The disk drive backplane is part of the chassis assembly FRU, see Part assembly diagrams. Chassis removal and replacement procedures are sent with the FRU.
Power distribution backplane		Un-P3	No	The power distribution backplane is part of the chassis assembly FRU, see Part assembly diagrams. Chassis removal and replacement procedures are sent with the FRU.	The power distribution backplane is part of the chassis assembly FRU, see Part assembly diagrams. Chassis removal and replacement procedures are sent with the FRU.
Fan 1 (left)	DISKFAN	Un-A1	No	Part assembly diagrams	“Exchanging the 5786, 5787, 7031-D24, and 7031-T24 SCSI disk drive enclosure fans” on page 515
Fan 2	DISKFAN	Un-A2	No	Part assembly diagrams	“Exchanging the 5786, 5787, 7031-D24, and 7031-T24 SCSI disk drive enclosure fans” on page 515
Fan 3 (right)	DISKFAN	Un-A3	No	Part assembly diagrams	“Exchanging the 5786, 5787, 7031-D24, and 7031-T24 SCSI disk drive enclosure fans” on page 515
VPD card		Un-C1	No	“VPD parts” on page 370	The VPD card is part of the chassis assembly FRU, see Part assembly diagrams. Chassis removal and replacement procedures are sent with the FRU.
SCSI repeater card 1 (top left)	DEVBPLN	Un-C2	No	Part assembly diagrams	Remove and replace SCSI repeater card
SCSI repeater card 2 (top right)	DEVBPLN	Un-C3	No	Part assembly diagrams	Remove and replace SCSI repeater card

Table 25. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
SCSI repeater card 3 (bottom left)	DEVBPLN	Un-C4	No	Part assembly diagrams	Remove and replace SCSI repeater card
SCSI repeater card 4 (bottom right)	DEVBPLN	Un-C5	No	Part assembly diagrams	Remove and replace SCSI repeater card
Crossover card 1 (left)		Un-C6	No	Part assembly diagrams	The crossover card is part of the chassis assembly FRU, see Part assembly diagrams. Chassis removal and replacement procedures are sent with the FRU.
Crossover card 2 (right)		Un-C7	No	Part assembly diagrams	The crossover card is part of the chassis assembly FRU, see Part assembly diagrams. Chassis removal and replacement procedures are sent with the FRU.
Power supply 1 (left)	DISKPWR	Un-E1	No	"Power parts" on page 359	Model 5786, 5787, 7031-D24, and 7031-T24 SCSI disk drive enclosure
Rack indicator connector		Un-E1-T1	No		
Power supply 2 (right)	DISKPWR	Un-E2	No	"Power parts" on page 359	Model 5786, 5787, 7031-D24, and 7031-T24 SCSI disk drive enclosure
Rack indicator connector		Un-E2-T1	No		
Device physical locations					
Disk drive 1 (front)		Un-P1-D01 (logical location Un-Px-Ty-L5-L0 - single or Un-Px-Ty-L13-L0 - dual ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 2 (front)		Un-P1-D02 (logical location Un-Px-Ty-L4-L0 - single or Un-Px-Ty-L12-L0 - dual ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 3 (front)		Un-P1-D03 (logical location Un-Px-Ty-L3-L0 - single or Un-Px-Ty-L11-L0 - dual ¹)	Yes	"Disk unit parts" on page 299	Disk drive

Table 25. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Disk drive 4 (front)		Un-P1-D04 (logical location Un-Px-Ty-L2-L0 - single or Un-Px-Ty-L10-L0 - dual ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 5 (front)		Un-P1-D05 (logical location Un-Px-Ty-L1-L0 - single or Un-Px-Ty-L9-L0 - dual ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 6 (front)		Un-P1-D06 (logical location Un-Px-Ty-L0-L0 - single or Un-Px-Ty-L8-L0 - dual ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 7 (front)		Un-P1-D07 (logical location Un-Px-Ty-L5-L0 ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 8 (front)		Un-P1-D08 (logical location Un-Px-Ty-L4-L0 ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 9 (front)		Un-P1-D09 (logical location Un-Px-Ty-L3-L0 ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 10 (front)		Un-P1-D10 (logical location Un-Px-Ty-L2-L0 ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 11 (front)		Un-P1-D11 (logical location Un-Px-Ty-L1-L0 ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 12 (front)		Un-P1-D12 (logical location Un-Px-Ty-L0-L0 ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 1 (back)		Un-P2-D01 (logical location Un-Px-Ty-L5-L0 - single or Un-Px-Ty-L13-L0 - dual ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 2 (back)		Un-P2-D02 (logical location Un-Px-Ty-L4-L0 - single or Un-Px-Ty-L12-L0 - dual ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 3 (back)		Un-P2-D03 (logical location Un-Px-Ty-L3-L0 - single or Un-Px-Ty-L11-L0 - dual ¹)	Yes	"Disk unit parts" on page 299	Disk drive

Table 25. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Disk drive 4 (back)		Un-P2-D04 (logical location Un-Px-Ty-L2-L0 - single or Un-Px-Ty-L10-L0 - dual ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 5 (back)		Un-P2-D05 (logical location Un-Px-Ty-L1-L0 - single or Un-Px-Ty-L9-L0 - dual ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 6 (back)		Un-P2-D06 (logical location Un-Px-Ty-L0-L0 - single or Un-Px-Ty-L8-L0 - dual ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 7 (back)		Un-P2-D07 (logical location Un-Px-Ty-L5-L0 ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 8 (back)		Un-P2-D08 (logical location Un-Px-Ty-L4-L0 ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 9 (back)		Un-P2-D09 (logical location Un-Px-Ty-L3-L0 ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 10 (back)		Un-P2-D10 (logical location Un-Px-Ty-L2-L0 ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 11 (back)		Un-P2-D11 (logical location Un-Px-Ty-L1-L0 ¹)	Yes	"Disk unit parts" on page 299	Disk drive
Disk drive 12 (back)		Un-P2-D12 (logical location Un-Px-Ty-L0-L0 ¹)	Yes	"Disk unit parts" on page 299	Disk drive

¹ Where:

- Un-Px is the backplane of the unit where the SCSI PCI adapter is installed.
- Ty is the connector on the SCSI PCI adapter.
- single is a single SCSI repeater card.
- dual is a dual SCSI repeater card.

Locations — 5791, 5794, and 7040-61D expansion units

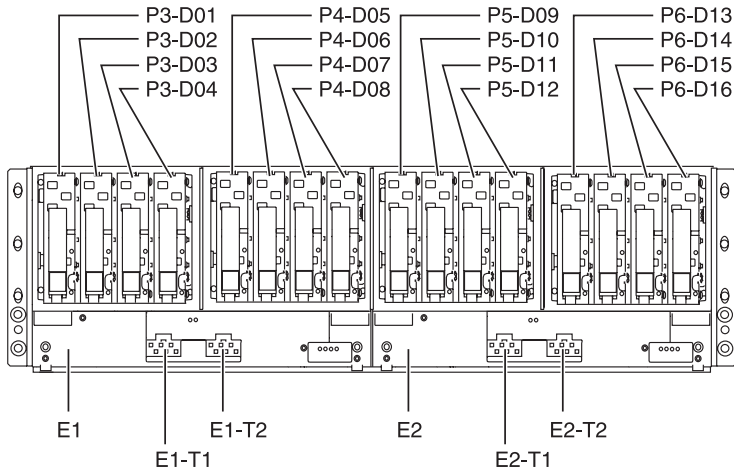
Expansion unit part locations.

Note: The known logical location codes for this unit are listed next to the corresponding physical location in the following information. If you are working with a logical location code for this unit and it is not listed in the following information, contact your next level of support.

The following diagrams show the field replaceable unit (FRU) layout for 5791 and 5794. Use them with the following tables.

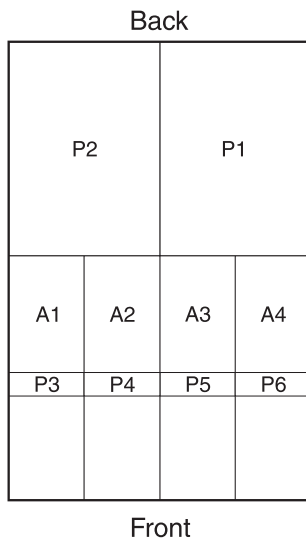
The following diagrams also show the field replaceable unit (FRU) layout in the 7040-7040-61D expansion unit. After you locate your part in the 7040-61D expansion unit, refer to the System p® 690 service guide (SA38-0589) for part number information.

Note: Some units may have labels that designate location codes other than those shown in the following illustrations and tables. If that is the case, use the location codes shown in the following illustrations and tables.



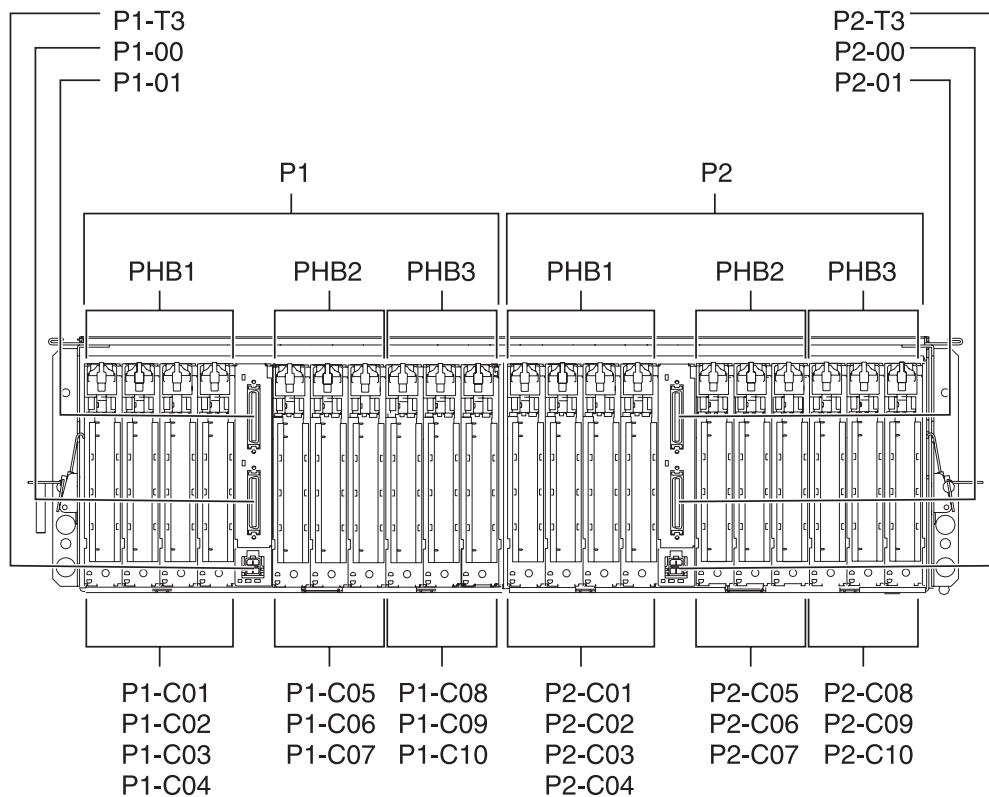
IPHAU803-0

Figure 61. Front view



IPHAU804-0

Figure 62. Top view



IPHAU805-1

Figure 63. Back view

The following table gives the components available for callout. It matches those components with the FRU containing the component. The other columns give location information, a link to a removal and replacement procedure, and additional information.

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.

Table 26. FRU locations and failing components

Failing item name	Symbolic failing item name	Physical location code	Attention LED	Link to part number	Failing item removal and replacement procedures
Backplane 1 • RIO/HSL • SCSI Controllers • SPCN node	MA_BRDG MABRCFG PPCITWR PRI_PCI SI_PHB SIOADP PIOCARD MASBUS SLOTERR SIADPCD HSL_I4 HSL_LNK TWRPLNR	Un-P1	Yes	28C6	“Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units” on page 516

Table 26. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Attention LED	Link to part number	Failing item removal and replacement procedures
Backplane 2 • RIO/HSL • SCSI Controllers • SPCN node	MA_BRDG MABRCFG PPCITWR PRI_PCI SI_PHB SIIOADP PIOCARD MASBUS SLOTERR SIADPCD HSL_I4 HSL_LNK TWRPLNR	Un-P2	Yes	28C6	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
Disk drive backplane		Un-P3	Yes	Backplanes	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
Disk drive backplane		Un-P4	Yes	Backplanes	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
Disk drive backplane		Un-P5	Yes	Backplanes	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
Disk drive backplane		Un-P6	Yes	Backplanes	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
PCI adapter in slot 1	PIOCARD MASBUS SLOTERR	Un-P1-C01	Yes	System parts	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
PCI adapter in slot 2	PIOCARD MASBUS SLOTERR	Un-P1-C02	Yes	System parts	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
PCI adapter in slot 3	PIOCARD MASBUS SLOTERR	Un-P1-C03	Yes	System parts	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
PCI adapter in slot 4	PIOCARD MASBUS SLOTERR	Un-P1-C04	Yes	System parts	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
PCI adapter in slot 5	PIOCARD MASBUS SLOTERR	Un-P1-C05	Yes	System parts	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
PCI adapter in slot 6	PIOCARD MASBUS SLOTERR	Un-P1-C06	Yes	System parts	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
PCI adapter in slot 7	PIOCARD MASBUS SLOTERR	Un-P1-C07	Yes	System parts	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
PCI adapter in slot 8	PIOCARD MASBUS SLOTERR	Un-P1-C08	Yes	System parts	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516

Table 26. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Attention LED	Link to part number	Failing item removal and replacement procedures
PCI adapter in slot 9	PIOCARD MASBUS SLOTERR	Un-P1-C09	Yes	System parts	“Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units” on page 516
PCI adapter in slot 10	PIOCARD MASBUS SLOTERR	Un-P1-C10	Yes	System parts	“Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units” on page 516
PHB (PCI bridge set) 1	BRDGSET BRDGST1	Un-P1-C01 Un-P1-C02 Un-P1-C03 Un-P1-C04			Replace the cards using the removal and replacement procedures corresponding to the locations indicated.
PHB (PCI bridge set) 2	BRDGSET BRDGST2	Un-P1-C05 Un-P1-C06 Un-P1-C07			
PHB (PCI bridge set) 3	BRDGSET BRDGST3	Un-P1-C08 Un-P1-C09 Un-P1-C10			
PCI adapter in slot 1	PIOCARD MASBUS SLOTERR	Un-P2-C01	Yes	System parts	PCI adapter
PCI adapter in slot 2	PIOCARD MASBUS SLOTERR	Un-P2-C02	Yes	System parts	PCI adapter
PCI adapter in slot 3	PIOCARD MASBUS SLOTERR	Un-P2-C03	Yes	System parts	PCI adapter
PCI adapter in slot 4	PIOCARD MASBUS SLOTERR	Un-P2-C04	Yes	System parts	PCI adapter
PCI adapter in slot 5	PIOCARD MASBUS SLOTERR	Un-P2-C05	Yes	System parts	PCI adapter
PCI adapter in slot 6	PIOCARD MASBUS SLOTERR	Un-P2-C06	Yes	System parts	PCI adapter
PCI adapter in slot 7	PIOCARD MASBUS SLOTERR	Un-P2-C07	Yes	System parts	PCI adapter
PCI adapter in slot 8	PIOCARD MASBUS SLOTERR	Un-P2-C08	Yes	System parts	PCI adapter
PCI adapter in slot 9	PIOCARD MASBUS SLOTERR	Un-P2-C09	Yes	System parts	PCI adapter
PCI adapter in slot 10	PIOCARD MASBUS SLOTERR	Un-P2-C10	Yes	System parts	PCI adapter

Table 26. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Attention LED	Link to part number	Failing item removal and replacement procedures
PHB (PCI bridge set) 1	BRDGSET BRDGST1	Un-P2-C01 Un-P2-C02 Un-P2-C03 Un-P2-C04			Replace the cards using the removal and replacement procedures corresponding to the locations indicated.
PHB (PCI bridge set) 2	BRDGSET BRDGST2	Un-P2-C05 Un-P2-C06 Un-P2-C07			
PHB (PCI bridge set) 3	BRDGSET BRDGST3	Un-P2-C08 Un-P2-C09 Un-P2-C10			
Fan 1 (left)		Un-A1	Yes	Power parts	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
Fan 2		Un-A2	Yes	Power parts	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
Fan 3		Un-A3	Yes	Power parts	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
Fan 4 (right)		Un-A4	Yes	Power parts	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
Power supply 1 (left)		Un-E1	Yes	System parts	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
Super UPIC connector (left)		Un-E1-T1			
Super UPIC connector (right)		Un-E1-T2			
Power supply 2 (right)		Un-E2	Yes	System parts	"Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units" on page 516
Super UPIC connector (left)		Un-E2-T1			
Super UPIC connector (right)		Un-E2-T2			
RIO/HSL adapter card connector port 0 (bottom connector - P0)	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-P1-00	Yes		"Exchanging RIO/HSL cables" on page 523

Table 26. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Attention LED	Link to part number	Failing item removal and replacement procedures
RIO/HSL adapter card connector port 1 (top connector - P1)	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-P1-01	Yes		"Exchanging RIO/HSL cables" on page 523
RIO/HSL adapter card connector port 0 (bottom connector - P0)	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-P2-00	Yes		"Exchanging RIO/HSL cables" on page 523
RIO/HSL adapter card connector port 1 (top connector - P1)	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-P2-01	Yes		"Exchanging RIO/HSL cables" on page 523
Media subsystem power connector		Un-P1-T3			
Media subsystem power connector		Un-P2-T3			
Integrated SCSI controller port		Un-P1-T5			
Integrated SCSI controller port		Un-P1-T6			
Integrated SCSI controller port		Un-P2-T5			
Integrated SCSI controller port		Un-P2-T6			
Device physical locations					
Disk drive 1		Un-P3-D01 (logical location P2-T6-L8-L0)		Disk unit parts	Disk drive
Disk drive 2		Un-P3-D02 (logical location P2-T6-L9-L0)		Disk unit parts	Disk drive
Disk drive 3		Un-P3-D03 (logical location P2-T6-L10-L0)		Disk unit parts	Disk drive

Table 26. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Attention LED	Link to part number	Failing item removal and replacement procedures
Disk drive 4		Un-P3-D04 (logical location P2-T6-L11-L0)		Disk unit parts	Disk drive
Disk drive 5		Un-P4-D05 (logical location P2-T5-L8-L0)		Disk unit parts	Disk drive
Disk drive 6		Un-P4-D06 (logical location P2-T5-L9-L0)		Disk unit parts	Disk drive
Disk drive 7		Un-P4-D07 (logical location P2-T5-L10-L0)		Disk unit parts	Disk drive
Disk drive 8		Un-P4-D08 (logical location P2-T5-L11-L0)		Disk unit parts	Disk drive
Disk drive 9		Un-P5-D09 (logical location P1-T6-L8-L0)		Disk unit parts	Disk drive
Disk drive 10		Un-P5-D10 (logical location P1-T6-L9-L0)		Disk unit parts	Disk drive
Disk drive 11		Un-P5-D11 (logical location P1-T6-L10-L0)		Disk unit parts	Disk drive
Disk drive 12		Un-P5-D12 (logical location P1-T6-L11-L0)		Disk unit parts	Disk drive
Disk drive 13		Un-P6-D13 (logical location P1-T5-L8-L0)		Disk unit parts	Disk drive
Disk drive 14		Un-P6-D14 (logical location P1-T5-L9-L0)		Disk unit parts	Disk drive
Disk drive 15		Un-P6-D15 (logical location P1-T5-L10-L0)		Disk unit parts	Disk drive

Table 26. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Attention LED	Link to part number	Failing item removal and replacement procedures
Disk drive 16		Un-P6-D16 (logical location P1-T5-L11-L0)		Disk unit parts	Disk drive

Note:

- The following table provides information necessary to identify the IOP to which an IOA is assigned.
 - The left column indicates the domain in which IOA assignment is allowed.
 - The right column is used to determine the IOP to which an IOA is assigned.
 - The first position in the list must be an IOP. The remaining positions may be IOPs or IOAs. IOAs are assigned to the first IOP located to their left in the list. Although IOAs can be manually reassigned using SST/DST, the IOA assignments return to the default order after each IPL.

Table 27. Identify the IOP to which IOAs are assigned

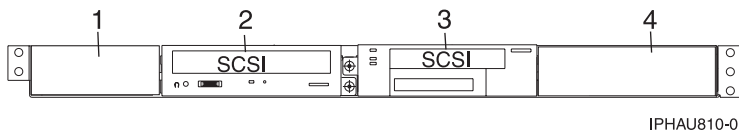
Multi-adapter bridge domain / PCI bridge set	IOA assignment rules
P1-C01 through P1-C04	P1-C02, P1-C03, P1-C04
P1-C05 through P1-C07	P1-C06, P1-C07
P2-C01 through P2-C04	P2-C02, P2-C03, P2-C04
P2-C05 through P2-C07	P2-C06, P2-C07

Locations — 5795 expansion unit

Expansion unit part locations.

The following figures show locations for devices installed in the expansion unit, and the SCSI IDs for the media devices.

Note: The SCSI IDs shown for the media devices indicate how installed devices are set when shipped from the factory.



IPHAU810-0

Figure 64. Front view of the expansion unit

Index	Description	Location code
1	Filler plate	
2	DVD media device, SCSI address 05	Un-Px-Ty-L5-L0
3	Tape media device, SCSI address 06	Un-Px-Ty-L6-L0
4	Filler plate	

Index	Description	Location code
Where:		
<ul style="list-style-type: none"> • <i>Un-Px</i> is the backplane of the unit where the SCSI PCI adapter is installed. • <i>Ty</i> is the connector on the SCSI PCI adapter. 		

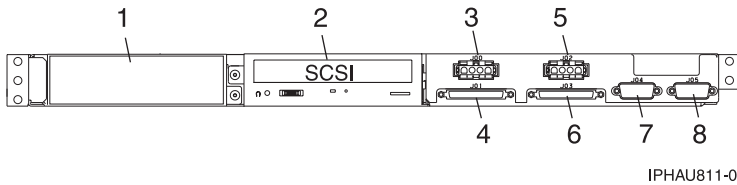


Figure 65. Back view of the expansion unit

Index	Description	Location code
1	Filler plate	
2	DVD media device, SCSI address 06	<i>Un-Px-Ty-L6-L0</i>
3	SCSI power connection for back media devices	
4	SCSI data connection for back media devices	
5	SCSI power connection for front media devices	
6	SCSI data connection for front media devices	
Where:		
<ul style="list-style-type: none"> • <i>Un-Px</i> is the backplane of the unit where the SCSI PCI adapter is installed. • <i>Ty</i> is the connector on the SCSI PCI adapter. 		

Locations — 7311-D10, 7311-D11, and 5790 expansion units

Map codes to hardware.

Note: The known logical location codes for this unit are listed next to the corresponding physical location in the following information. If you are working with a logical location code for this unit and it is not listed in the following information, contact your next level of support.

The following diagrams show the field replaceable unit (FRU) layout in the expansion units. Use them with the following tables.

After you locate your part in the 7311-D10 expansion unit, refer to the 7311-D10 service guide (SA38-0627) for part number information and the removal and replacement procedures.

Note: Some units may have labels that designate location codes other than those shown in the following illustrations and tables. If that is the case, use the location codes shown in the following illustrations and tables.

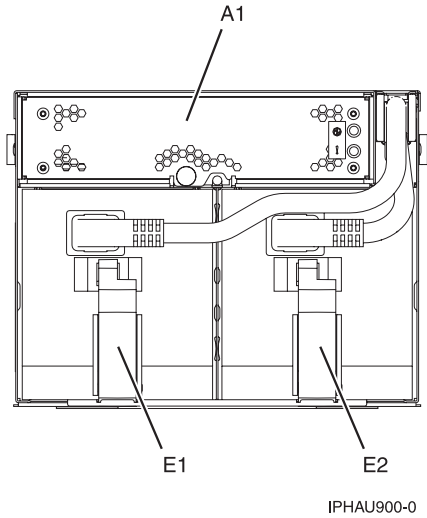


Figure 66. Front view of the expansion unit

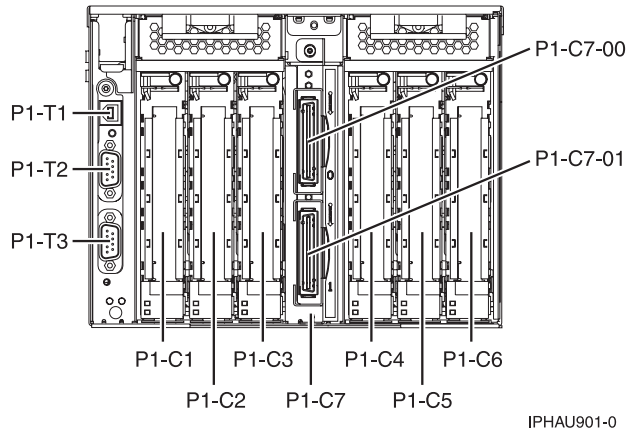


Figure 67. Back view of the expansion unit

The following table gives the components available for callout on the 7311-D11 and 5790 expansion units. It matches those components with the FRU containing the component. The other columns give location information, a link to a removal and replacement procedure, and additional information.

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.

Table 28. FRU locations and failing components

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Expansion unit		U_n			
Fan					
Fan		U_n -A1	Yes	Part assembly diagrams	“Exchange the 7311-D11 and 5790 fan assembly” on page 521
Power supplies					

Table 28. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Power supply 1		Un-E1	Yes	Power parts	“Exchange the 7311-D11 and 5790 power supply” on page 523
Power supply 2		Un-E2	Yes	Power parts	“Exchange the 7311-D11 and 5790 power supply” on page 523
Backplane					
I/O backplane	MA_BRDG TWRPLNR	Un-P1	Yes	282A, 28BB	“Exchange the 7311-D11 and 5790 I/O backplane assembly” on page 522
I/O backplane ports					
Rack beacon connector		Un-P1-T1			
Adapters					
PCI adapter in slot 1	PIOCARD MASBUS SLOTERR	Un-P1-C1	Yes	System parts	PCI adapter
PCI adapter in slot 2	PIOCARD MASBUS SLOTERR	Un-P1-C2	Yes	System parts	PCI adapter
PCI adapter in slot 3	PIOCARD MASBUS SLOTERR	Un-P1-C3	Yes	System parts	PCI adapter
PCI adapter in slot 4	PIOCARD MASBUS SLOTERR	Un-P1-C4	Yes	System parts	PCI adapter
PCI adapter in slot 5	PIOCARD MASBUS SLOTERR	Un-P1-C5	Yes	System parts	PCI adapter
PCI adapter in slot 6	PIOCARD MASBUS SLOTERR	Un-P1-C6	Yes	System parts	PCI adapter
PCI bridge set 1	BRDGST1	Un-P1 Un-P1-C1 Un-P1-C2 Un-P1-C3			Replace the I/O backplane and cards using the removal and replacement procedures corresponding to the locations indicated.
PCI bridge set 2	BRDGST2	Un-P1 Un-P1-C4 Un-P1-C5 Un-P1-C6			Replace the I/O backplane and cards using the removal and replacement procedures corresponding to the locations indicated.

Table 28. FRU locations and failing components (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
RIO/HSL adapter • HSL I/O adapter • RIO host bridge adapter	SIOADP SIADPCD SI_PHB	Un-P1-C7	Yes		RIO/HSL card
RIO/HSL adapter connector (top connector)	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-P1-C7-00	Yes		“Exchanging RIO/HSL cables” on page 523
RIO/HSL adapter connector	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-P1-C7-01	Yes		“Exchanging RIO/HSL cables” on page 523

Locations — 7311-D20 expansion unit

Map codes to hardware.

Note: The known logical location codes for this unit are listed next to the corresponding physical location in the following information. If you are working with a logical location code for this unit and it is not listed in the following information, contact your next level of support.

The following diagrams show field replaceable unit (FRU) layout in the 7311-D20 expansion units. Use these diagrams with the following tables.

Note: Some units may have labels that designate location codes other than those shown in the following illustrations and tables. If that is the case, use the location codes shown in the following illustrations and tables.

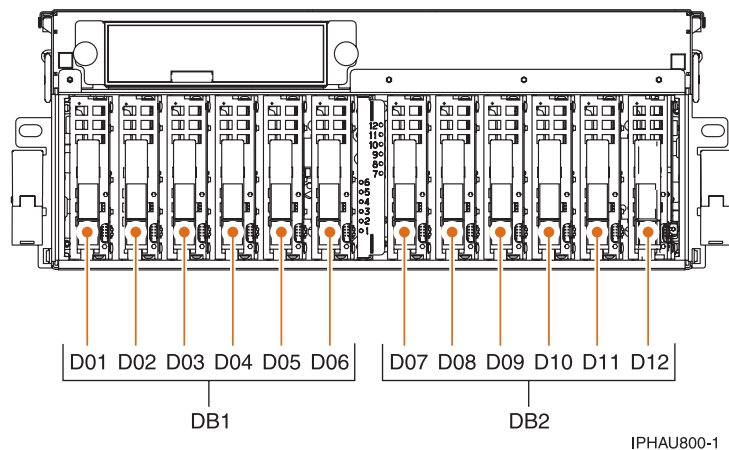


Figure 68. Front view of the 7311-D20 expansion unit

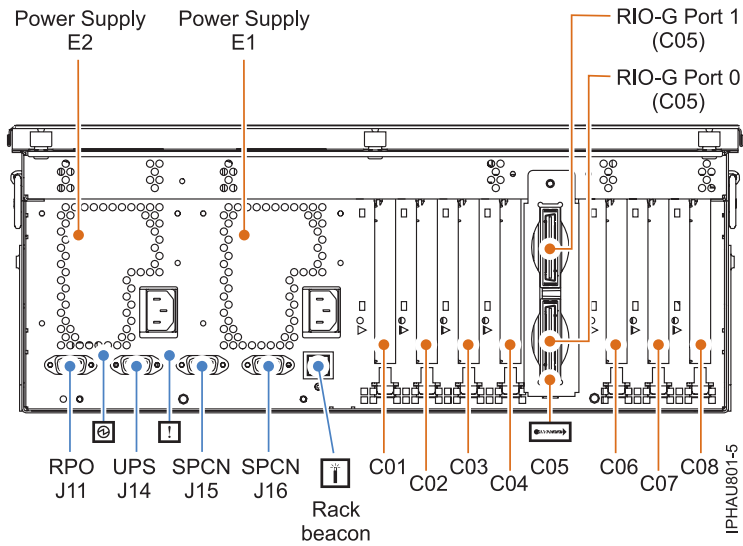


Figure 69. Back view of the 7311-D20 expansion unit

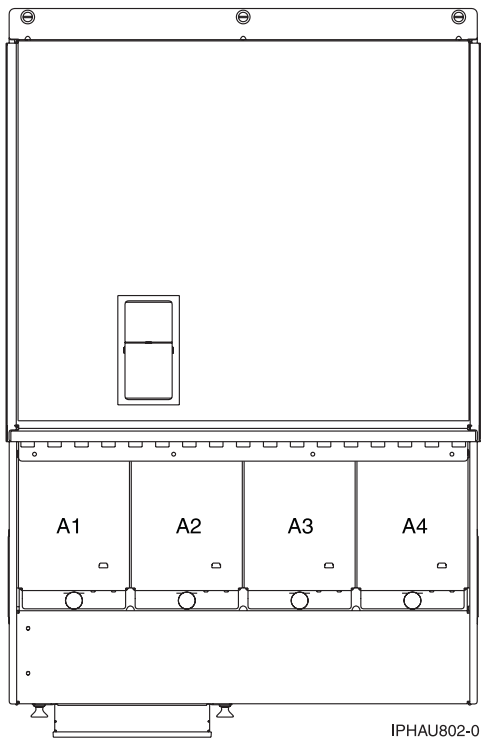


Figure 70. Top view of the 7311-D20 expansion unit

The following table gives the components available for callout on the 7311-D20 expansion units. It matches those components with the FRU containing the component. The other columns give location information, a link to a removal and replacement procedure, and additional information.

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.

Table 29. FRU locations and failing components for 7311-D20 expansion unit

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Backplane <ul style="list-style-type: none"> • SPCN • Card enclosure or backplane • Multi-adapter bridge (all) 	TWRCARD MA_BRDG MABRCFG PPCITWR PRI_PCI HSL_LNK PIOCARD MASBUS TWRBKPL TWRPLNR	Un-P1	Yes	28BE	I/O backplane assembly
PCI adapter in slot 1	PIOCARD MASBUS SLOTERR	Un-P1-C01	Yes		PCI adapter
PCI adapter in slot 2	PIOCARD MASBUS SLOTERR	Un-P1-C02	Yes		PCI adapter
PCI adapter in slot 3	PIOCARD MASBUS SLOTERR	Un-P1-C03	Yes		PCI adapter
PCI adapter in slot 4	PIOCARD MASBUS SLOTERR	Un-P1-C04	Yes		PCI adapter
RIO/HSL adapter <ul style="list-style-type: none"> • HSL I/O adapter • RIO host bridge adapter 	SIIOADP SIADPCD SI_PHB	Un-P1-C05	Yes		RIO/HSL card
PCI adapter in slot 6	PIOCARD MASBUS SLOTERR	Un-P1-C06	Yes		PCI adapter
PCI adapter in slot 7	PIOCARD MASBUS SLOTERR	Un-P1-C07	Yes		PCI adapter
PCI adapter in slot 8	PIOCARD MASBUS SLOTERR	Un-P1-C08	Yes		PCI adapter
PCI bridge set 1	BRDGSET BRDGST1	Un-P1 Un-P1-C01 Un-P1-C02 Un-P1-C03 Un-P1-C04			Replace the system backplane and cards using the removal and replacement procedures corresponding to the locations indicated.

Table 29. FRU locations and failing components for 7311-D20 expansion unit (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
PCI bridge set 2	BRDGSET BRDGST2	Un-P1 Un-P1-C06 Un-P1-C07 Un-P1-C08			Replace the system backplane and cards using the removal and replacement procedures corresponding to the locations indicated.
EPO connector (J11)		Un-P1-T1			
UPS connector (J14)		Un-P1-T2			
SPCN connector (J15)		Un-P1-T3			
SPCN connector (J16)		Un-P1-T4			
Rack beacon connector		Un-P1-T5			
Fan 1		Un-A1	Yes	Part assembly diagrams	Fan
Fan 2		Un-A2	Yes	Part assembly diagrams	Fan
Fan 3		Un-A3	Yes	Part assembly diagrams	Fan
Fan 4		Un-A4	Yes	Part assembly diagrams	Fan
Device physical locations					
Disk drive 1		Un-DB1-D01 (logical location not applicable)		Disk unit parts	Disk drive
Disk drive 2		Un-DB1-D02 (logical location not applicable)		Disk unit parts	Disk drive
Disk drive 3		Un-DB1-D03 (logical location not applicable)		Disk unit parts	Disk drive
Disk drive 4		Un-DB1-D04 (logical location not applicable)		Disk unit parts	Disk drive
Disk drive 5		Un-DB1-D05 (logical location not applicable)		Disk unit parts	Disk drive
Disk drive 6		Un-DB1-D06 (logical location not applicable)		Disk unit parts	Disk drive
Disk drive 7		Un-DB2-D07 (logical location not applicable)		Disk unit parts	Disk drive
Disk drive 8		Un-DB2-D08 (logical location not applicable)		Disk unit parts	Disk drive

Table 29. FRU locations and failing components for 7311-D20 expansion unit (continued)

Failing item name	Symbolic failing item name	Physical location code	Identify LED	Link to part number	Failing item removal and replacement procedures
Disk drive 9		Un-DB2-D09 (logical location not applicable)		Disk unit parts	Disk drive
Disk drive 10		Un-DB2-D10 (logical location not applicable)		Disk unit parts	Disk drive
Disk drive 11		Un-DB2-D11 (logical location not applicable)		Disk unit parts	Disk drive
Disk drive 12		Un-DB2-D12 (logical location not applicable)		Disk unit parts	Disk drive
Power supply 1		Un-E1		Power parts	Power supply
Power supply 2		Un-E2		Power parts	Power supply
Disk drive backplane		Un-DB1		Backplanes	Disk drive backplane
Disk drive backplane		Un-DB2		Backplanes	Disk drive backplane
RIO/HSL adapter connector (bottom connector)	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-P1-C05-00 or Un-P1-C05-T1	Yes		“Exchanging RIO/HSL cables” on page 523
RIO/HSL adapter connector	HSL_LNK HSL2 HSL2_xx HSLH HSLH_xx	Un-P1-C05-01 or Un-P1-C05-T2	Yes		“Exchanging RIO/HSL cables” on page 523

Notes:

- J11 is an RPO connection, J14 is an uninterruptible power supply connector, J15 is an SPCN 1 connector, and J16 is an SPCN 2 connector.
- Multi-adapter bridge domains are labeled **PCI Bridge Set** inside the expansion unit.
- The following table provides information necessary to identify the IOP to which an IOA is assigned.
 - The left column indicates the domain in which IOA assignment is allowed.
 - The right column is used to determine the IOP to which an IOA is assigned.
 - The first position in the list must be an IOP. The remaining positions may be IOPs or IOAs. IOAs are assigned to the first IOP located to their left in the list. Although IOAs can be manually reassigned using SST/DST, the IOA assignments return to the default order after each IPL.

Table 30. Identify the IOP to which IOAs are assigned

Multi-adapter bridge domain / PCI bridge set	IOA assignment rules
C01 - C04	C01, C02, C03, C04

Table 30. Identify the IOP to which IOAs are assigned (continued)

Multi-adapter bridge domain / PCI bridge set	IOA assignment rules
C06 - C08	C06, C07, C08

Locations — Integrated xSeries adapter (IXA)

Lists logical and physical location codes.

Note: The known logical location codes for this unit are listed next to the corresponding physical location in the following information. If you are working with a logical location code for this unit and it is not listed in the following information, contact your next level of support.

The following diagram shows FRU layout in the Integrated xSeries adapter(IXA). Use it with the following table.

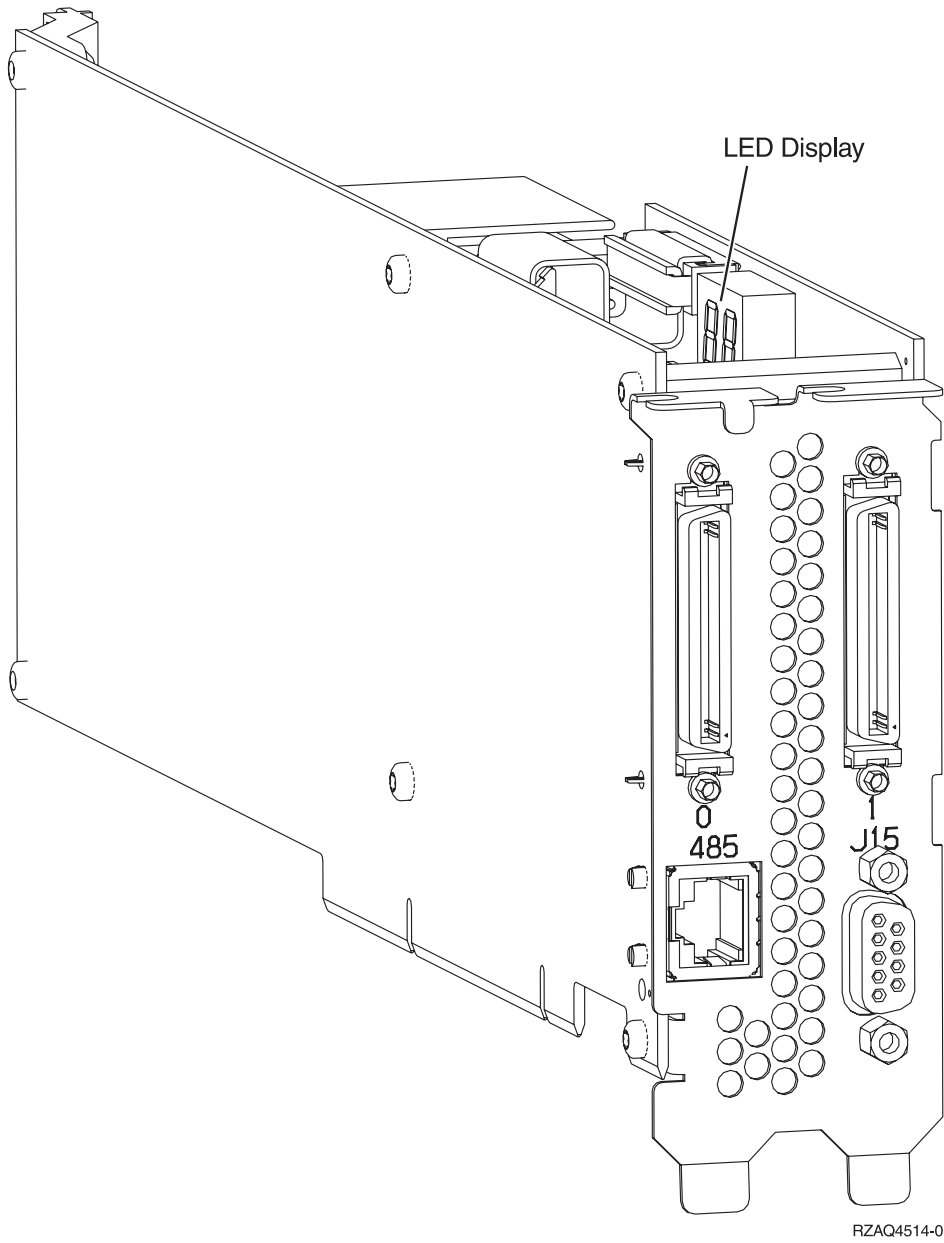


Figure 71. Locations for Integrated xSeries adapter

Attention: After replacing any part on a server or expansion unit, perform “Verifying the repair” on page 561.

Table 31. FRU locations and failing components for Integrated xSeries adapter (IXA) — machine type 1519

Position	FRU name	Possible failing component	Type, CCIN, or Part number	Removal and replacement procedure
Position depends on xSeries server machine type and model. To locate, follow the HSL cable connections or the SPCN cable connections to the Integrated xSeries adapter card.	Integrated xSeries adapter	The failing component is either: <ul style="list-style-type: none"> • HSL I/O bridge • Multi-adapter bridge • SPCN • Embedded IOP • Card backplane 	CCIN = 2689 listed under machine type 1519. Note: Machine type 1519 is not an iSeries® machine type or an xSeries machine type. Machine type 1519 was created to list feature 2689 separately from iSeries and xSeries machine types. See the “Part number catalog” on page 160 for the part number.	Go to Removing and replacing Integrated xSeries Adapter (IXA). Note: Verify the frame ID by examining the frame ID displayed on the card’s LED, which is visible when the panel that covers the card is removed. Note: In an i5/OS OptiConnect environment, it is possible to have multiple xSeries servers with the same frame ID displayed but the power controlling system is different from the system that you are servicing. Verify the SPCN cable is connected to the system that you are servicing.
RIO/HSL cables on the RIO/HSL ports	RIO/HSL cable	RIO/HSL connection	See the “Part number catalog” on page 160.	“Exchanging RIO/HSL cables” on page 523

Addresses

Use this information to locate system addresses.

Addresses – model 285, 515, and 52x

Find part locations using location codes.

Use the address to find the location for the 9111-285, 9407-5159131-52A, 9405-520, 9406-520, 9111-520, and 9406-525 models. Then go to “Locations — model 515, 52x, and 285” on page 23 to find additional information.

Table 32. IOP, IOA, and device address information for systems 9111-520, 9405-520, and 9406-520 with integrated HSL ports

Physical location code	Possible failing item	DSA (BBBBcbb)	Unit address
		IOA and device DSAs do not conform to the following rules if the IOA is manually reassigned after IPL.	
Un-P1	Embedded Ethernet	0002-24-00	E6FFFFFF

Table 32. IOP, IOA, and device address information for systems 9111-520, 9405-520, and 9406-520 with integrated HSL ports (continued)

Physical location code	Possible failing item	DSA (BBBBcbbb)	Unit address
Un-P1 (and Un-P1-C8 if RAID enablement card is installed)	Embedded SCSI Note: The embedded SCSI controller (STORIOA) is physical location Un-P1	0003-20-00	4FFFFFFF
Un-P1-C1	IOP	0002-20-00	FFFFFFFF
Un-P1-C2	Storage IOA	0002-20-00	2FFFFFFF
Un-P1-C2	Communications or Workstation IOA	0002-20-00	E2FFFFFF
Un-P1-C3	Storage IOA	0003-20-00	2FFFFFFF
Un-P1-C3	Communications or Workstation IOA	0003-20-00	E2FFFFFF
Un-P1-C4	Storage IOA	0002-20-00	6FFFFFFF
Un-P1-C4	Communications or Workstation IOA	0002-20-00	E6FFFFFF
Un-P1-C5	Storage IOA	0003-20-00	6FFFFFFF
Un-P1-C5	Communications or Workstation IOA	0003-20-00	E6FFFFFF
Un-P1-C6	IOP	0003-20-00	FFFFFFFF
Un-P2-D1	Disk unit	0003-20-00	410F00FF
Un-P2-D2	Disk unit	0003-20-00	410200FF
Un-P2-D3	Disk unit	0003-20-00	410300FF
Un-P2-D4	Disk unit	0003-20-00	410400FF
Un-P3-D1	Disk unit	0003-20-00	400F00FF
Un-P3-D2	Disk unit	0003-20-00	400200FF
Un-P3-D3	Disk unit	0003-20-00	400300FF
Un-P3-D4	Disk unit	0003-20-00	400400FF
Un-P4-D1	SCSI media device (top bay)	0003-20-00	400700FF
Un-P4-D2	IDE drive 1 (2nd media bay from the top)	0003-20-00	400600FF
Un-P4-D3	IDE drive 2 (3rd media bay from the top)		

Table 33. IOP, IOA, and device address information for systems , and 9111-285, 9407-5159131-52A, 9405-520, 9406-520, and 9406-525 with the HSL ports located on the HSL card

Physical location code	Possible failing item	DSA (BBBBcbbb)	Unit address
Un-P1	Embedded Ethernet	Controlled by virtual IOP: 0004-24-00	E4FFFFFF
Un-P1 (and Un-P1-C8 if RAID enablement card is installed)	Embedded SCSI Note: The embedded SCSI controller (STORIOA) is physical location Un-P1	Controlled by virtual IOP: 0003-24-00 Controlled by IOP in Un-P1-C6: 0003-20-00	4FFFFFFF

Table 33. IOP, IOA, and device address information for systems , and 9111-285, 9407-5159131-52A, 9405-520, 9406-520, and 9406-525 with the HSL ports located on the HSL card (continued)

Physical location code	Possible failing item	DSA (BBBBcbb)	Unit address
Un-P1-C1	IOP	0004-20-00	FFFFFFFF
	Storage IOA	0004-20-00	0FFFFFFFF
	Communications or Workstation IOA	0004-20-00	E0FFFFFFFF
Un-P1-C2	Storage IOA	Controlled by virtual IOP: 0004-22-00 Controlled by IOP in Un-P1-C1: 0004-20-00	2FFFFFFFF
	Communications or Workstation IOA	Controlled by virtual IOP: 0004-22-00 Controlled by IOP in Un-P1-C1: 0004-20-00	E2FFFFFFFF
Un-P1-C3	Storage IOA	Controlled by virtual IOP: 0003-22-00 Controlled by IOP in Un-P1-C6: 0003-20-00	2FFFFFFFF
	Communications or Workstation IOA	Controlled by virtual IOP: 0003-22-00 Controlled by IOP in Un-P1-C6: 0003-20-00	E2FFFFFFFF
Un-P1-C4	Storage IOA	0002-10-00	0FFFFFFFF
	Communications or Workstation IOA	0002-10-00	EAAAAAAAA
Un-P1-C5	Storage IOA	Controlled by virtual IOP: 0003-26-00 Controlled by IOP in Un-P1-C6: 0003-20-00	6FFFFFFFF
	Communications or Workstation IOA	Controlled by virtual IOP: 0003-26-00 Controlled by IOP in Un-P1-C6: 0003-20-00	EBFFFFFFFF
Un-P1-C6	IOP	0003-20-00	FFFFFFFF
	Storage IOA	0003-20-00	0FFFFFFFF
	Communications or Workstation IOA	0003-20-00	E0FFFFFFFF
Un-P2-D1	Disk unit	The disk unit has the same DSA as the Storage IOA controlling it.	Controlled by IOA in Un-P1: 410F00FF Controlled by IOA in another location: xy0F00FF (where x is the same as the first character of the xFFFFFFFF IOA Unit Address and y is I/O bus 0, 1 or 2. Storage IOA I/O buses begin with 0 and are numbered from the tailstock toward the middle of the card.)

Table 33. IOP, IOA, and device address information for systems , and 9111-285, 9407-5159131-52A, 9405-520, 9406-520, and 9406-525 with the HSL ports located on the HSL card (continued)

Physical location code	Possible failing item	DSA (BBBBcbb)	Unit address
Un-P2-D2	Disk unit	The disk unit has the same DSA as the Storage IOA controlling it.	Controlled by IOA in Un-P1: 410200FF Controlled by IOA in another location: xy0200FF (where x is the same as the first character of the xFFFFFF IOA Unit Address and y is I/O bus 0, 1 or 2. Storage IOA I/O buses begin with 0 and are numbered from the tailstock toward the middle of the card.)
Un-P2-D3	Disk unit	The disk unit has the same DSA as the Storage IOA controlling it.	Controlled by IOA in Un-P1: 410300FF Controlled by IOA in another location: xy0300FF (where x is the same as the first character of the xFFFFFF IOA Unit Address and y is I/O bus 0, 1 or 2. Storage IOA I/O buses begin with 0 and are numbered from the tailstock toward the middle of the card.)

Table 33. IOP, IOA, and device address information for systems , and 9111-285, 9407-5159131-52A, 9405-520, 9406-520, and 9406-525 with the HSL ports located on the HSL card (continued)

Physical location code	Possible failing item	DSA (BBBBcbb)	Unit address
Un-P2-D4	Disk unit	The disk unit has the same DSA as the Storage IOA controlling it.	Controlled by IOA in Un-P1: 410400FF Controlled by IOA in another location: xy0400FF (where x is the same as the first character of the xFFFFFF IOA Unit Address and y is I/O bus 0, 1 or 2. Storage IOA I/O buses begin with 0 and are numbered from the tailstock toward the middle of the card.)
Un-P3-D1	Disk unit	The disk unit has the same DSA as the Storage IOA controlling it.	400F00FF
Un-P3-D2	Disk unit	The disk unit has the same DSA as the Storage IOA controlling it.	400200FF
Un-P3-D3	Disk unit	The disk unit has the same DSA as the Storage IOA controlling it.	400300FF
Un-P3-D4	Disk unit	The disk unit has the same DSA as the Storage IOA controlling it.	400400FF
Un-P4-D1	SCSI media device (top bay)	The device has the same DSA as the Storage IOA controlling it.	400700FF
Un-P4-D2	IDE drive 1 (2nd media bay from the top)	The device has the same DSA as the Storage IOA controlling it.	400600FF
Un-P4-D3	IDE drive 2 (3rd media bay from the top)		

Addresses – model 55x and OpenPower 720

Find part locations using location codes.

Use the address to find the location for the 9133-55A, 9406-550, 9113-550, and OpenPower 720 models. Then go to 550, 55A, and OpenPower 720 to find additional information.

Table 34. IOP, IOA, and device address information

Physical location code	Possible failing item	DSA (BBBBcbb)	Unit address
		IOA and device DSAs do not conform to the following rules if the IOA is manually reassigned after IPL.	
Un-P1	Embedded Ethernet	0003-22-00	E3FFFFFF

Table 34. IOP, IOA, and device address information (continued)

Physical location code	Possible failing item	DSA (BBBBcbb)	Unit address
Un-P1 (and Un-P1-C7 if RAID enablement card is installed)	Embedded SCSI Note: The embedded SCSI controller (STORIOA) is physical location Un-P1	0003-20-00	4FFFFFFF
Un-P1-C1	IOP	0003-20-00	FFFFFFF
Un-P1-C2	Storage IOA	0003-20-00	6FFFFFFF
Un-P1-C2	Communications or Workstation IOA	0003-20-00	E6FFFFFF
Un-P1-C3	IOP	0002-20-00	FFFFFFF
Un-P1-C4	Storage IOA	0002-20-00	4FFFFFFF
Un-P1-C4	Communications or Workstation IOA	0002-20-00	E4FFFFFF
Un-P1-C5	Storage IOA	0002-20-00	6FFFFFFF
Un-P1-C5	Communications or Workstation IOA	0002-20-00	E6FFFFFF
Un-P2-D1	Disk unit	0003-20-00	400F00FF
Un-P2-D2	Disk unit	0003-20-00	400200FF
Un-P2-D3	Disk unit	0003-20-00	400300FF
Un-P2-D4	Disk unit	0003-20-00	400400FF
Un-P3-D1	Disk unit	0003-20-00	410F00FF
Un-P3-D2	Disk unit	0003-20-00	410200FF
Un-P3-D3	Disk unit	0003-20-00	410300FF
Un-P3-D4	Disk unit	0003-20-00	410400FF
Un-P4-D1	SCSI media device (top)	0003-20-00	400700FF
Un-P4-D2	IDE drive 1 (2nd from top)	0003-20-00	400600FF
Un-P4-D3	IDE drive 2 (3rd from top)		

Addresses – model 561 and 570

Find part locations using location codes.

Use the address to find the location for the 9116-561, 9406-570, and 9117-570 models. Then go to “Locations — model 561 and 570” on page 48 to find additional information.

Table 35. IOP, IOA, and device address information for the primary unit

Physical location code	Possible failing item	DSA (BBBBcbb)	Unit address
		IOA and device DSAs do not conform to the following rules if the IOA is manually reassigned after IPL.	
Un-P1	Embedded Ethernet	0001-24-00	E6FFFFFF
Un-P1 (and UN-P1-C9 if RAID enablement card is installed)	Embedded SCSI	0003-20-00	2FFFFFFF
Un-P1-C1	IOP	0003-20-00	FFFFFFF

Table 35. IOP, IOA, and device address information for the primary unit (continued)

Physical location code	Possible failing item	DSA (BBBBcbbb)	Unit address
Un-P1-C2	Communications or Workstation IOA	0003-20-00	E6FFFFFF
Un-P1-C3	IOP	0002-20-00	FFFFFFFF
Un-P1-C4	Storage IOA	0002-20-00	2FFFFFFFF
Un-P1-C4	Communications or Workstation IOA	0002-20-00	E2FFFFFFFF
Un-P1-C5	IOP	0002-24-00	FFFFFFFF
Un-P1-C5	Storage IOA	0002-20-00	4FFFFFFFF
Un-P1-C5	Communications or Workstation IOA	0002-20-00	E4FFFFFFFF
Un-P1-C6	Storage IOA	The IOA has the same DSA as the first IOP found in the following list: C5, C4, C3.	6FFFFFFFF
Un-P1-C6	Communications or Workstation IOA	The IOA has the same DSA as the first IOP found in the following list: C5, C4, C3.	E6FFFFFFFF
Un-P3-D1	Disk unit	0003-20-00	210200FF
Un-P3-D2	Disk unit	0003-20-00	210300FF
Un-P3-D3	Disk unit	0003-20-00	210400FF
Un-P3-D4	Disk unit	0003-20-00	200200FF
Un-P3-D5	Disk unit	0003-20-00	200300FF
Un-P3-D6	Disk unit	0003-20-00	200400FF
Un-P4-D1	IDE drive 1	0003-20-00	200600FF
Un-P4-D2	IDE drive 2		

Table 36. IOP, IOA, and device address information for the secondary units

Physical location code	Possible failing item	DSA (BBBBcbbb)	Unit address
		IOA and device DSAs do not conform to the following rules if the IOA is manually reassigned after IPL.	
Un-P1	Embedded Ethernet	zzzz-24-00	E6FFFFFF
Un-P1 (and UN-P1-C9 if RAID enablement card is installed)	Embedded SCSI Note: The embedded SCSI controller (STORIOA) is physical location Un-P1	yyyy-20-00	2FFFFFFFF
Un-P1-C1	IOP	yyyy-20-00	FFFFFFFF
Un-P1-C2	Communications or Workstation IOA	yyyy-20-00	E6FFFFFF
Un-P1-C3	IOP	xxxx-20-00	FFFFFFFF
Un-P1-C4	Storage IOA	xxxx-20-00	2FFFFFFFF
Un-P1-C4	Communications or Workstation IOA	xxxx-20-00	E2FFFFFFFF
Un-P1-C5	IOP	xxxx-24-00	FFFFFFFF
Un-P1-C5	Storage IOA	xxxx-20-00	4FFFFFFFF

Table 36. IOP, IOA, and device address information for the secondary units (continued)

Physical location code	Possible failing item	DSA (BBBBcbb)	Unit address
Un-P1-C5	Communications or Workstation IOA	xxxx-20-00	E4FFFFFF
Un-P1-C6	Storage IOA	The IOA has the same DSA as the first IOP found in the following list: C5, C4, C3.	6FFFFFFF
Un-P1-C6	Communications or Workstation IOA	The IOA has the same DSA as the first IOP found in the following list: C5, C4, C3.	E6FFFFFF
Un-P3-D1	Disk unit	yyyy-20-00	210200FF
Un-P3-D2	Disk unit	yyyy-20-00	210300FF
Un-P3-D3	Disk unit	yyyy-20-00	210400FF
Un-P3-D4	Disk unit	yyyy-20-00	200200FF
Un-P3-D5	Disk unit	yyyy-20-00	200300FF
Un-P3-D6	Disk unit	yyyy-20-00	200400FF
Un-P4-D1	IDE drive 1	yyyy-20-00	200600FF
Un-P4-D2	IDE drive 2		

Addresses — 5074, 5079, 8079-002, and 8093-002 expansion units

Find part locations using location codes.

Use the address to find the location. Then go to “Locations — 5074, 8079-002, and 8093-002 expansion units” on page 88 to find additional information.

Table 37. IOP, IOA, and device address information

Position	Possible failing item	DSA (BBBBcbb)	Unit address
		IOA and device DSAs do not conform to the following rules if the IOA is manually reassigned after IPL.	
C01	IOP	xxxx-10-00	FFFFFFFF
C02	Storage IOA	xxxx-10-00	2FFFFFFFF
C02	Communications or Workstation IOA	xxxx-10-00	E2FFFFFFFF
C03	IOP	xxxx-14-00	FFFFFFFF
C03	Storage IOA	xxxx-10-00	4FFFFFFFF
C03	Communications or Workstation IOA	xxxx-10-00	E4FFFFFFFF
C04	Storage IOA	The IOA has the same DSA as the first IOP found in the following list: C03, C01.	6FFFFFFFF
C04	Communications or Workstation IOA	The IOA has the same DSA as the first IOP found in the following list: C03, C01.	E6FFFFFFFF
C05 (IXS capable position)	IOP	yyyy-10-00	FFFFFFFF
C06 (empty if IXS in C05)	Storage IOA	yyyy-10-00	2FFFFFFFF

Table 37. IOP, IOA, and device address information (continued)

Position	Possible failing item	DSA (BBBBcbb)	Unit address
C06 (empty if IXS in C05)	Communications or Workstation IOA	yyyy-10-00	E2FFFFFF
C07	IOP	yyyy-13-00	FFFFFFFF
C07	Storage IOA	yyyy-10-00	3FFFFFFF
C07	Communications or Workstation IOA	yyyy-10-00	E3FFFFFF
C07	IXS attached IOA	yyyy-10-00	E003FFFF
C09	IOP	yyyy-14-00	FFFFFFFF
C09	Storage IOA	yyyy-10-00	4FFFFFFF
C09	Communications or Workstation IOA	yyyy-10-00	E4FFFFFF
C09	IXS attached IOA	yyyy-10-00	E004FFFF
C10	Storage IOA	The IOA has the same DSA as the first IOP found in the following list: C09, C07, C05.	6FFFFFFF
C10	Communications or Workstation IOA	The IOA has the same DSA as the first IOP found in the following list: C09, C07, C05.	E6FFFFFF
C10	IXS attached IOA	The IOA has the same DSA as the first IOP found in the following list: C09, C07, C05.	E006FFFF
C11 (IXS capable position)	IOP	yyyy-20-00	FFFFFFFF
C12 (empty if IXS in C11)	Storage IOA	yyyy-20-00	2FFFFFFF
C12 (empty if IXS in C11)	Communications or Workstation IOA	yyyy-20-00	E2FFFFFF
C13	IOP	yyyy-23-00	FFFFFFFF
C13	Storage IOA	yyyy-20-00	3FFFFFFF
C13	Communications or Workstation IOA	yyyy-20-00	E3FFFFFF
C13	IXS attached IOA	yyyy-20-00	E003FFFF
C14	IOP	yyyy-24-00	FFFFFFFF
C14	Storage IOA	yyyy-20-00	4FFFFFFF
C14	Communications or Workstation IOA	yyyy-20-00	E4FFFFFF
C14	IXS attached IOA	yyyy-20-00	E004FFFF
C15	Storage IOA	The IOA has the same DSA as the first IOP found in the following list: C14, C13, C11.	6FFFFFFF

Table 37. IOP, IOA, and device address information (continued)

Position	Possible failing item	DSA (BBBBcbb)	Unit address
C15	Communications or Workstation IOA	The IOA has the same DSA as the first IOP found in the following list: C14, C13, C11.	E6FFFFFF
C15	IXS attached IOA	The IOA has the same DSA as the first IOP found in the following list: C14, C13, C11.	E006FFFF
D01	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x00300FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D02	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x00400FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D03	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x00500FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D04	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x00600FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D05	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x00700FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D06	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x00300FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D07	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x00400FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D08	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x00500FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D09	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x00600FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D10	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x00700FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D11	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x10300FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)

Table 37. IOP, IOA, and device address information (continued)

Position	Possible failing item	DSA (BBBBcbb)	Unit address
D12	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x10400FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D13	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x10500FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D14	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x10600FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D15	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x10700FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D16	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x10300FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D17	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x10400FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D18	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x10500FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D19	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x10600FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D20	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x10700FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D21	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x20300FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D22	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x20400FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D23	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x20500FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D24	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x20600FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)

Table 37. IOP, IOA, and device address information (continued)

Position	Possible failing item	DSA (BBBBcbb)	Unit address
D25	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x20700FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D26	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x20300FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D27	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x20400FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D28	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x20500FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D29	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x20600FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D30	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x20700FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D31	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x00100FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D32	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x00200FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D33	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x00300FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D34	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x00400FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D35	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x00500FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D36	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x10300FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D37	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x10400FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)

Table 37. IOP, IOA, and device address information (continued)

Position	Possible failing item	DSA (BBBBcbb)	Unit address
D38	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x10500FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D39	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x10600FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D40	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x10700FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D41	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x00600FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D42	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x00700FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D46	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x20300FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D47	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x20400FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D48	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x20500FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D49	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x20600FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)
D50	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x20700FF (where x is the same as the first character of the xFFFFFFF IOA Unit Address)

Addresses — 0588 and 5088 expansion units

Find part locations using location codes.

Use the address to find the location. Then go to “Locations — 0588 and 5088 expansion units” on page 95 to find additional information.

Table 38. IOP, IOA, and device address information

Position	Possible failing item	DSA (BBBBcbb)	Unit address
		IOA and device DSAs do not conform to the following rules if the IOA is manually reassigned after IPL.	
C01 (IXS capable position)	IOP	xxxx-20-00	FFFFFFFF
C02 (empty if IXS in C01)	Storage IOA	xxxx-20-00	2FFFFFFFF
C02 (empty if IXS in C01)	Communications or Workstation IOA	xxxx-20-00	E2FFFFFFFF
C03	IOP	xxxx-24-00	FFFFFFFF
C03	Storage IOA	xxxx-20-00	4FFFFFFFF
C03	Communications or Workstation IOA	xxxx-20-00	E4FFFFFFFF
C03	IXS attached IOA	xxxx-20-00	E004FFFF
C04	Storage IOA	The IOA has the same DSA as the first IOP found in the following list: C03, C01.	6FFFFFFFF
C04	Communications or Workstation IOA	The IOA has the same DSA as the first IOP found in the following list: C03, C01.	E6FFFFFFFF
C04	IXS attached IOA	The IOA has the same DSA as the first IOP found in the following list: C03, C01.	E006FFFF
C05 (IXS capable position)	IOP	yyyy-20-00	FFFFFFFF
C06 (empty if IXS in C05)	Storage IOA	yyyy-20-00	2FFFFFFFF
C06 (empty if IXS in C05)	Communications or Workstation IOA	yyyy-20-00	E2FFFFFFFF
C07	IOP	yyyy-23-00	FFFFFFFF
C07	Storage IOA	yyyy-20-00	3FFFFFFFF
C07	Communications or Workstation IOA	yyyy-20-00	E3FFFFFFFF
C07	IXS attached IOA	yyyy-20-00	E003FFFF
C08	IOP	yyyy-24-00	FFFFFFFF
C08	Storage IOA	The IOA has the same DSA as the first IOP found in the following list: C07, C05.	4FFFFFFFF
C08	Communications or Workstation IOA	The IOA has the same DSA as the first IOP found in the following list: C07, C05.	E4FFFFFFFF
C08	IXS attached IOA	The IOA has the same DSA as the first IOP found in the following list: C07, C05.	E004FFFF
C09	Storage IOA	The IOA has the same DSA as the first IOP found in the following list: C08, C07, C05.	6FFFFFFFF
C09	Communications or Workstation IOA	The IOA has the same DSA as the first IOP found in the following list: C08, C07, C05.	E6FFFFFFFF
C09	IXS attached IOA	The IOA has the same DSA as the first IOP found in the following list: C08, C07, C05.	E006FFFF
C11 (IXS capable position)	IOP	zzzz-20-00	FFFFFFFF

Table 38. IOP, IOA, and device address information (continued)

Position	Possible failing item	DSA (BBBBcbb)	Unit address
C12 (empty if IXS in C11)	Storage IOA	zzzz-20-00	2FFFFFFF
C12 (empty if IXS in C11)	Communications or Workstation IOA	zzzz-20-00	E2FFFFFF
C13	IOP	zzzz-23-00	FFFFFFFF
C13	Storage IOA	zzzz-20-00	3FFFFFFF
C13	Communications or Workstation IOA	zzzz-20-00	E3FFFFFF
C13	IXS attached IOA	zzzz-20-00	E003FFFF
C14	IOP	zzzz-24-00	FFFFFFFF
C14	Storage IOA	The IOA has the same DSA as the first IOP found in the following list: C13, C11.	4FFFFFFF
C14	Communications or Workstation IOA	The IOA has the same DSA as the first IOP found in the following list: C13, C11.	E4FFFFFF
C14	IXS attached IOA	The IOA has the same DSA as the first IOP found in the following list: C13, C11.	E004FFFF
C15	Storage IOA	The IOA has the same DSA as the first IOP found in the following list: C14, C13, C11.	6FFFFFFF
C15	Communications or Workstation IOA	The IOA has the same DSA as the first IOP found in the following list: C14, C13, C11.	E6FFFFFF
C15	IXS attached IOA	The IOA has the same DSA as the first IOP found in the following list: C14, C13, C11.	E006FFFF

Addresses — 5094, 5294, 5096, 5296, 8094-002, and 8294 expansion units

Use this reference topic if you received a unit address and need to cross reference the unit address to a location code.

Note:

- The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.
- Use the unit address to cross reference to the FRU location, then go to “Locations — 5094, 5294, 5096, 5296, 8094-002, 8294, and 9194 expansion unit” on page 101 to find additional information.

Remember: References to disk units, media (optical and tape), and device boards in either the following table does not apply to the 5096, or 5296.

Table 39. IOP, IOA, and device address information

Position	Possible failing item	DSA (BBBBcbb)	Unit address
		IOA and device DSAs do not conform to the following rules if the IOA is manually reassigned after IPL.	
C01 (IXS capable position)	IOP	xxxx-20-00	FFFFFFFF
C02 (empty if IXS in C01)	Storage IOA	xxxx-20-00	2FFFFFFF
C02 (empty if IXS in C01)	Communications or Workstation IOA	xxxx-20-00	E2FFFFFF
C03	IOP	xxxx-24-00	FFFFFFFF

Table 39. IOP, IOA, and device address information (continued)

Position	Possible failing item	DSA (BBBBcbb)	Unit address
C03	Storage IOA	xxxx-20-00	4FFFFFFF
C03	Communications or Workstation IOA	xxxx-20-00	E4FFFFFF
C03	IXS attached IOA	xxxx-20-00	E004FFFF
C04	Storage IOA	The IOA has the same DSA as the first IOP found in the following list: C03, C01.	6FFFFFFF
C04	Communications or Workstation IOA	The IOA has the same DSA as the first IOP found in the following list: C03, C01.	E6FFFFFF
C04	IXS attached IOA	The IOA has the same DSA as the first IOP found in the following list: C03, C01.	E006FFFF
C05 (IXS capable position)	IOP	yyyy-20-00	FFFFFFFF
C06 (empty if IXS in C05)	Storage IOA	yyyy-20-00	2FFFFFFF
C06 (empty if IXS in C05)	Communications or Workstation IOA	yyyy-20-00	E2FFFFFF
C07	IOP	yyyy-23-00	FFFFFFFF
C07	Storage IOA	yyyy-20-00	3FFFFFFF
C07	Communications or Workstation IOA	yyyy-20-00	E3FFFFFF
C07	IXS attached IOA	yyyy-20-00	E003FFFF
C08	IOP	yyyy-24-00	FFFFFFFF
C08	Storage IOA	The IOA has the same DSA as the first IOP found in the following list: C07, C05.	4FFFFFFF
C08	Communications or Workstation IOA	The IOA has the same DSA as the first IOP found in the following list: C07, C05.	E4FFFFFF
C08	IXS attached IOA	The IOA has the same DSA as the first IOP found in the following list: C07, C05.	E004FFFF
C09	Storage IOA	The IOA has the same DSA as the first IOP found in the following list: C08, C07, C05.	6FFFFFFF
C09	Communications or Workstation IOA	The IOA has the same DSA as the first IOP found in the following list: C08, C07, C05.	E6FFFFFF
C09	IXS attached IOA	The IOA has the same DSA as the first IOP found in the following list: C08, C07, C05.	E006FFFF
C11 (IXS capable position)	IOP	zzzz-20-00	FFFFFFFF
C12 (empty if IXS in C11)	Storage IOA	zzzz-20-00	2FFFFFFF
C12 (empty if IXS in C11)	Communications or Workstation IOA	zzzz-20-00	E2FFFFFF
C13	IOP	zzzz-23-00	FFFFFFFF
C13	Storage IOA	zzzz-20-00	3FFFFFFF
C13	Communications or Workstation IOA	zzzz-20-00	E3FFFFFF
C13	IXS attached IOA	zzzz-20-00	E003FFFF

Table 39. IOP, IOA, and device address information (continued)

Position	Possible failing item	DSA (BBBBcbb)	Unit address
C14	IOP	zzzz-24-00	FFFFFFFF
C14	Storage IOA	The IOA has the same DSA as the first IOP found in the following list: C13, C11.	4FFFFFFFF
C14	Communications or Workstation IOA	The IOA has the same DSA as the first IOP found in the following list: C13, C11.	E4FFFFFFFF
C14	IXS attached IOA	The IOA has the same DSA as the first IOP found in the following list: C13, C11.	E004FFFF
C15	Storage IOA	The IOA has the same DSA as the first IOP found in the following list: C14, C13, C11.	6FFFFFFFF
C15	Communications or Workstation IOA	The IOA has the same DSA as the first IOP found in the following list: C14, C13, C11.	E6FFFFFFFF
C15	IXS attached IOA	The IOA has the same DSA as the first IOP found in the following list: C14, C13, C11.	E006FFFF
D01	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x00300FF (where x is the same as the first character of the xFFFFFFFF IOA Unit Address)
D02	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x00400FF (where x is the same as the first character of the xFFFFFFFF IOA Unit Address)
D03	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x00500FF (where x is the same as the first character of the xFFFFFFFF IOA Unit Address)
D04	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x00600FF (where x is the same as the first character of the xFFFFFFFF IOA Unit Address)
D05	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x00700FF (where x is the same as the first character of the xFFFFFFFF IOA Unit Address)
D06	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x00300FF (where x is the same as the first character of the xFFFFFFFF IOA Unit Address)
D07	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x00400FF (where x is the same as the first character of the xFFFFFFFF IOA Unit Address)

Table 39. IOP, IOA, and device address information (continued)

Position	Possible failing item	DSA (BBBBcbb)	Unit address
D08	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x00500FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D09	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x00600FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D10	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x00700FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D11	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x10300FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D12	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x10400FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D13	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x10500FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D14	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x10600FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D15	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x10700FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D16	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x10300FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D17	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x10400FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)

Table 39. IOP, IOA, and device address information (continued)

Position	Possible failing item	DSA (BBBBcbb)	Unit address
D18	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x10500FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D19	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x10600FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D20	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x10700FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D21	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x20300FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D22	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x20400FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D23	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x20500FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D24	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x20600FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D25	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "L-1".	x20700FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D26	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x20300FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D27	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x20400FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)

Table 39. IOP, IOA, and device address information (continued)

Position	Possible failing item	DSA (BBBBcbb)	Unit address
D28	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x20500FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D29	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x20600FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D30	Disk unit	The disk unit has the same DSA as the IOA attached to the internal cable labeled "R-2".	x20700FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D31	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x00100FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D32	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x00200FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D33	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x00300FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D34	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x00400FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D35	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x00500FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D36	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x10300FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D37	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x10400FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)

Table 39. IOP, IOA, and device address information (continued)

Position	Possible failing item	DSA (BBBBcbb)	Unit address
D38	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x10500FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D39	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x10600FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D40	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x10700FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D41	Optical	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x00600FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D42	Tape	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x00700FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D46	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x20300FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D47	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x20400FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D48	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x20500FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D49	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x20600FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)
D50	Disk unit	The disk unit has the same DSA as the IOA attached to the internal flat ribbon cable.	x20700FF (where x is the same as the first character of the xFFFFFF IOA Unit Address)

Addresses — 0595 and 5095 expansion units

Find part locations using location codes.

Table 40. IOP, IOA, and device address information

Position	Possible failing item	DSA (BBBBcbb)	Unit address
		IOA and device DSAs do not conform to the following rules if the IOA is manually reassigned after IPL.	
C01 (IXS capable position)	IOP	xxxx-20-00	FFFFFFF
C02 (empty if IXS in C01)	Storage IOA	xxxx-20-00	2FFFFFF
C02 (empty if IXS in C01)	Communication or workstation IOA	xxxx-20-00	E2FFFFFF
C03	IOP	xxxx-24-00	FFFFFFF
C03	Storage IOA	xxxx-20-00	4FFFFFF
C03	Communication or workstation IOA	xxxx-20-00	E4FFFFFF
C03	IXS attached IOA	xxxx-20-00	E004FFFF
C04	Storage IOA	The IOA has the same DSA as the first IOP found in the following list: C03, C01.	6FFFFFF
C04	Communication or workstation IOA	The IOA has the same DSA as the first IOP found in the following list: C03, C01.	E6FFFFFF
C04	IXS attached IOA	The IOA has the same DSA as the first IOP found in the following list: C03, C01.	E006FFFF
C06	IOP	yyyy-20-00	FFFFFFF
C07	Storage IOA	yyyy-20-00	2FFFFFF
C07	Communication or workstation IOA	yyyy-20-00	E2FFFFFF
C08	Storage IOA	yyyy-20-00	6FFFFFF
C08	Communication or workstation IOA	yyyy-20-00	E6FFFFFF
C08	IXS attached IOA	yyyy-20-00	E006FFFF
D01, D07	Disk unit	The disk unit has the same DSA as the IOP controlling the storage IOA.	xy0100FF (where x is the same as the first character of the xFFFFFF IOA Unit Address and y is I/O bus 0, 1, 2, or 3. Storage IOA buses begin with 0 and are numbered from the tailstock toward the middle of the card. Find the storage IOA with the same DSA and xFFFFFF address, then trace the I/O bus cable to determine if the position is D01 or D07.)

Table 40. IOP, IOA, and device address information (continued)

Position	Possible failing item	DSA (BBBBcbb)	Unit address
D02, D08	Disk unit		xy0200FF (where x is the same as the first character of the xFFFFFF IOA Unit Address and y is I/O bus 0, 1, 2, or 3. Storage IOA buses begin with 0 and are numbered from the tailstock toward the middle of the card. Find the storage IOA with the same DSA and xFFFFFF address, then trace the I/O bus cable to determine if the position is D02 or D08.)
D03, D09	Disk unit		xy0300FF (where x is the same as the first character of the xFFFFFF IOA Unit Address and y is I/O bus 0, 1, 2, or 3. Storage IOA buses begin with 0 and are numbered from the tailstock toward the middle of the card. Find the storage IOA with the same DSA and xFFFFFF address, then trace the I/O bus cable to determine if the position is D03 or D09.)
D04, D10	Disk unit		xy0400FF (where x is the same as the first character of the xFFFFFF IOA Unit Address and y is I/O bus 0, 1, 2, or 3. Storage IOA buses begin with 0 and are numbered from the tailstock toward the middle of the card. Find the storage IOA with the same DSA and xFFFFFF address, then trace the I/O bus cable to determine if the position is D04 or D10.)
D05, D11	Disk unit		xy0E00FF (where x is the same as the first character of the xFFFFFF IOA Unit Address and y is I/O bus 0, 1, 2, or 3. Storage IOA buses begin with 0 and are numbered from the tailstock toward the middle of the card. Find the storage IOA with the same DSA and xFFFFFF address, then trace the I/O bus cable to determine if the position is D05 or D11.)

Table 40. IOP, IOA, and device address information (continued)

Position	Possible failing item	DSA (BBBBcbb)	Unit address
D06, D12	Disk unit		xy0F00FF (where x is the same as the first character of the xFFFFFF IOA Unit Address and y is I/O bus 0, 1, 2, or 3. Storage IOA buses begin with 0 and are numbered from the tailstock toward the middle of the card. Find the storage IOA with the same DSA and xFFFFFF address, then trace the I/O bus cable to determine if the position is D06 or D12.)

Addresses — 5786, 5787, 7031-D24, and 7031-T24 expansion units

Find part locations using location codes.

Use the address to find the location. Then go to “Locations — 5786, 5787, 7031-D24, and 7031-T24 expansion units” on page 112 to find additional information

Table 41. Device address information for expansion units.

Physical location code	Possible failing item	DSA (BBBBcbb)	Unit address (SCSI cable from I/O adapter to SCSI interface card)	Unit address (SCSI cable from SCSI interface card to SCSI interface card)
Un-P1-D1	Disk unit	DSA of attached I/O card	xy0200FF	xy0A00FF
Un-P1-D2	Disk unit	DSA of attached I/O card	xy0300FF	xy0B00FF
Un-P1-D3	Disk unit	DSA of attached I/O card	xy0400FF	xy0C00FF
Un-P1-D4	Disk unit	DSA of attached I/O card	xy0500FF	xy0D00FF
Un-P1-D5	Disk unit	DSA of attached I/O card	xy0600FF	xy0E00FF
Un-P1-D6	Disk unit	DSA of attached I/O card	xy0700FF	xy0F00FF
Un-P1-D7	Disk unit	DSA of attached I/O card	xy0200FF	xy0A00FF
Un-P1-D8	Disk unit	DSA of attached I/O card	xy0300FF	xy0B00FF
Un-P1-D9	Disk unit	DSA of attached I/O card	xy0400FF	xy0C00FF
Un-P1-D10	Disk unit	DSA of attached I/O card	xy0500FF	xy0D00FF
Un-P1-D11	Disk unit	DSA of attached I/O card	xy0600FF	xy0E00FF
Un-P1-D12	Disk unit	DSA of attached I/O card	xy0700FF	xy0F00FF

Table 41. Device address information for expansion units. (continued)

Physical location code	Possible failing item	DSA (BBBBcbb)	Unit address (SCSI cable from I/O adapter to SCSI interface card)	Unit address (SCSI cable from SCSI interface card to SCSI interface card)
Un-P2-D1	Disk unit	DSA of attached I/O card	xy0200FF	xy0A00FF
Un-P2-D2	Disk unit	DSA of attached I/O card	xy0300FF	xy0B00FF
Un-P2-D3	Disk unit	DSA of attached I/O card	xy0400FF	xy0C00FF
Un-P2-D4	Disk unit	DSA of attached I/O card	xy0500FF	xy0D00FF
Un-P2-D5	Disk unit	DSA of attached I/O card	xy0600FF	xy0E00FF
Un-P2-D6	Disk unit	DSA of attached I/O card	xy0700FF	xy0F00FF
Un-P2-D7	Disk unit	DSA of attached I/O card	xy0200FF	xy0A00FF
Un-P2-D8	Disk unit	DSA of attached I/O card	xy0300FF	xy0B00FF
Un-P2-D9	Disk unit	DSA of attached I/O card	xy0400FF	xy0C00FF
Un-P2-D10	Disk unit	DSA of attached I/O card	xy0500FF	xy0D00FF
Un-P2-D11	Disk unit	DSA of attached I/O card	xy0600FF	xy0E00FF
Un-P2-D12	Disk unit	DSA of attached I/O card	xy0700FF	xy0F00FF

Note: In the above table, x is IOA number of attached I/O card and y is the SCSI bus number.

Addresses — Integrated xSeries adapter card (IXA)

IOP and IOA address information.

Table 42. IOP and IOA address information

Position	Possible failing component	DSA	Unit address
SE1	2689 Integrated xSeries Adapter (IOP)	xxxx-10-00	FFFFFFFF
SE1	2689 Integrated xSeries Adapter (IOA)	xxxx-10-00	E0FFFFFF

Part number catalog

Use this information to find part numbers of common hardware parts.

This catalog contains only the part numbers likely to be needed during hardware servicing, and is not a complete part number listing.

Part assembly diagrams

Use this information to view diagrams of various hardware part assemblies.

The part assembly diagrams contain mechanical and connecting parts. See the following for other parts:

- For parts that have CCINs, System p Failing Function Code numbers, or OpenPower Failing Function Code numbers, see “System parts” on page 277.
- For internal signal and power cables and external cables, see “Cables” on page 375.
- For miscellaneous parts such as cable wraps or cleaning kits, see “Miscellaneous parts” on page 414.
- For Hardware Management Console (HMC) parts, see “Hardware Management Console (HMC) parts” on page 416.

For more details, see How to use this parts listing.

Note: Some part numbers listed in the part assembly diagrams may not be orderable. If you need a part that is not orderable, contact your next level of support.

How to use the part assembly diagrams

Use this information to understand how to use the abbreviations in the part assembly diagrams.

- If two assemblies contain a majority of identical parts, they are on the same list. Common parts are shown by one index number. Parts specific to one or the other of the assemblies are listed separately and identified by description.
- **AR** (as required) in the **Units** column indicates that the quantity is not the same for all machines.
- **NP** (non-procurable) in the **Units** column indicates that the part is non-procurable and that the individual parts or the next higher assembly should be ordered.
- **NR** (not recommended) in the **Units** column indicates that the part is procurable but not recommended for field replacement and that the next higher assembly should be ordered.
- **R** (restricted) in the **Units** column indicates that the part has a restricted availability.
- **NONUM** (no number) indicates that the part number is not available.
- **REF** (reference) indicates that the part is shown for reference and may be listed more than once.
- Indenture is marked by a series of dots located before the parts description. The indenture indicates the relationship of a part to the next higher assembly. For example:

Indenture	Relationship of parts
No dots	Main assembly
One dot	Subassembly of the main assembly or detail parts of the main assembly

Part assembly diagrams for model 185 and A50

Assembly diagrams.

This content covers the 7037-A50 and 7047-185 models.

Stand-alone cover assembly for model 185

Note: This topic contains indexed drawings and tables that cross-reference the enclosure’s FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

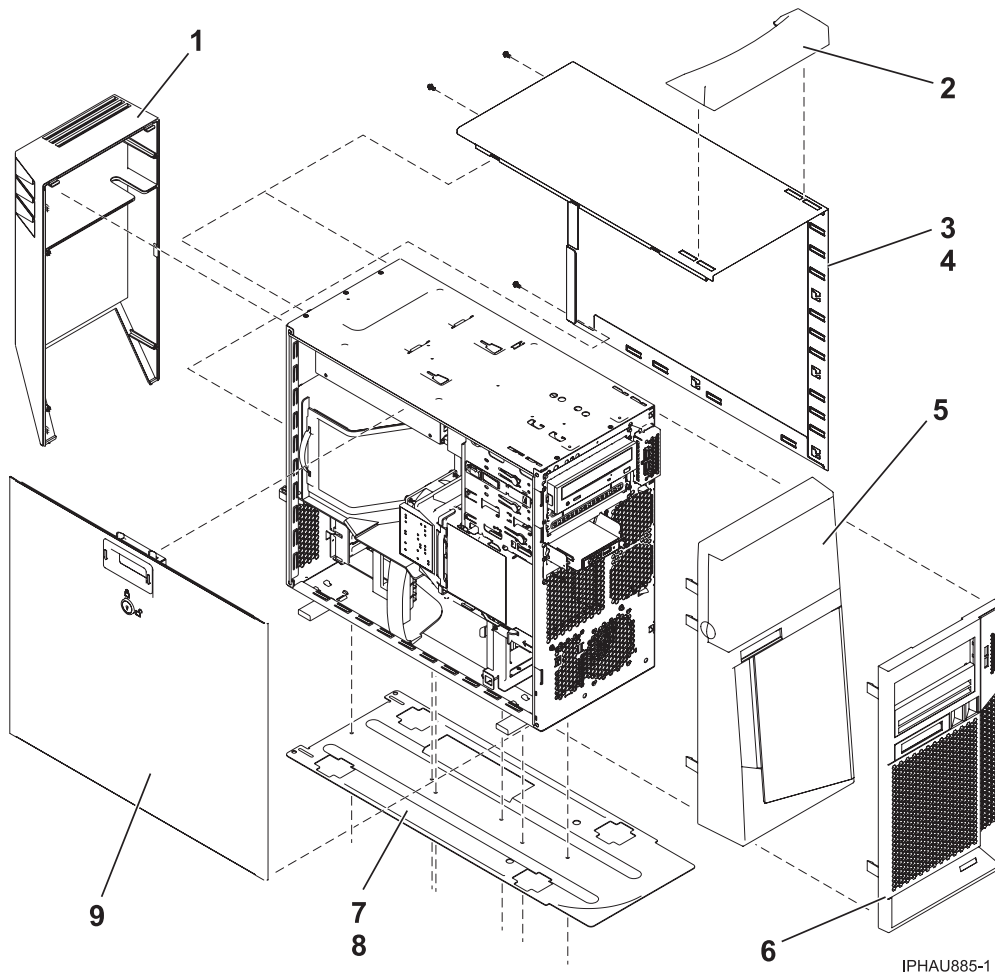


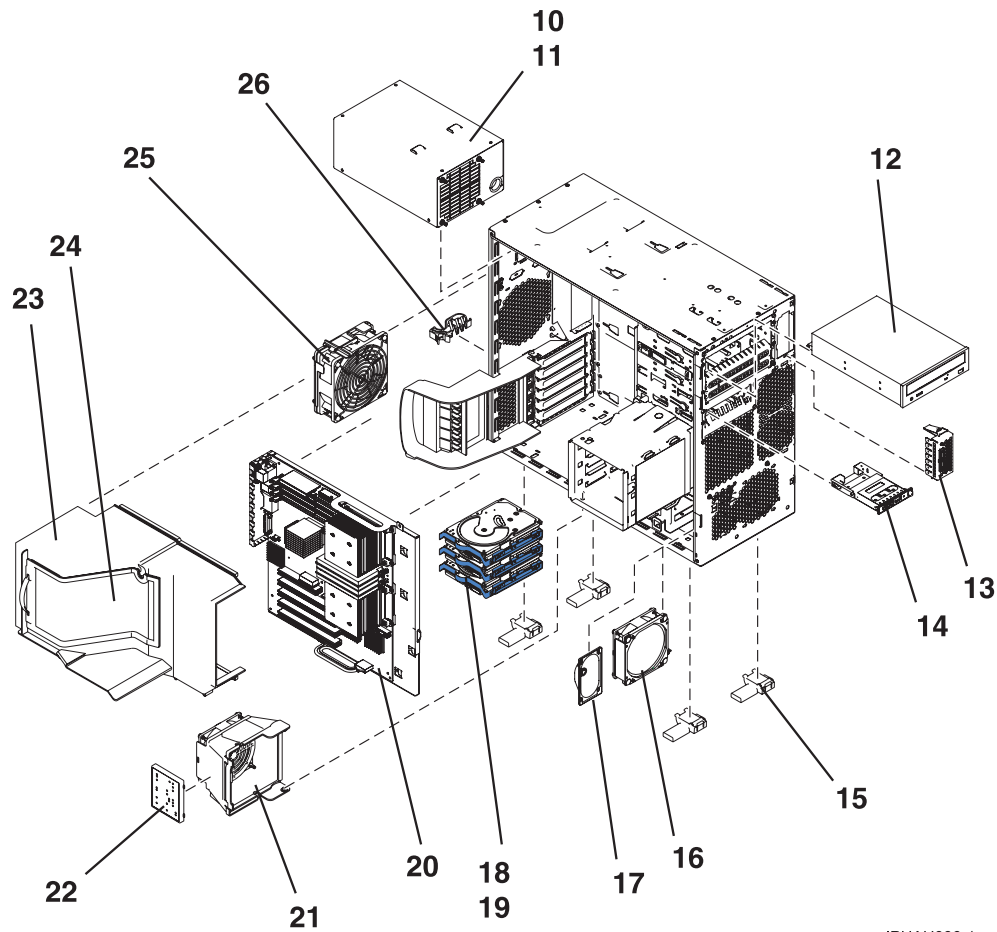
Table 43. Stand-alone cover assembly for model 185 part numbers

Index number	Part number	Units	Description
1	42R4144**	1	Rear cover (acoustical cover)
2	39J4144**		Handle, acoustical
3	42R4147**	1	Cover, side wrap
4	03K9553 ^c		Screw
5	42R4146**	1	Front cover, acoustical
6	42R4148**	1	Front cover, acoustical
6	39J5116**	1	Front cover
7	42R4143**	1	Mount plate for acoustical cover
8	75G2877 ^d		Screw
9	NONUM	1	Side access cover

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Assembly for model 185



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Table 44. Assembly for model 185 part numbers

Index number	Part number	Units	Description
10	42R4274* 42R4458**	1	185 with 1-core or 2-core processor use the 530 watt power supply
	42R4274* 42R4458**		A50 with a 1-core processor uses the 530 watt power supply
	39J4298* 39J5221**		A50 with a 2-core processor uses the 750 watt power supply
11	28L0657*	1	Thumbscrew
12	See Removable media device parts		Media device
13	39J4135*	1	USB cable
14	03N7057*	1	Control (operator) panel
15	26K7345**	1 set	Left and right feet
16	39J5381* 39J3664**	1	Fan, PCI adapter cooling
17	39Y9720* 19K4929**	1	Speaker

Table 44. Assembly for model 185 part numbers (continued)

Index number	Part number	Units	Description
18	26K7320**	1	DASD carrier
19	See Disk drives		DASD
20	See Backplane parts	1	System backplane
21	39J3651*	1	DASD fan and plastic
22	42R4235* 39J3652**	1	Light path assembly
23	42R4150**	1	Air baffle base
24	42R4122*	1	Top for air baffle base
25	39J5382* 39J3737**	1	Processor fan
26	10L6929**	1	Cable clamp

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

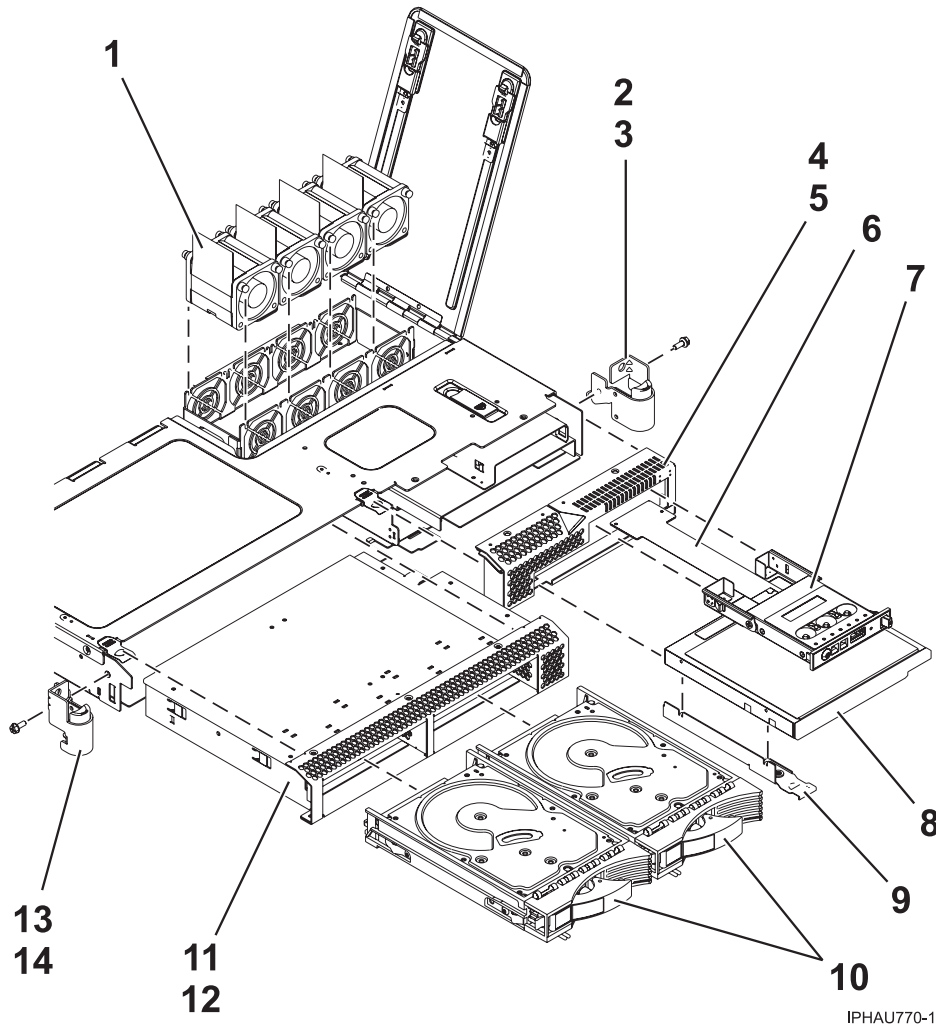
Part assembly diagrams for model 505

Assembly diagrams.

This content covers the model 9115-505.

Final assembly

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.



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Table 45. Final assembly part numbers

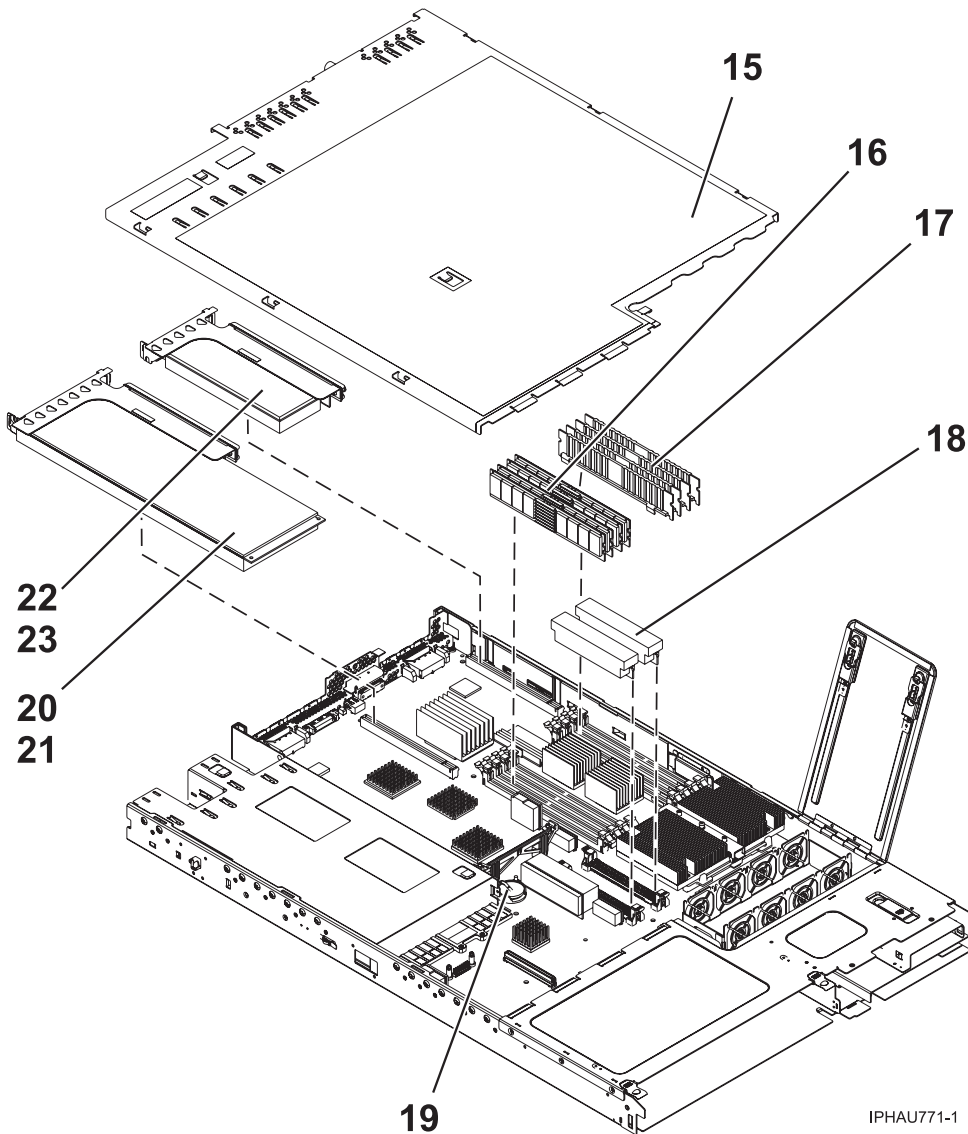
Index number	Part number	Units per assembly	Description
1	39J2228*	4	Fan assembly
2	33P2299*	1	Rack handle assembly, right
3	39J1363*	2	Screw
4	39J0938*	1	Front Bezel – System p5®
5	39J3368*	2	Screw, torx flathead
6	39J3681*	1	Cable assembly, control panel
7	42R5377* 39J0361**	1	Control panel assembly
8	See “Removable media device parts” on page 362	1	Removable media drive
9	NONUM	1	Removable media drive release assembly

Table 45. Final assembly part numbers (continued)

Index number	Part number	Units per assembly	Description
10	See "Disk unit parts" on page 299	AR	Disk units
	NONUM	AR	Disk unit filler
11	39J0356*	1	Disk unit cage assembly
12	39J3368*	2	Screw, torx flathead
13	33P2298*	1	Rack handle assembly, left
14	39J1363*	2	Screw

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement



IPHAU771-1

Table 46. Final assembly part numbers

Index number	Part number	Units per assembly	Description
15	97P5975*	1	Access cover assembly, top
16	See Memory parts	AR	Memory module (DIMM)
17	39J2432*	AR	Memory module (DIMM) filler
18	39J5067*	1 on 1 W processor 2 on all others	1.3 V, 75 A voltage regulator module
18	39J5205*	1 on SCM 2 on DCM and QCM.	1.3 V, 105 A voltage regulator module
19	16G8095* 00P3903**	1	Battery, time-of-day
20	03N6846* 03N6536**	1	PCI adapter riser, long
21	39J1401*	1	PCI filler
22	03N6843* 03N6533**	1	PCI adapter riser, short
23	39J1401*	1	PCI filler

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

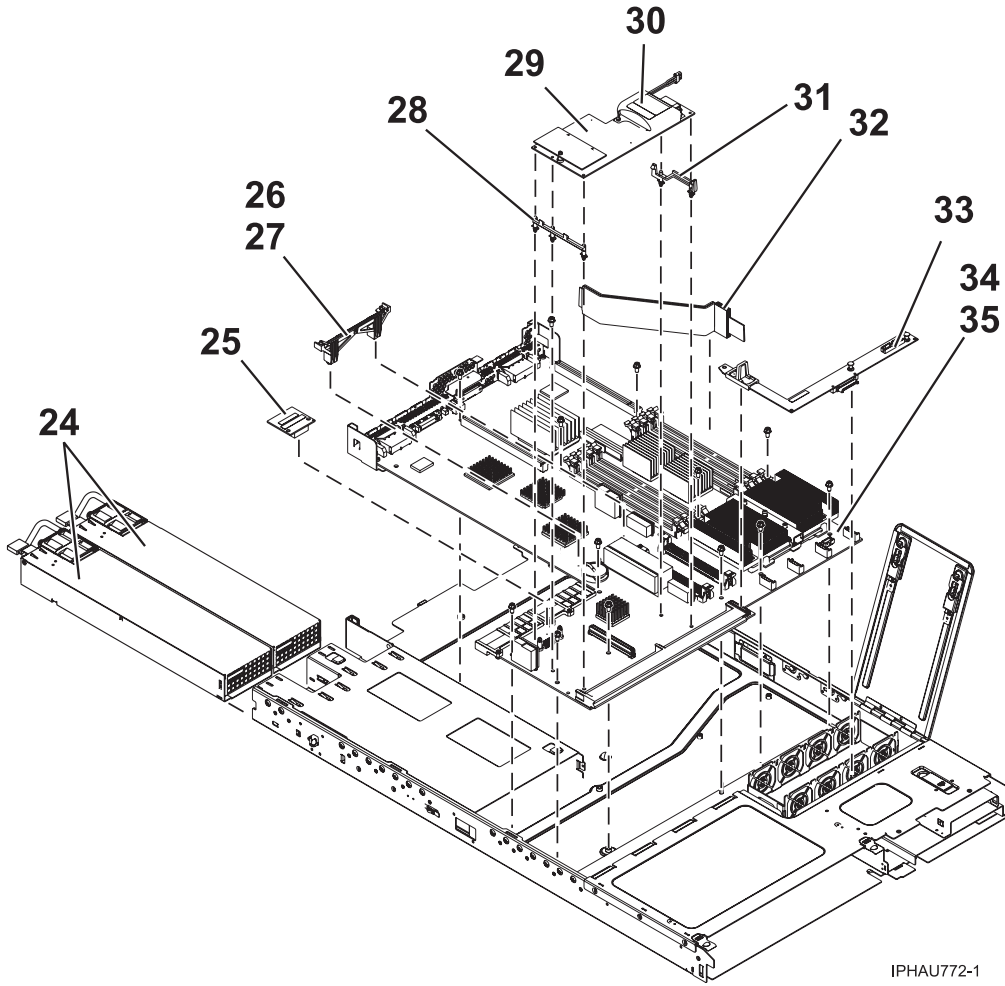


Table 47. Final assembly part numbers

Index number	Part number	Units per assembly	Description
24	See Power parts	AR	Power supply
	97P6025*	1	Filler assembly – power supply
25	See VPD parts	1	VPD card
26	NONUM	1	Support – long PCI adapter
27	NONUM	1	Support – rail assembly
28	NONUM	1	RAID card assembly
29	42R5064* 39J0374**	1	Battery with plate
30	NONUM	1	Support – RAID assembly
31	97P5987*	1	Baffle, airflow (S-shaped)
32	03N6733* 03N6759**	1	Media card assembly (L-shaped)

Table 47. Final assembly part numbers (continued)

Index number	Part number	Units per assembly	Description
33	See "System parts" on page 277	1	System backplane
34	See "System parts" on page 277		System backplane
35	97P4363**	1	Chassis

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

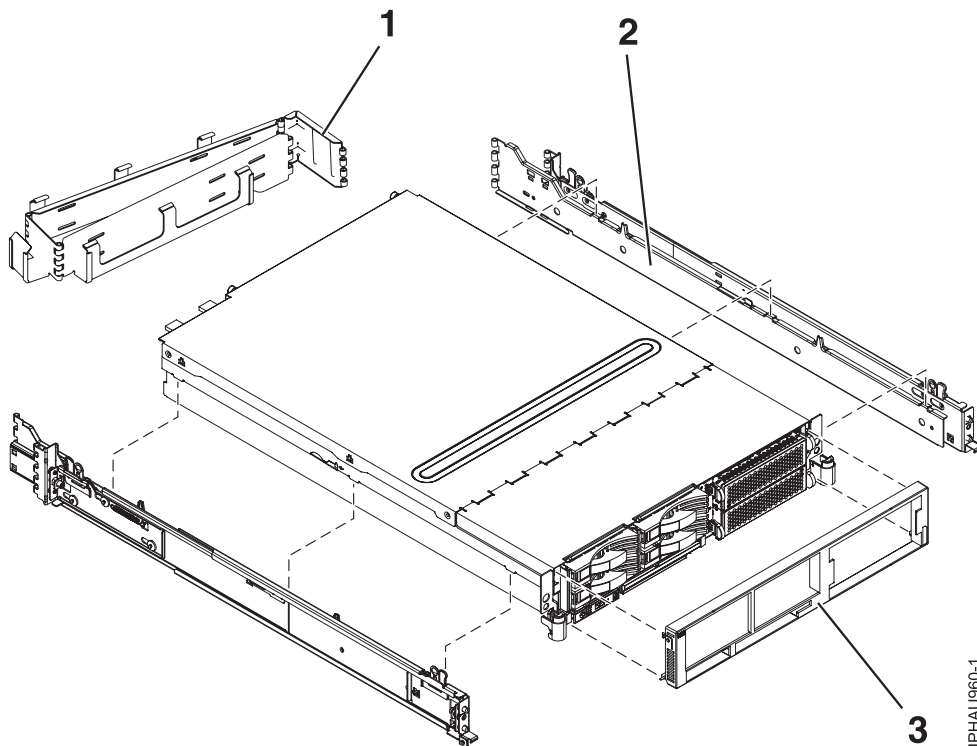
Part assembly diagrams for model 51x and OpenPower 710

Assembly diagrams.

This content covers the 9110-510, 9110-51A, and OpenPower 710 models.

Final assembly

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.



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Table 48. Final assembly part numbers

Index number	Part number	Units per assembly	Description
1	NONUM	AR	Cable arm
2	39M6938* 90P4069**	1	Rail kit
3	39J0315*	1	Cover, model 510
3	97P5841*	1	Front bezel, model OpenPower 710
3	39J3381**	1	Front bezel, model 9110-51A

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

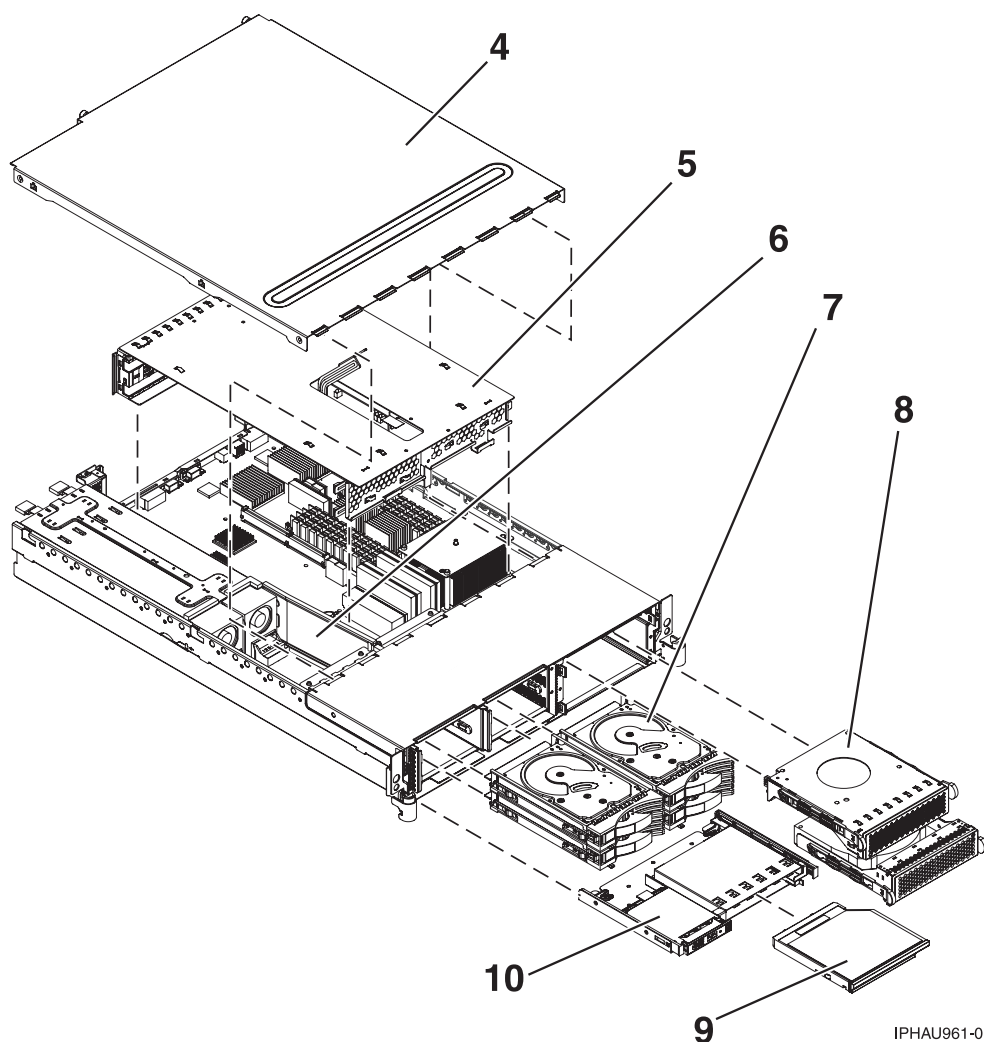


Table 49. Final assembly part numbers

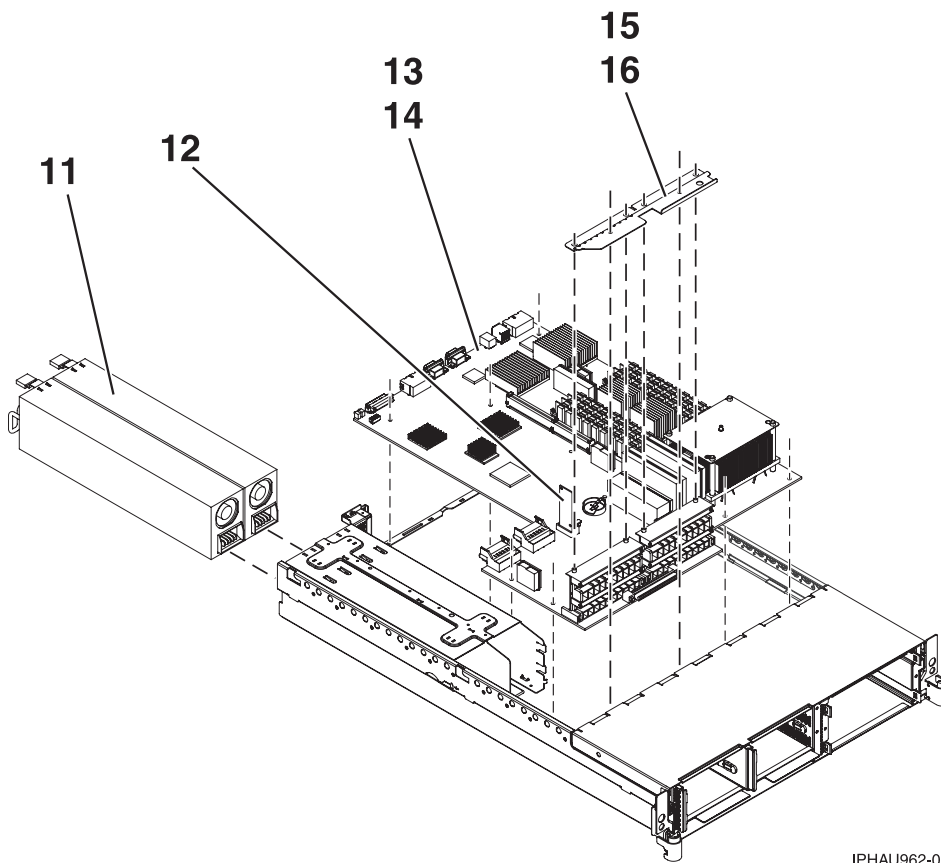
Index number	Part number	Units per assembly	Description
4	97P5817**	1	Top cover

Table 49. Final assembly part numbers (continued)

Index number	Part number	Units per assembly	Description
5	See Backplane parts	1	Enclosure, PCI adapter
	See "System parts" on page 277	AR	PCI adapter
6	NONUM	1	Air dam
7	See "Disk unit parts" on page 299	AR	Disk unit
	97P4179* 53P6213**	AR	Filler, disk unit
8	97P5819*	2	Blower
	97P6840*	2	Cable, fan
9	See "Removable media device parts" on page 362	AR	Removable media
	53P5867*	AR	Filler, removable media
10	See Control panel parts	1	Control panel and removable media tray assembly

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement



IPHAU962-0

Table 50. Final assembly part numbers

Index number	Part number	Units per assembly	Description
11	See Power parts	AR	Power supply
	39J0534 [*] 97P5843 ^{**}	AR	Filler, power supply
12	See VPD parts	1	VPD card
13	See Backplane parts	1	System backplane
14	39J0199 [*]	AR	Screw, system backplane
15	NONUM	1	Bracket, support
16	NONUM	AR	Screw, support bracket
17	40K6435 [*]	1	Right latch
18	27F4212 ^{**}	2	Latch screw
19	40K6434 [*]	1	Left latch
	See Memory parts	AR	Memory card
	44H8167 [*]	AR	Filler, memory card
	See Power parts		Voltage regulator, 1.3
	See Power parts		Voltage regulator, 2.5
	See Power parts		Battery

* Designed to comply with RoHS requirement

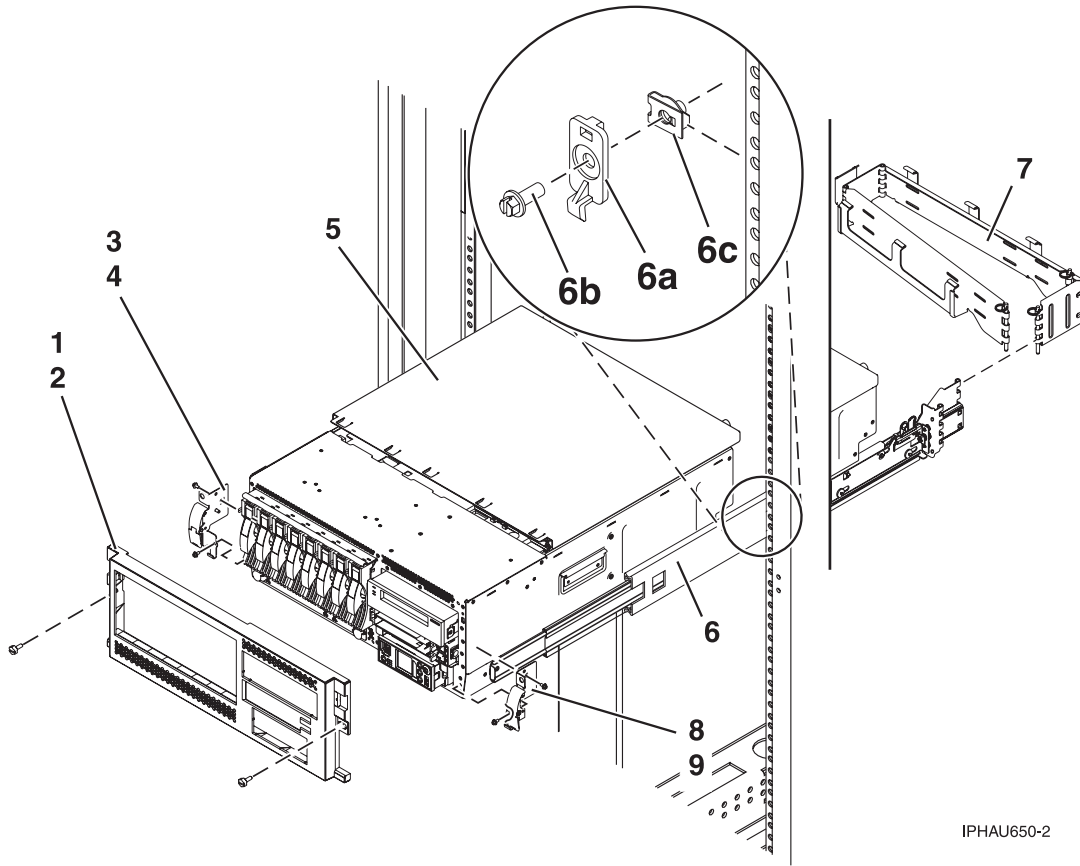
** Not designed to comply with RoHS requirement

Part assembly diagrams for model 515, 52x, and 285

This content covers the 9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9407-515, and 9406-525 models.

Front cover assembly

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.



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Table 51. Front cover assembly part numbers

Index number	Part number	Units	Description
1	97P5037*	1	Front cover assembly (IBM® eServer™ i5)
	97P6149*	1	Front cover assembly (IBM eServer p5)
1	39J4799* 39J2042**	1	Bezel assembly
2	04N6587*	2	Thumbscrew, front cover mounting
3	97P5895**	1	Rack handle assembly, left
4	09P3744*	2	Screw
5	39J4799* 39J2042**	1	Cover, top access
6	39J5301* 97P5760** (fixed length 39J5295* 97P5754** (adjustable length)	AR	Rail kit
6a	39J5310* 53P1463**	AR	Rack latch (included in rail kit) 39J5590 - Right drawer latch 39J5674 - Left drawer latch
6b	04N6587*	AR	Screw (included in rail kit)

Table 51. Front cover assembly part numbers (continued)

Index number	Part number	Units	Description
6c	74F1823* 0375867**	AR	Nut clip (included in rail kit)
7	NONUM	1	Cable management arm assembly
8	97P5896**	1	Rack handle assembly, right
9	09P3744*	2	Screw

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Final assembly for model

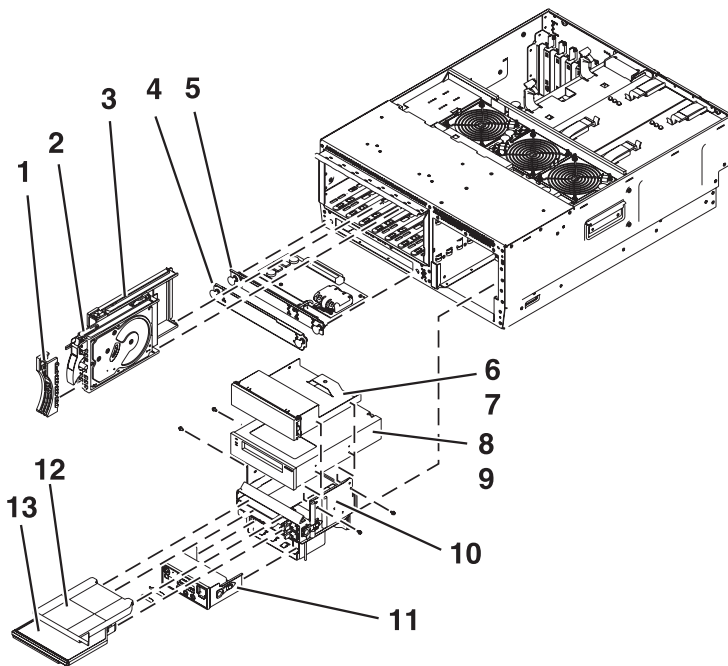


Table 52. Final assembly part numbers

Index number	Part number	Units	Description
1	97P4178*	AR	Disk unit bezel
2	See "Disk unit parts" on page 299	AR	Disk unit assembly
3	97P4179* 53P6213**	AR	Disk unit filler assembly
4	39J1004* 53P4407**	1	RAID enablement filler
5	See Storage parts	1	RAID enablement card assembly
6	39J1002* 97P6767**	1	Media device filler
7	33G3907*	4	Screw

Table 52. Final assembly part numbers (continued)

Index number	Part number	Units	Description
8	See "Part number catalog" on page 160	1	Media device
9	33G3907*	4	Screw
10	See Backplane parts	1	Media backplane and enclosure assembly (IBM eServer i5)
	See Backplane parts	1	Media backplane and enclosure assembly (IBM eServer p5)
11	See Control panel parts	1	Control panel assembly
	71P8467**	1	Power button shield
12	53P5867*	1	Media device filler
13	See "Removable media device parts" on page 362	AR	Media device

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

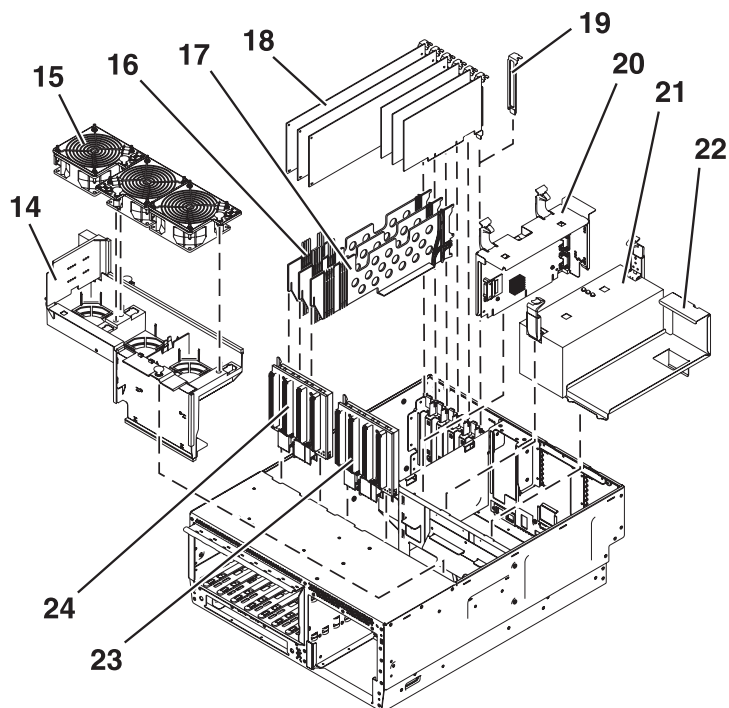
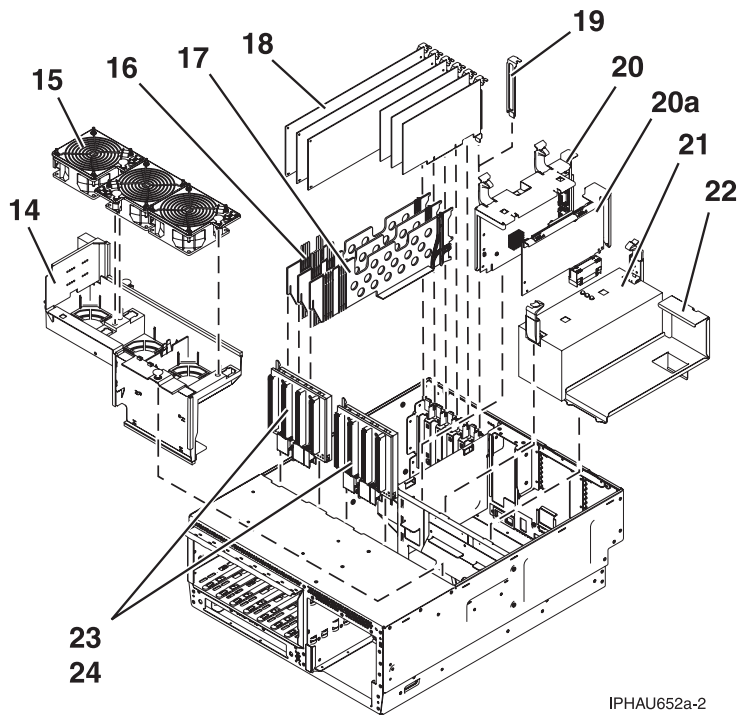


Figure 72. 9111-520, 9405-520, and 9406-520 with integrated RIO/HSL ports

Tip: The only noticeable difference between figure 1 and figure 2 in this topic is the addition of index number 20a.



IPHAU652a-2

Figure 73. 9111-285, 9131-52A, 9405-520, and 9406-520 with RIO/HSL ports located on the RIO/HSL card

Table 53. Final assembly part numbers

Index number	Part number	Units	Description
14	39J5800 [†] 39J1255 ^{**}	1	Fan tray assembly. When the fan tray assembly is replaced, fan cover LED label (97P4479) must also be ordered. If the fan tray cable assembly needs to be replaced, order 42R4061. To replace all three parts, order all three part numbers.
15	39J2473 [†] 97P3153 ^{**}	3	Fan assembly
16	53P5869 [†]	2	PCI divider assembly, long. Use for slots 5 and 6
17	53P2728 [†]	2	PCI divider. Use for slot 4
17	53P2729 [†]	2	PCI divider. Use for slot 4
18	See "System parts" on page 277	AR	PCI adapter assembly
19	01R1473 [†] 03K8992 ^{**}	AR	PCI adapter filler
20	See Processor parts	1	Service processor assembly
20a	39J2923 [†] 39J1099 ^{**}	1	RIO/HSL card
21	See Power parts	AR	Power supply assembly
22	39J0999 [†] 53P5868 ^{**}	1	Power supply filler
23	See Backplane parts	1	Disk unit backplane assembly

Table 53. Final assembly part numbers (continued)

Index number	Part number	Units	Description
24	See Backplane parts	1	Disk unit backplane assembly
24	53P4415*	1	Disk unit backplane filler

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

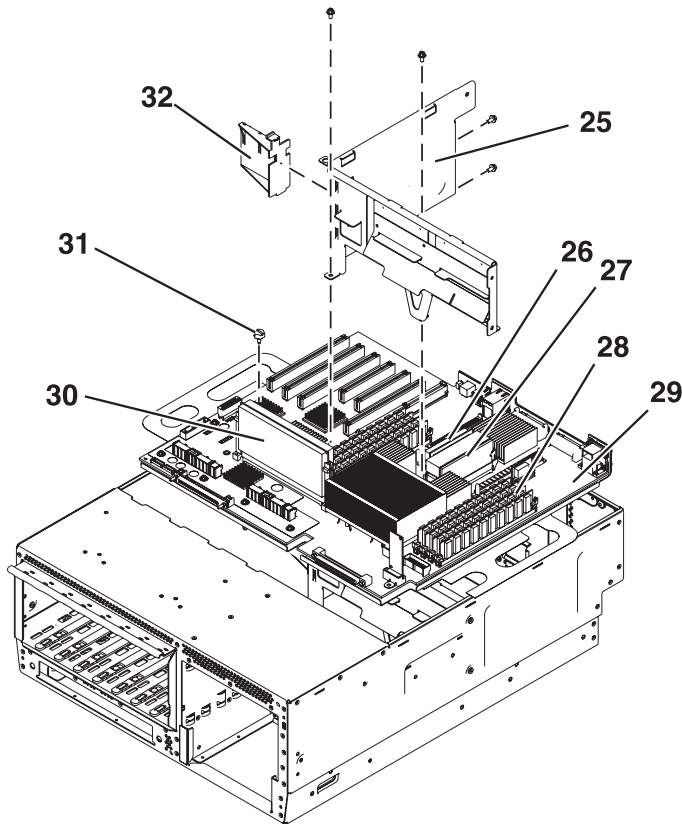


Table 54. Final assembly part numbers

Index number	Part number	Units	Description
25	NONUM	1	Mounting bracket, power supply
25	09P3744*	7	Screw
26	See Power parts On models without RIO/HSL-2 ports P1-T3 and P1-T4. The system backplane must be replaced for regulator problems. Check system backplane for part number.	1	1.5 V or 2.5 V voltage regulator (cannot be replaced on 9111-285, 9131-52A)

Table 54. Final assembly part numbers (continued)

Index number	Part number	Units	Description
27	See Power parts On models without RIO/HSL-2 ports P1-T3 and P1-T4. The system backplane must be replaced for regulator problems. Check system backplane for part number.	1	2.5 V voltage regulator
28	See Memory parts	AR	Memory DIMMs
29	See Backplane parts	1	System backplane
30	See Power parts Replace two regulators if two are installed.	1 or 2	1.2V voltage regulator
31	28L0657*	1	Thumbscrew, planar mounting
32	NONUM	1	Mounting guide, short PCI divider
	See VPD parts	1	VPD card

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Stand-alone cover assembly

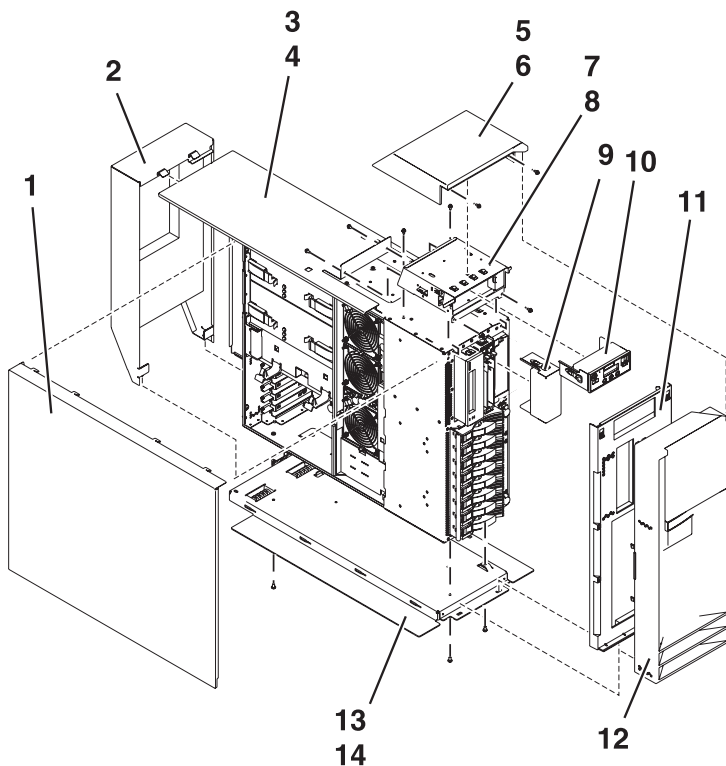


Table 55. Stand-alone cover assembly part numbers

Index number	Part number	Units	Description
1	39J3672* 97P3747**	1	Cover assembly, service access
2	97P3772*	1	Cover assembly, back
3	97P3942*	1	Cover assembly, top
4	97P5895**	2	Screw
5	97P5284*	1	Acoustic Option Cover assembly, top cap. For 9131-52A, 9405-520, 9406-520, 9111-520, 9407-515
5	39J1204**	1	Cover assembly, top cap. For 9111-285, 9131-52A
6	09P3744*	2	Screw
7	39J1238* 53P4413**	1	Bracket
8	09P3744*	4	Screw
9	39J5589* 97P2731**	1	Control panel filler
10	See Control panel parts	1	Control panel
	71P8467**	1	Power button shield
11	97P5907* 97P5283**	1	Cover assembly, front (9131-52A, 9405-520, 9406-520, 9111-520)
11	39J1215*	1	Cover, front (9111-285)
12	39J2502* 97P5038**	1	Door assembly (9405-520, 9406-520)
12	39J2503* 97P6148**	1	Door assembly (9111-520)
12	39J3228*	1	Acoustic cover/door assembly (9131-52A)
13	53P3949*	1	Tip plate
14	09P3744*	4	Screw

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

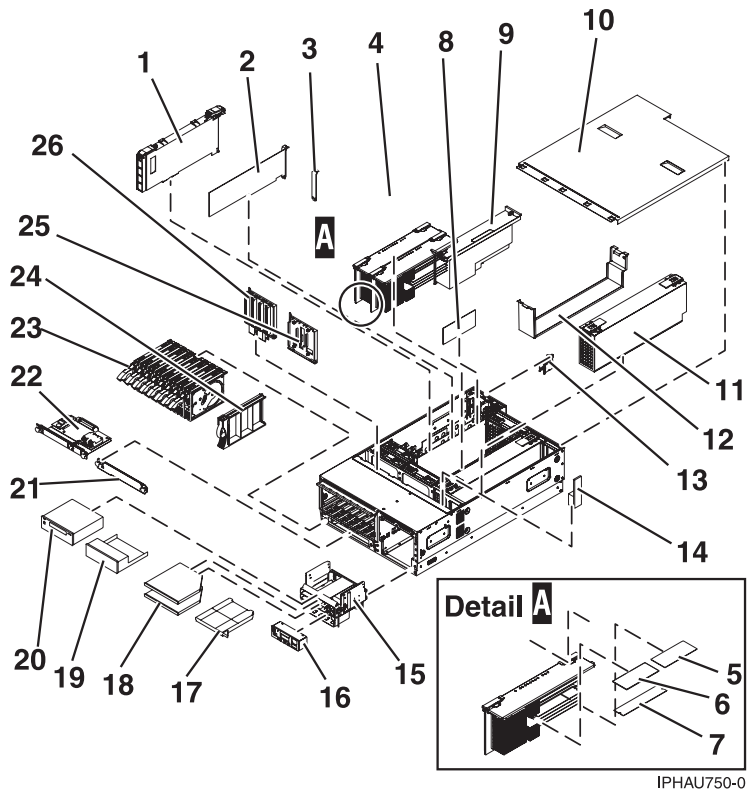
Part assembly diagrams for model 55x and OpenPower 720

Assembly diagrams.

This content covers the 9406-550, 9133-55A, and OpenPower 720 models.

Final assembly

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.



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Table 56. Final assembly

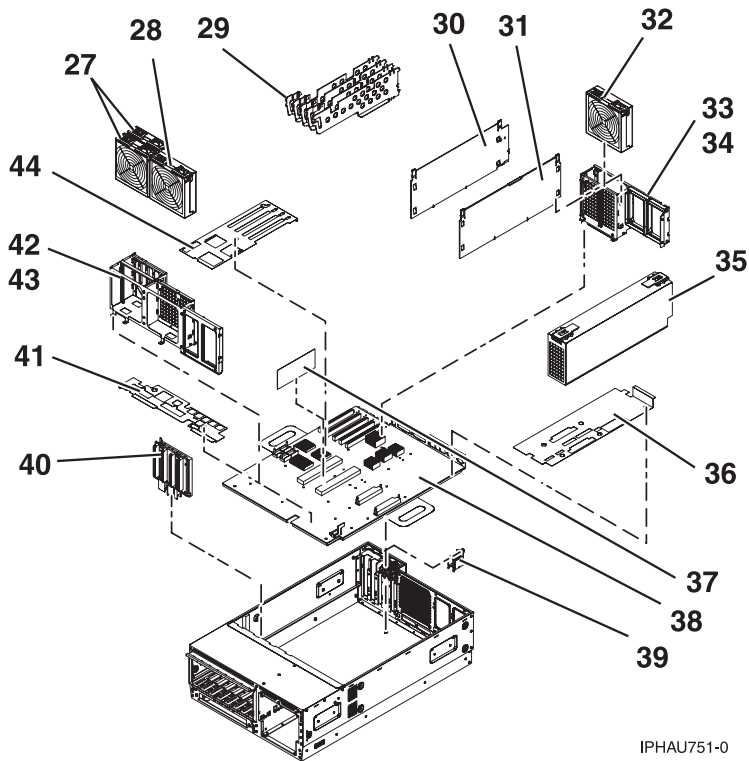
Index number	Part number	Units	Description
1	See Bus parts	1	RIO/HSL adapter
2	See "System parts" on page 277	AR	PCI adapter
3	01R1473* 03K8992**	AR	PCI blank
4	See Processor parts	AR	System processor
5	See Power parts	1	Voltage regulator (1.5 V)
6	See Power parts	1	Voltage regulator (2.5 V)
7	See Memory parts	AR	Memory module
	44H8167*	AR	Filler, memory module
8	See Power parts	1	Voltage regulator (1.2 V)
9	39J1228* 97P4370**	AR	System processor filler
10	39J1226* 97P4610**	1	Top cover
11	See Power parts	1	Power supply
12	39J1219* 97P4369**	1	Power supply filler
13	97P6144**	3	Retainer for PCI adapter (slots C1, C2, or C3)
	97P6794**	2	Retainer, with bracket, for PCI adapter (slots C4 or C5)

Table 56. Final assembly (continued)

Index number	Part number	Units	Description
14	See VPD parts	1	VPD card
15	See Backplane parts	1	Media backplane assembly
16	See Control panel parts	1	Control panel assembly
16	71P8467**	1	Power button shield
17	53P5867*	AR	Media device filler
18	See "Removable media device parts" on page 362	AR	Media device
19	39J1002* 97H9137 **	AR	Media device filler
20	See "Removable media device parts" on page 362	AR	Media device
21	39J1004* 53P4407**	AR	RAID enablement card filler
22	See Storage parts	AR	RAID enablement card assembly
23	See "Disk unit parts" on page 299	AR	Disk unit assembly
23	05J7885**	AR	Guide rail, disk unit, comes with disk unit assembly
24	97P4179* 53P6213**	AR	Disk unit filler assembly
25	97P5270**	AR	Disk unit backplane filler
26	See Backplane parts	AR	Disk unit backplane assembly

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement



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Table 57. Final assembly, continued

Index number	Part number	Units	Description
27	39J2389* 97P6567**	2	Fan, PCI
28	39J2390* 97P6568**	1	Fan, Processor
29	97P5894**	4	PCI adapter divider
30	NONUM	1	Processor divider
31	NONUM	1	Power supply divider
32	39J2390* 97P6568**	1	Fan, Processor
33	NONUM	1	Rear support
34	NONUM		Screw, rear support
35	See Power parts	AR	Power supply
36	NONUM	1	Power supply insulator sheet
37	See Power parts	1	Voltage regulator (1.2 V)
38	See Backplane parts	1	System backplane
39	97P6144**	3	Retainer for PCI adapter (slots C1, C2, or C3)
	97P6794**	2	Retainer, with bracket, for PCI adapter (slots C4 or C5)
40	See Backplane parts	AR	Disk unit backplane assembly
41	NONUM	1	System insulator sheet
42	NONUM	1	Front support

Table 57. Final assembly, continued (continued)

Index number	Part number	Units	Description
43	NONUM		Screw, front support
44	NONUM	1	PCI card insulator sheet

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Stand-alone cover assembly

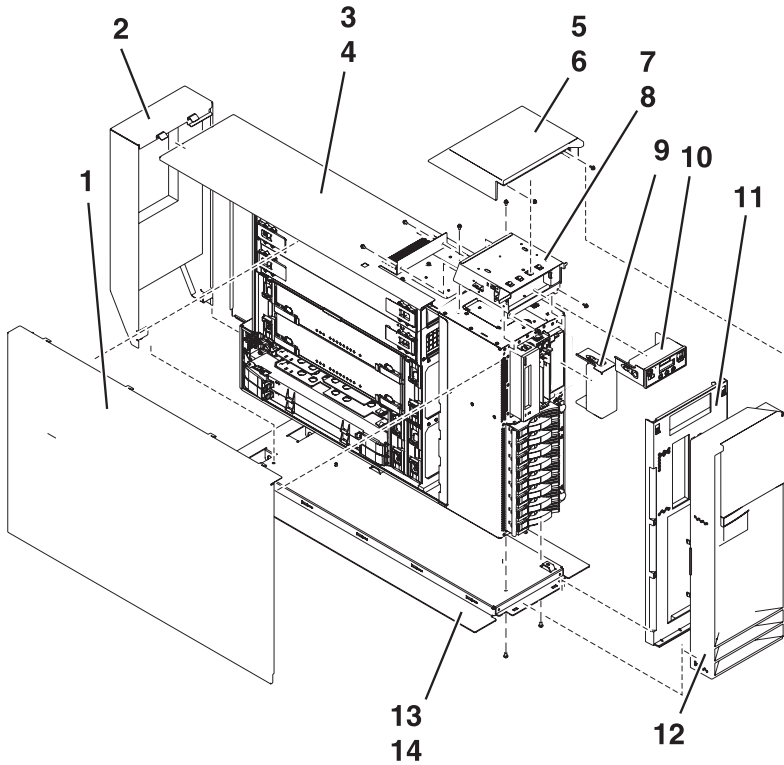


Table 58. Stand-alone cover assembly part numbers

Index number	Part number	Units	Description
1	NONUM	1	Side cover
2	97P3772*	1	Back cover
3	NONUM	1	Side wrap
4	NONUM		Screw
5	97P5284* 53P6139**	1	Top cap
6	09P3744*	2	Screw
7	39J1233* 97P5912**	1	Control-panel mounting-bracket assembly
8	NONUM		Screw
9	39J5589* 97P2731**	1	Control panel filler

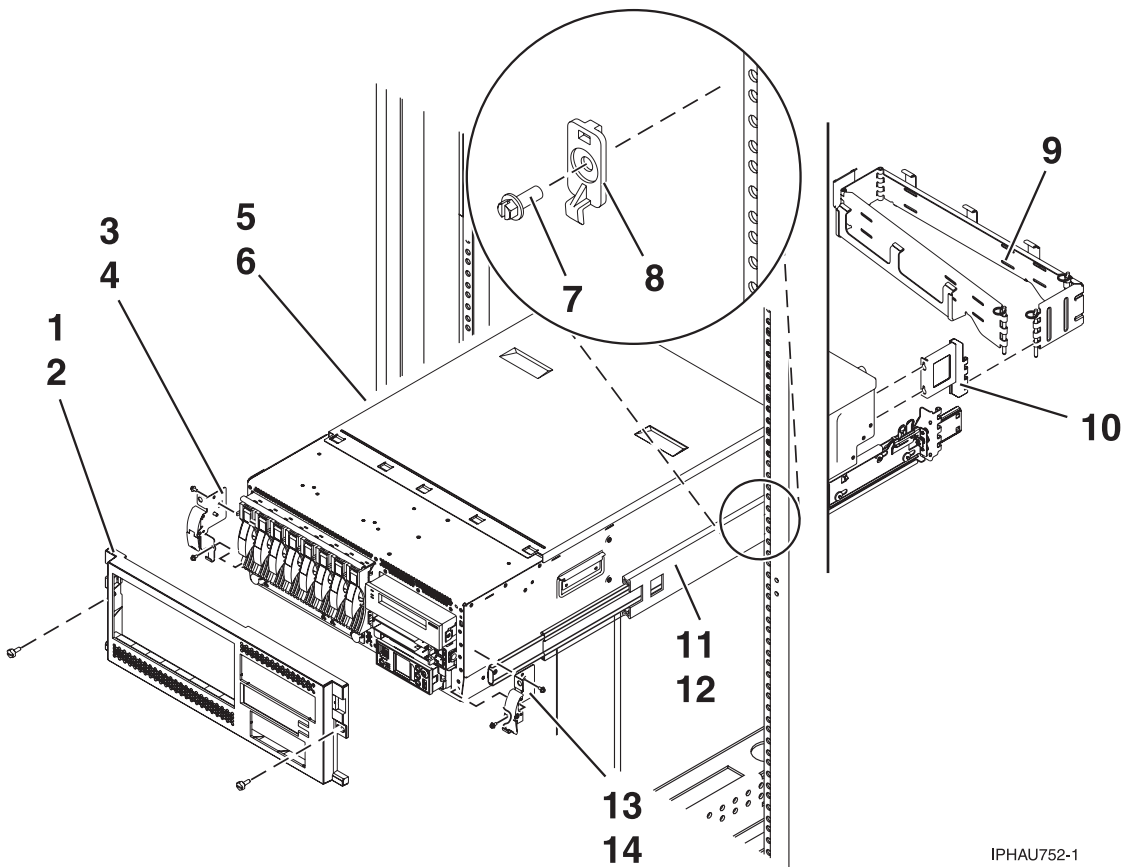
Table 58. Stand-alone cover assembly part numbers (continued)

Index number	Part number	Units	Description
10	See Control panel parts	1	Control panel
	71P8467**	1	Power button shield
11	97P5907* 97P5283**	1	Front cover
12	39J2502* 97P5038**	1	Door assembly (System i)
	39J2503* 97P6148**	1	Door assembly (System p)
	39J2506**	1	Door assembly (OpenPower 720)
13	NONUM		Tip plate
14	NONUM		Screw

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Front cover and rail assembly



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Table 59. Front cover and rail assembly part numbers

Index number	Part number	Units	Description
1	97P5037*	1	Front cover assembly IBM eServer i5
1	97P6149*	1	Front cover assembly IBM eServer p5
2	04N6587*	2	Thumbscrew, front cover mounting
3	97P5896**	1	Rack bracket - left
4	09P3744*	2	M3.5 screw
5, 6, 11, 12	97P5271* 05J7885*	1	Rail assembly
7	39J5310* 53P1463**	2	Catch rack latch
8	26H7213*	2	M5 screw
9	NONUM	1	Cable management arm assembly
10	NONUM	1	Cable management bracket
13	97P5895**	1	Rack bracket - right

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

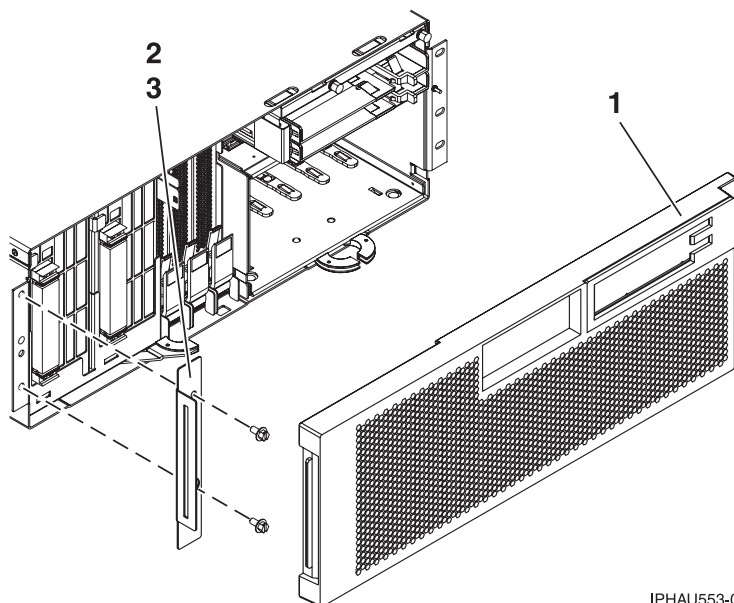
Part assembly diagrams for model 561 and 570

Assembly diagrams.

This content covers the 9116-561, 9406-570, and 9117-570 models.

Front cover assembly

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.



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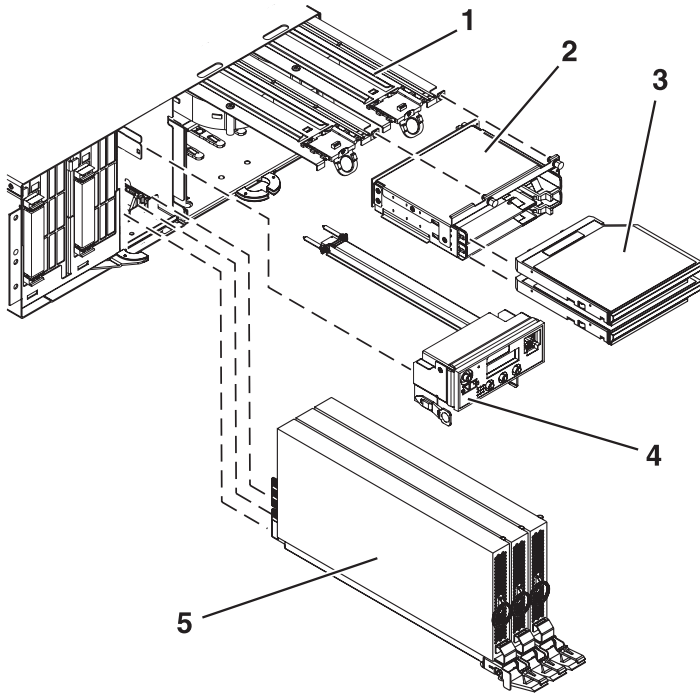
Table 60. Front cover assembly part numbers

Index number	Part number	Units	Description
1	39J1737* 97P4696**	1	Front cover assembly (IBM eServer i5)
	39J4293* 97P6058**	1	Front cover assembly (IBM eServer p5)
2	39J2040* 97P6511**	1	Bracket, front cover mounting
3	04N6587*	2	Screw

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Final assembly (front)



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Table 61. Final assembly (front) part numbers

Index number	Part number	Units	Description
1	39J0859* 53P5070**	2	Fan assembly
2	See Backplane parts	1	Removable media enclosure assembly (includes the media backplane)
3	See "Removable media device parts" on page 362	2	Removable media assembly
3	42R7449	AR	Removable media filler assembly

Table 61. Final assembly (front) part numbers (continued)

Index number	Part number	Units	Description
4	See Control panel parts	1	Control panel assembly
	71P8467**	1	Power button shield
5	See Power parts	3	Voltage regulator assembly

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

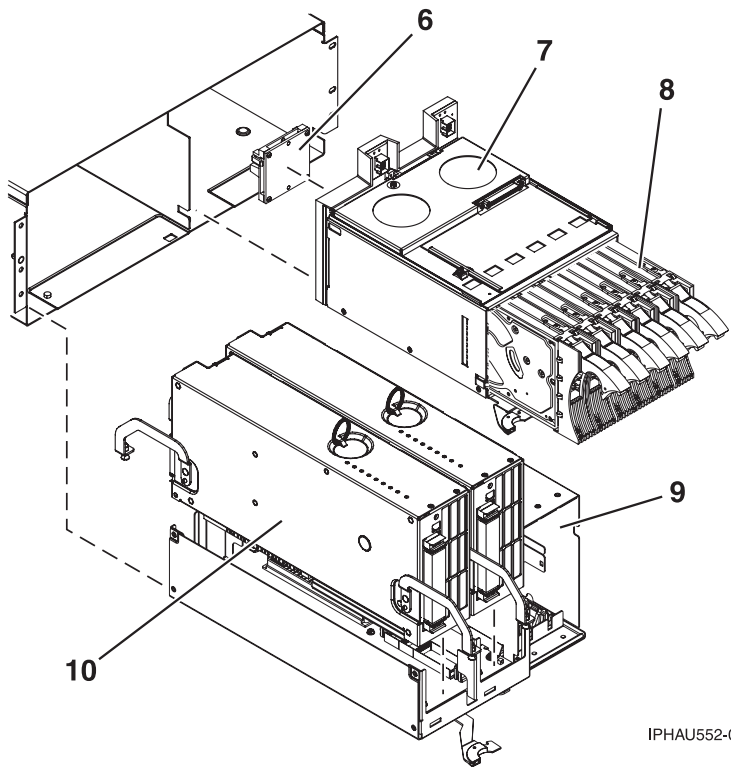


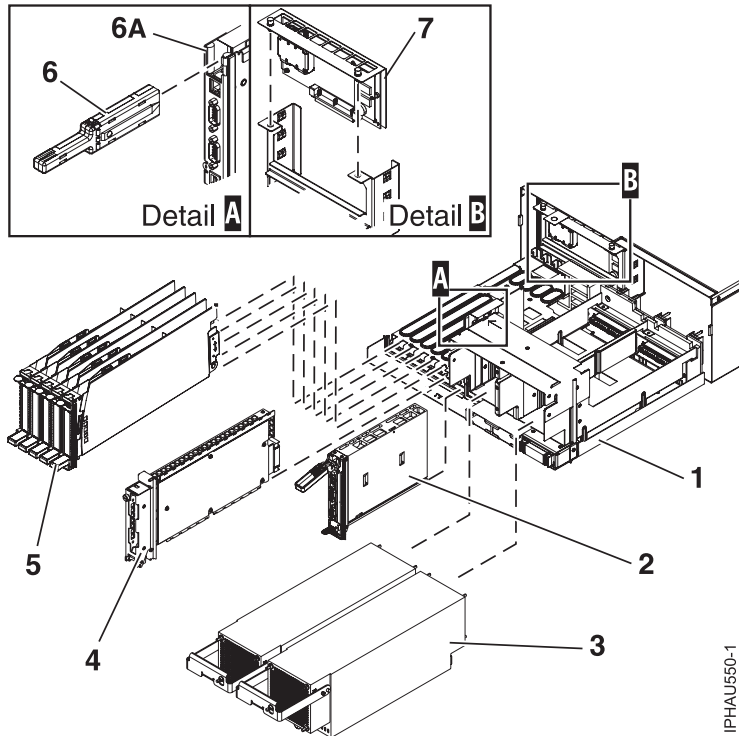
Table 62. Final assembly (front) part numbers, continued

Index number	Part number	Units	Description
6	03N4811* 80P5157**	1	SCSI-IDE converter card assembly
7	See Backplane parts	1	Disk drive backplane
8	See "Disk unit parts" on page 299	AR	Disk drive assembly
	97P4179* 53P6213**	AR	Disk drive filler assembly
9	See Backplane parts	1	System processor backplane
10	See Processor parts	2	System processor assembly
	See Memory parts	AR	Memory DIMM

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Final assembly (back)



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Table 63. Final assembly (back) part numbers

Index number	Part number	Units	Description
1	See Backplane parts	1	I/O backplane assembly.
2	See Processor parts	1	Service processor assembly
2	97P5044**	AR	Service processor filler card
3	See Power parts	2	Power supply assembly
4	See Bus parts	AR	RIO/HSL card assembly
5	21P8331* 97P5663**	AR	PCI adapter assembly
	21P8332* 97P4918**	AR	Short PCI adapter assembly (Un-P1-C6 only)
6	See VPD parts	1	VPD card
	97P6687*	AR	VPD card filler
6A	See Backplane parts	1	Passthru card. This card provides connection for the system VPD card, system ports, and SPCN cable.
7	See Storage parts	1	RAID enablement card assembly

- * Designed to comply with RoHS requirement
- ** Not designed to comply with RoHS requirement

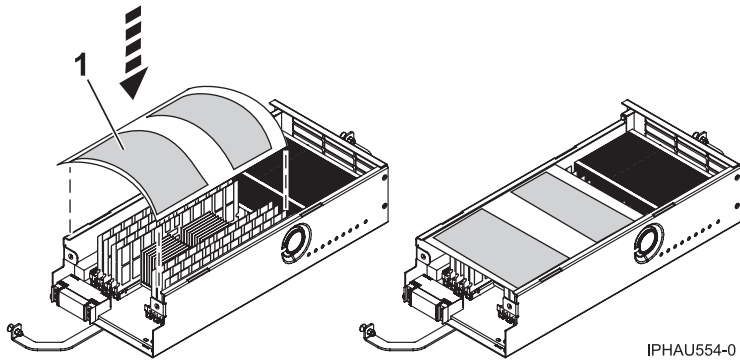


Table 64. 570 plastic shield.

Index number	Part number	Units	Description
1	97P6896*	1	Plastic shield

- * Designed to comply with RoHS requirement
- ** Not designed to comply with RoHS requirement

For cable information see Cables

Part assembly diagrams for model 575

Assembly diagrams.

This content covers the model 9118-575.

Final assembly

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

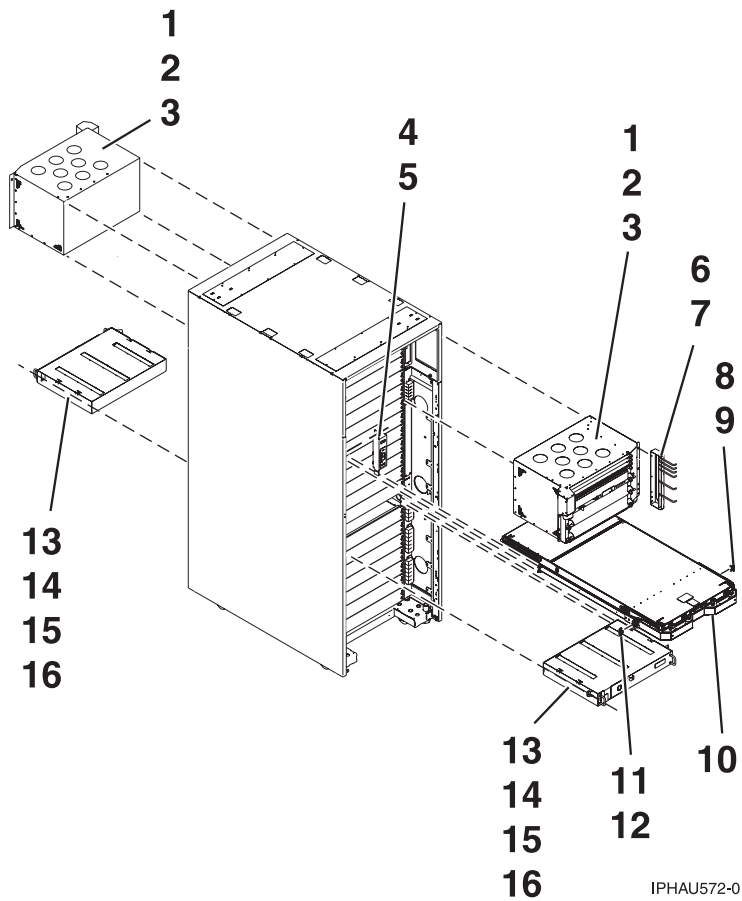


Table 65. Final assembly

Index number	Part number	Units per assembly	Description
1	12R9749* 44P4543**	1	Bulk power assembly. For a detailed parts list see the Bulk power assembly (BPA).
2	77G0599*	2	Screw, BPE mounting
3	74F1823* 0375867**	5	Nut clip
4	15R6747* 44P2718 **	1	Unit emergency power off (UEPO) switch assembly
5	2665528*	2	Screw, UEPO mounting
6	11P3843*	1	Cable bracket
7	77G0599*	3	Screw, cable bracket
8	12R9758* 12R9051**	1	Mount, right
9	77G0599*	2	Screw
10	NONUM	AR	Processor subsystem assembly. For a detailed parts list see the Processor subsystem assembly.
11	12R9757* 12R8729**	1	Mount, left
12	77G0599*	2	Screw

Table 65. Final assembly (continued)

Index number	Part number	Units per assembly	Description
13	41U0012* 11P3732**	AR	Internal battery feature (IBF)
14	77G0599*	2	Screw
15	NONUM	2	Washer
16	74F1823* 0375867**	2	Nut clip

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Cover assembly

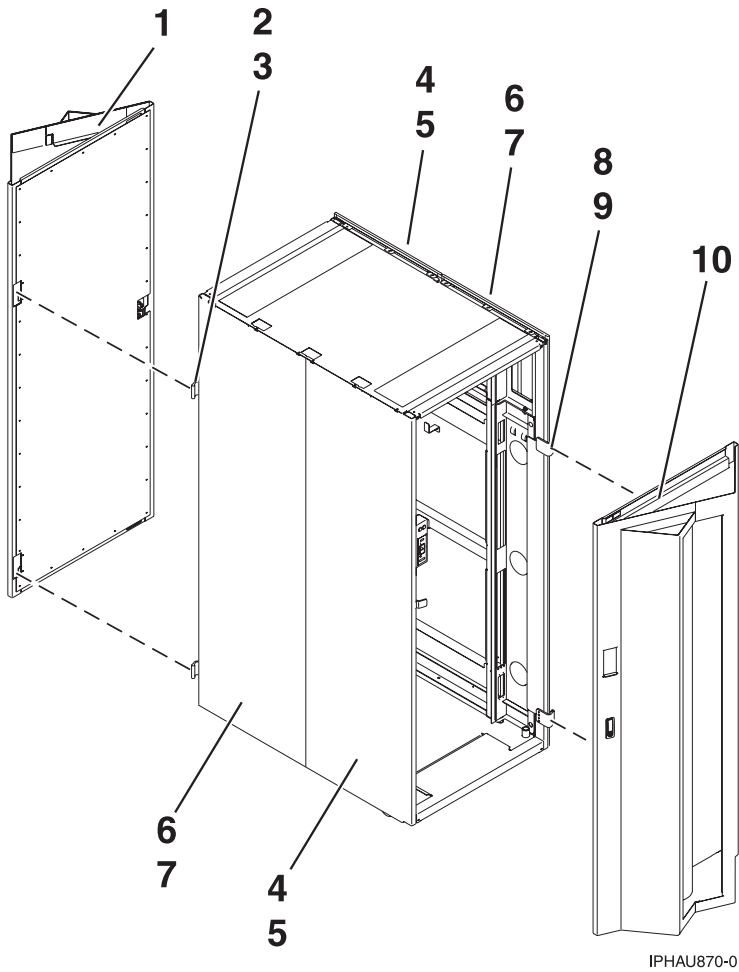


Table 66. Cover assembly part numbers

Index number	Part number	Units per assembly	Description
1	41U0388* 12R7208**	AR	Cover kit (acoustical)
	41U0386* 12R7207**	AR	Cover kit (slim)
	44P2670**	AR	Filter, cover
	44P4573* 44P4568**		Front cover
2	11P4106* 31L7547**	2	Hinge, back cover
3	2665525*	4	Screw, hinge
4	12R8782* 12R7584**	2	Cover, right-side
5	54G2882*	3	Screw, cover mounting
6	44P0125**	2	Cover, left-side
7	54G2882*	3	Screw, cover mounting
8	11P3535*	2	Hinge, front cover
9	2665525*	4	Screw, hinge
10	See index number 1	1	Cover kit

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Rack Extension Unit

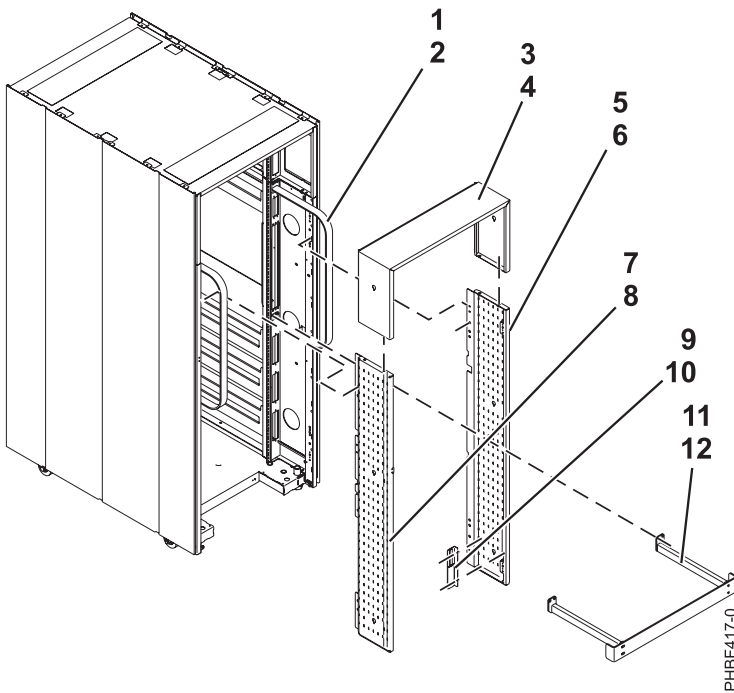


Table 67. Rack Extension Unit

Index number	Part number	Units per assembly	Description
1	12R7800*	2	Depth reduction kit, support bars
2	NONUM	8	Screw
3	12R6703*	1	Extender, top
4	NONUM	4	Screw
5	12R7805*	1	Extender, right side
6	NONUM	3	Screw
7	12R7806*	1	Extender, left side
8	NONUM	3	Screw
9	NONUM	1	Bracket, ESD
10	54G2882*	2	Screw
11	12R6709*	1	Support bar
12	NONUM	4	Screw

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Rack Extension Unit continued

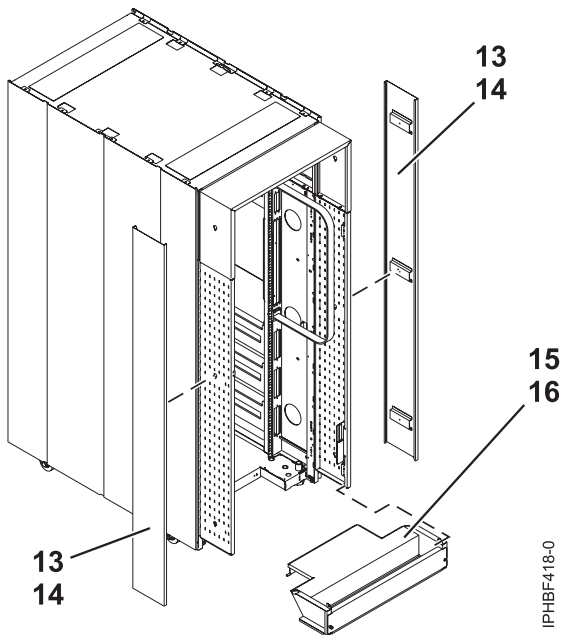


Table 68. Rack Extension Unit continued

Index number	Part number	Units per assembly	Description
13	12R8702* 12R6704**	2	Extender side cover
14	77G0599*	6	Screw
15	12R9733* 12R6708**	1	Tailgate, back

Table 68. Rack Extension Unit continued (continued)

Index number	Part number	Units per assembly	Description
15	12R8313*	1	Tailgate, back
16	77G0599*	2	Screw

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Bulk power assembly (BPA)

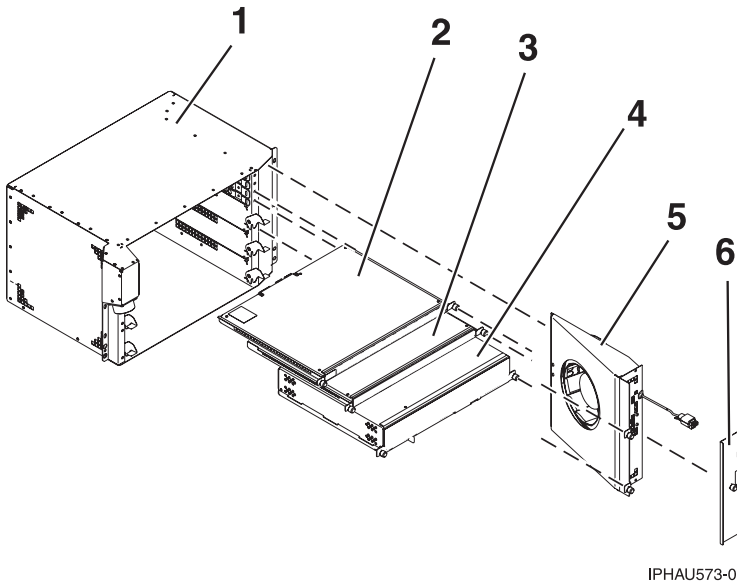


Table 69. Bulk power assembly (BPA) part numbers

Index number	Part number	Units per assembly	Description
1	12R9749* 44P4543**	1	Bulk power assembly
2	See Power parts	AR	Bulk power jumper
	See Power parts	AR	Bulk power hub
	See Power parts	AR	Bulk power distribution assembly
3	See Power parts	AR	Bulk power controller assembly
4	See Power parts	AR	Bulk power regulator assembly
5	See Power parts	1	Bulk power fan
6	44P0550* 11P0287**	1	Cover, bulk power fan

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Processor subsystem assembly

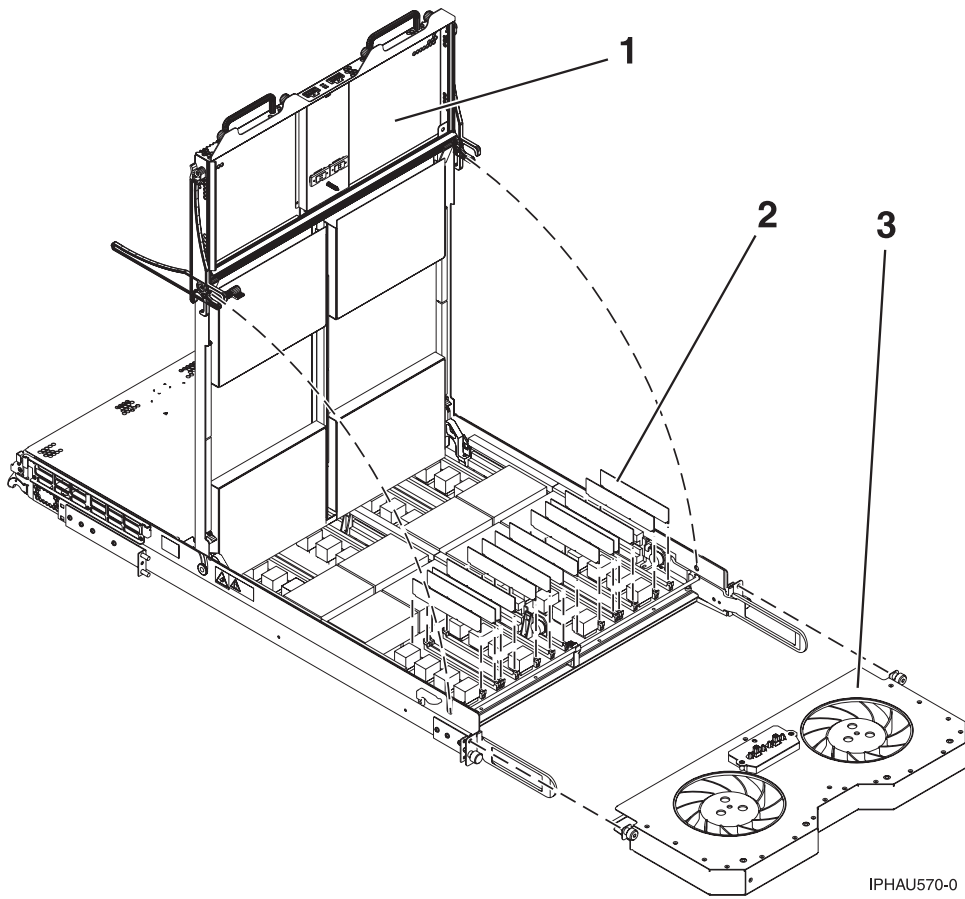
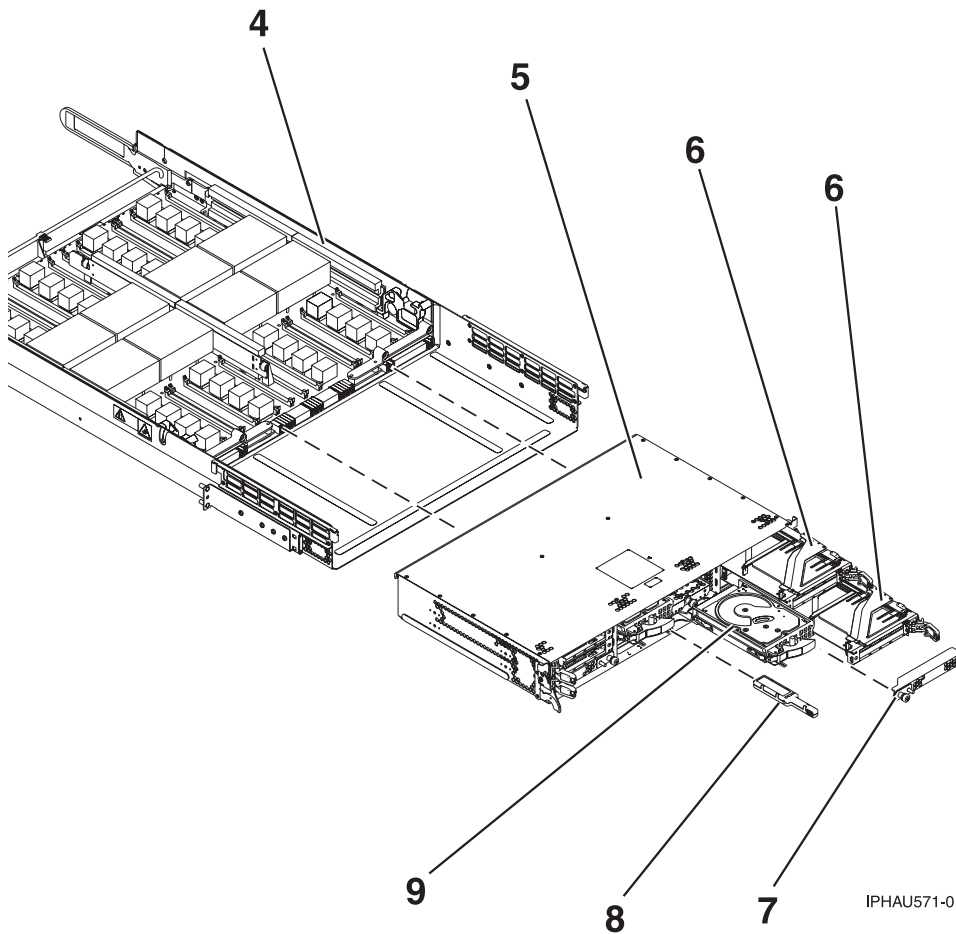


Table 70. Processor subsystem assembly part numbers

Index number	Part number	Units per assembly	Description
1	See Power parts	1	Power supply assembly
2	See Memory parts	AR	Memory card
	44H8167*	AR	Filler, memory card
3	41V1610*	1	Fan assembly
	12R8285**		

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement



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Table 71. Processor subsystem assembly part numbers, continued

Index number	Part number	Units per assembly	Description
4	See Backplane parts	1	Processor subsystem assembly backplane
5	See Backplane parts	1	I/O assembly
6	See "System parts" on page 277	AR	PCI adapter
	16R0091* 12R7032**	AR	PCI adapter cassette
6	See "System parts" on page 277	AR	GX card
7	16R0802*	AR	Filler, GX card
8	See VPD parts	1	VPD card
9	See "Disk unit parts" on page 299	2	Disk drive

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

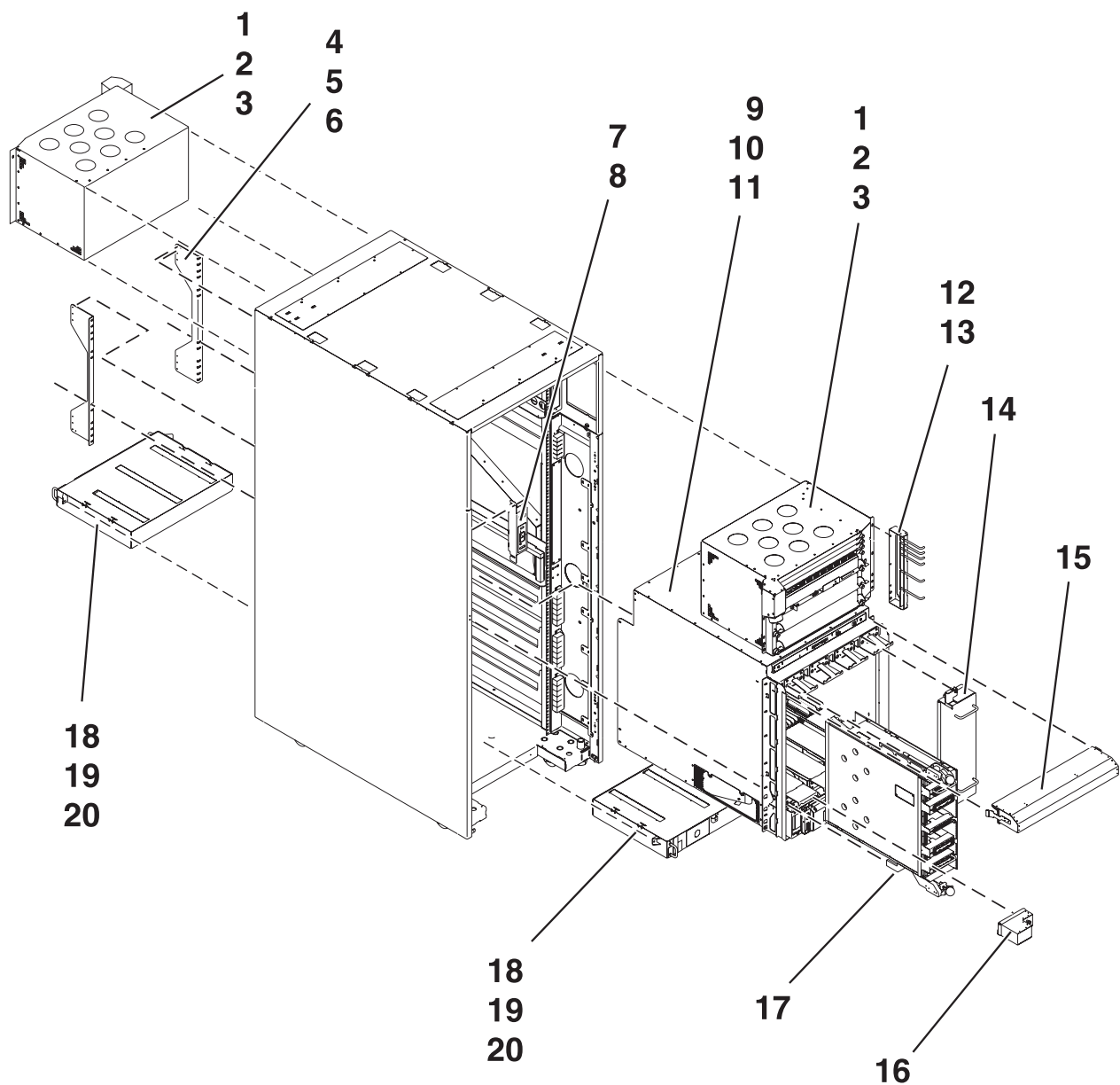
Part assembly diagrams for 59x and 5792 racks

Rack assembly diagrams.

This content covers the 9119-590, 9119-595, 9406-595 models, and 5792 racks.

Final assembly

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.



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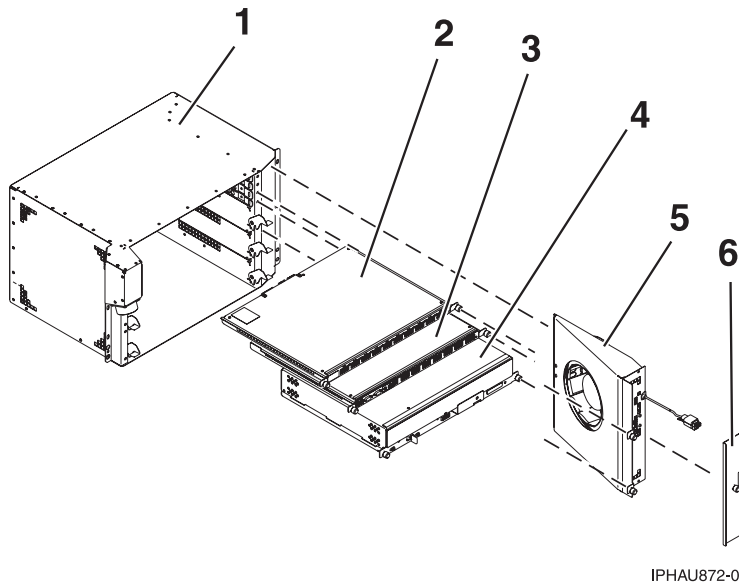
Table 72. Final assembly part numbers

Index number	Part number	Units per assembly	Description
1	12R9749* 44P4543**	AR	Bulk power assembly (BPA) For a detailed listing see the Bulk power assembly (BPA).
2	77G0599*	2	Screw, BPE mounting
3	74F1823* 0375867**	5	Nut clip
4	44P0514*	2	Bracket, processor subsystem assembly rear
5	77G0599*	8	Screw, processor subsystem assembly rear bracket mounting
6	74F1823* 0375867**	8	Nut clip
7	15R6747* 44P2718**	1	Unit emergency power off (UEPO) switch assembly
8	2665528*	2	Screw, UEPO mounting
9		AR	Processor subsystem assembly. For a detailed listing see the Processor subsystem assembly.
10	77G0599*	AR	Screw, processor subsystem assembly mounting
11	74F1823* 0375867**	AR	Nut clip
12	11P3843*	1	Cable bracket
13	77G0599*	3	Screw, cable bracket
14	NONUM	AR	Filler, node
15	NONUM	1	Cover, EMC
16	NONUM,	4	Cover, EMC
17		AR	Node assembly. For a detailed listing see the Node assembly.
18	41U0012* 11P3732**	AR	Internal battery feature (IBF)
19	77G0599*	2	Screw
20	NONUM	2	Washer
	74F1823* 0375867**	2	Nut clip
	41V1820* 12R8922**	AR	Rack tie down kit

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Bulk power assembly (BPA)



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Table 73. Bulk power assembly (BPA) part numbers

Index number	Part number	Units per assembly	Description
1	12R9749* 44P4543**	1	Bulk power assembly
2	See Power parts	AR	Bulk power distribution assembly
3	See Power parts	1	Bulk power controller assembly
4	15R6711* 12R8143**	AR	Bulk power regulator assembly
5	12R9323* 44P3865**	1	Bulk power fan
6	44P0550* 11P0287**	1	Cover, bulk power fan

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Cover assembly

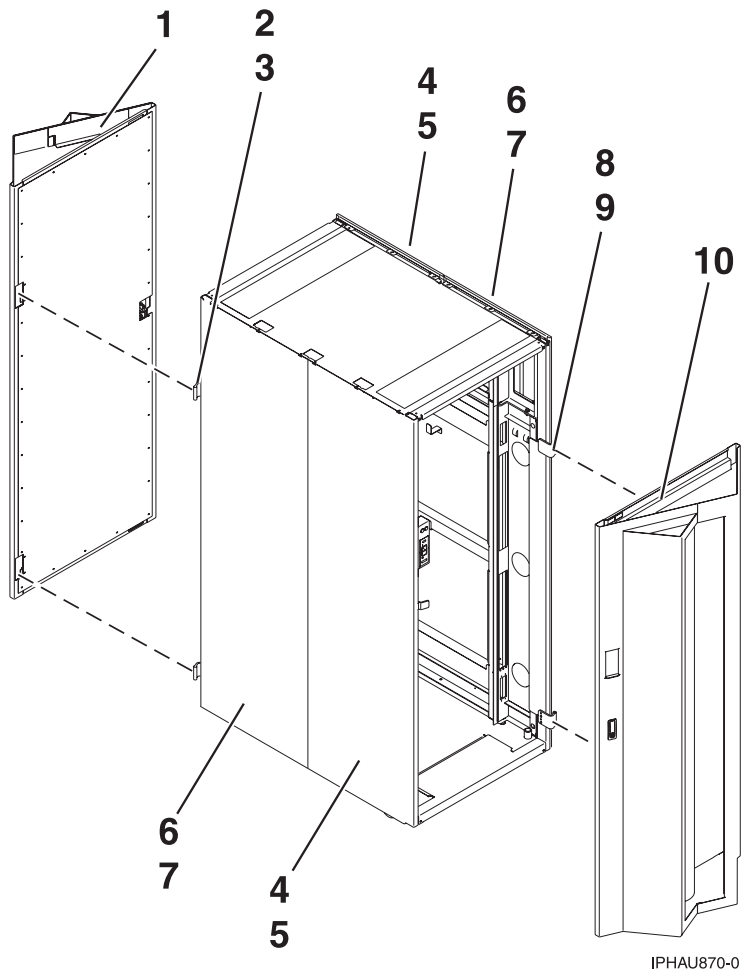


Table 74. Cover assembly part numbers

Index number	Part number	Units per assembly	Description
1	41U0388* 12R7208**	AR	Cover kit (acoustical)
	41U0386* 12R7207**	AR	Cover kit (slim)
	41U0389* 44P4678**	AR	Cover kit, 8691 (acoustical)
	41U0387* 44P4541**	AR	Cover kit, 8691 (slim)
	04N5974**		Front cover
	41V1677*		Acoustic door
	44P2670*	AR	Filter, cover
2	11P4106* 31L7547**	2	Hinge, back cover
3	2665525*	4	Screw, hinge

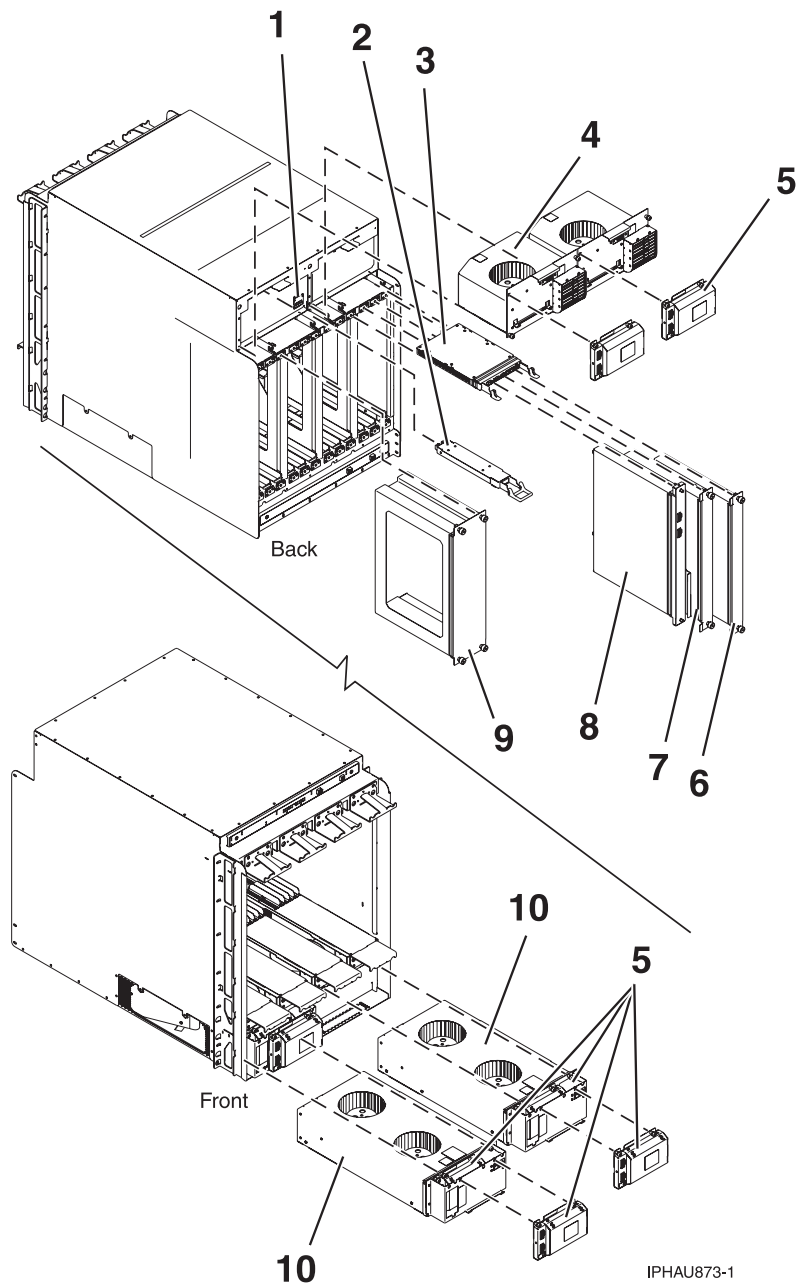
Table 74. Cover assembly part numbers (continued)

Index number	Part number	Units per assembly	Description
4	39J4313* 24L0824**	2	Cover, right-side
5	54G2882*	3	Screw, cover mounting
6	44P0125**	2	Cover, left-side
7	54G2882*	3	Screw, cover mounting
8	11P3535*	2	Hinge, front cover
9	2665525*	4	Screw, hinge
10	See index number 1	1	Cover kit

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Processor subsystem assembly



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Table 75. Processor subsystem assembly part numbers

Index number	Part number	Units per assembly	Description
1	See VPD parts	1	VPD card
2	See Processor parts	1	Oscillator (clock) card
3	See Processor parts	AR	Service processor card
4	12R9148* 12R6666**	1	Motor scroll assembly

Table 75. Processor subsystem assembly part numbers (continued)

Index number	Part number	Units per assembly	Description
5	41U0341* 12R9038**	4	Motor drive assembly
6	41U0328* 12R6949**	AR	Filler, distributed converter assembly (DCA) - single
7	41U0013* 12R6950**	AR	Jumper, distributed converter assembly (DCA)
8	15R6709* 12R9471**	AR	Distributed converter assembly (DCA)
9	12R6732*	AR	Filler, distributed converter assembly (DCA) - triple
10	12R9201* 12R8361**	1	Blower assembly, right
	12R9200* 12R6227**	1	Blower assembly, left
	See Backplane parts	1	System backplane

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Node assembly

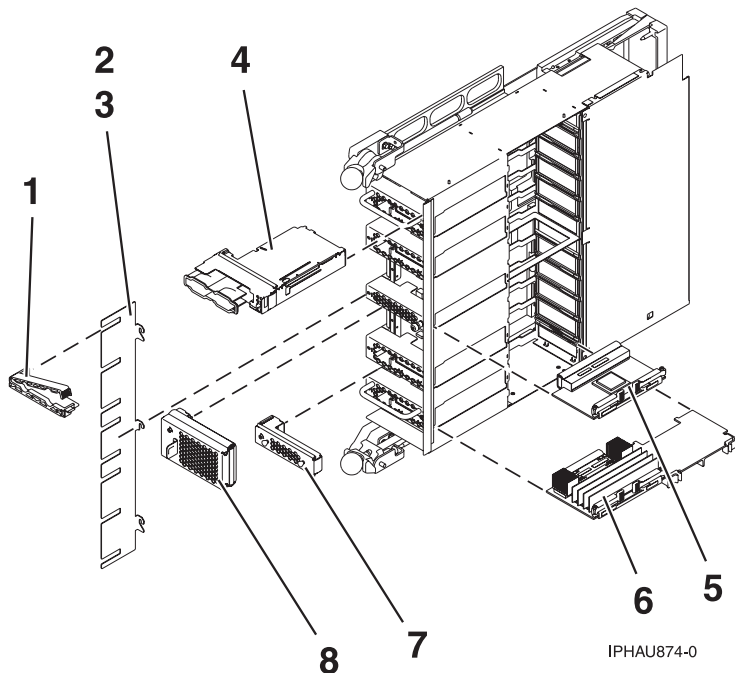


Table 76. Node assembly part numbers

Index number	Part number	Units per assembly	Description
1	12R7089*	AR	Cable clamp
2	12R7088*	1	Cable management bracket

Table 76. Node assembly part numbers (continued)

Index number	Part number	Units per assembly	Description
3		AR	Screw
4	See "Bus parts" on page 290	AR	RIO/HSL card
5	See Processor parts	AR	Multiplexer card
6	See Memory parts	AR	Memory card
	41V0808* 12R6235**	AR	Filler, memory airflow
7	12R6700*	AR	Baffle, single
8	NONUM	AR	Baffle, double
	See Processor parts	AR	Processor MCM kit
	See Backplane parts	1	Node backplane

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

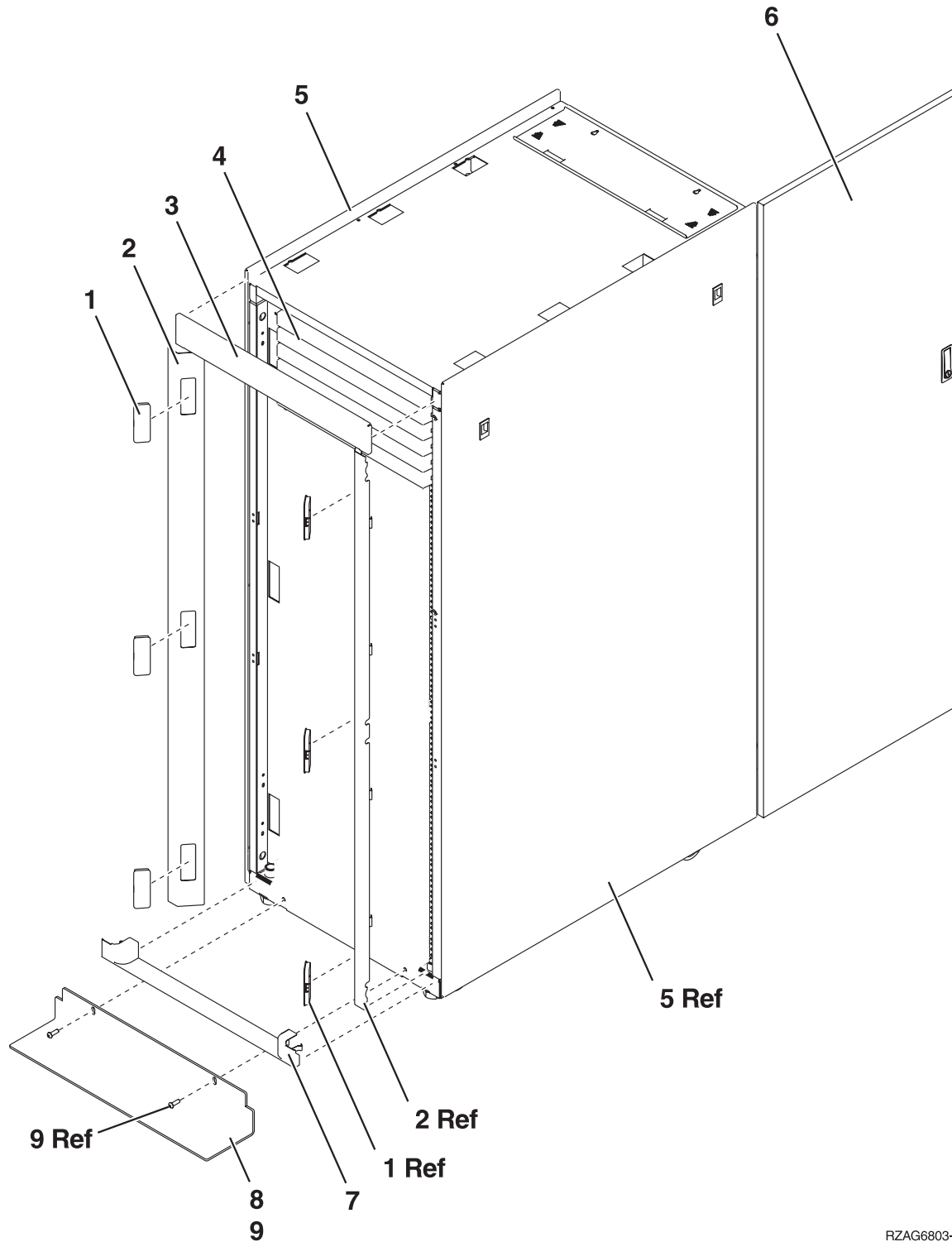
Part assembly diagrams for 0551, 0588, 5079, 5088, 5294, and 5296

This reference topic contains indexed assembly diagrams that cross reference to tables that provide the FRU part number and FRU description.

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Cover assembly for 0551 and 5079 expansion units

The 5294 is comprised of two 5094 units. You may have to refer to the 5094 parts.



RZAG6803-0

Table 77. Cover assembly part numbers for 0588 and 5079 expansion units

Index	Part number	Units	Description
1	05N6809*	6	Cover, trim kit

Table 77. Cover assembly part numbers for 0588 and 5079 expansion units (continued)

Index	Part number	Units	Description
2	05N6800**	2	Side bezel, trim kit
3	12K0032*	1	Top bezel, trim kit
4	97H9754*	AR	1 high black EIA filler
4	97H9755*	AR	3 high black EIA filler
4	97H9756**	AR	5 high black EIA filler
5	05N6478* 31L7519**	2	Cover, side
6	41V0096* 31L7523**	1	Cover, Back
7	NONUM	1	Bottom bezel, trim kit
8	41V0584* 31L8305**	1	Tip plate
9	41V0415* 28L0558**	1	Screw M8x25

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Cover assembly for 5088 expansion unit

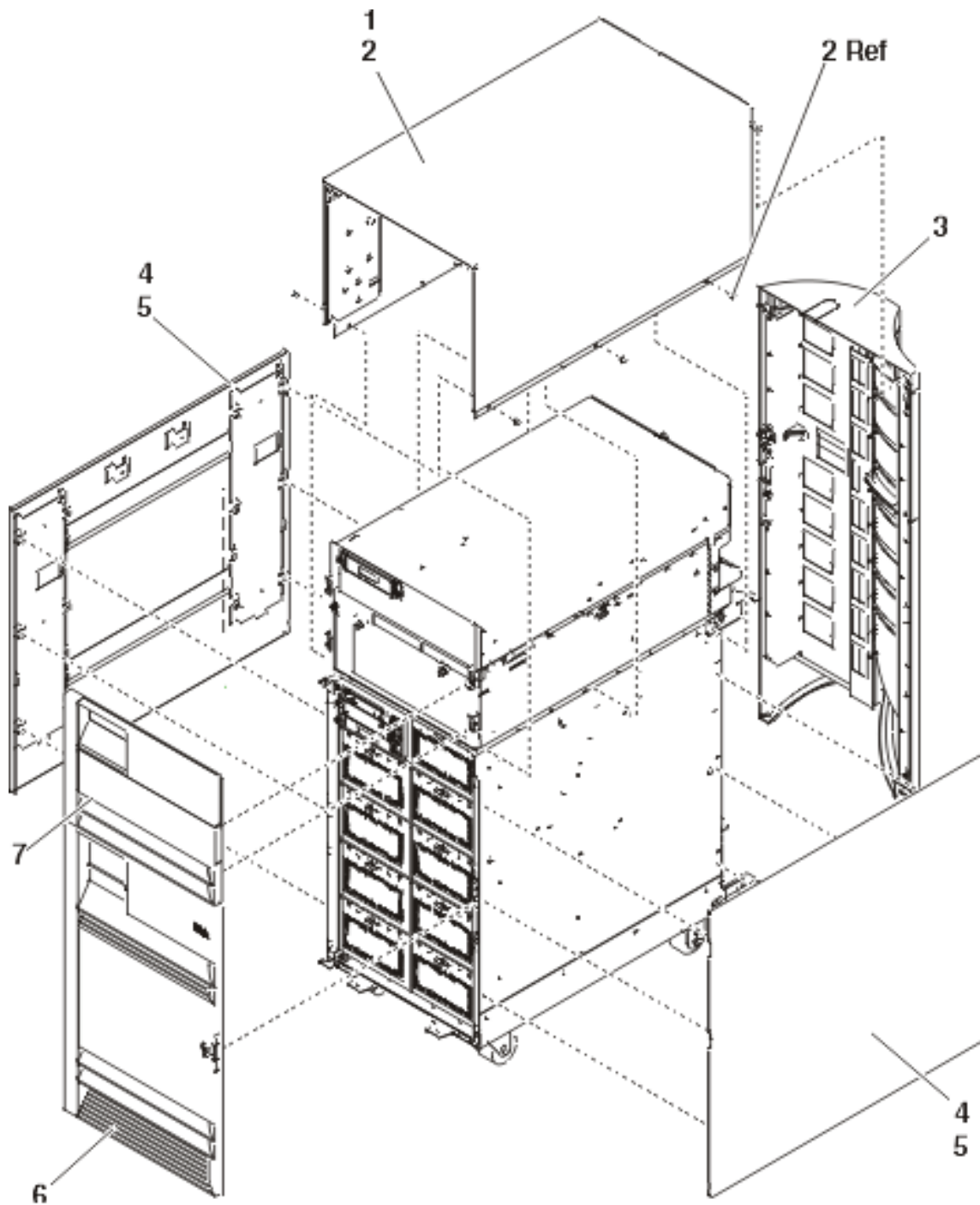


Table 78. Cover assembly part numbers for 5088 expansion unit

Index	Part number	Units	Description
1	21P4986**	1	Top cover
2	1621811*	6	Screw, M4 (10 mm)
3	44L0247**	1	Back cover
4	39J4313* 24L0824**	2	Side cover

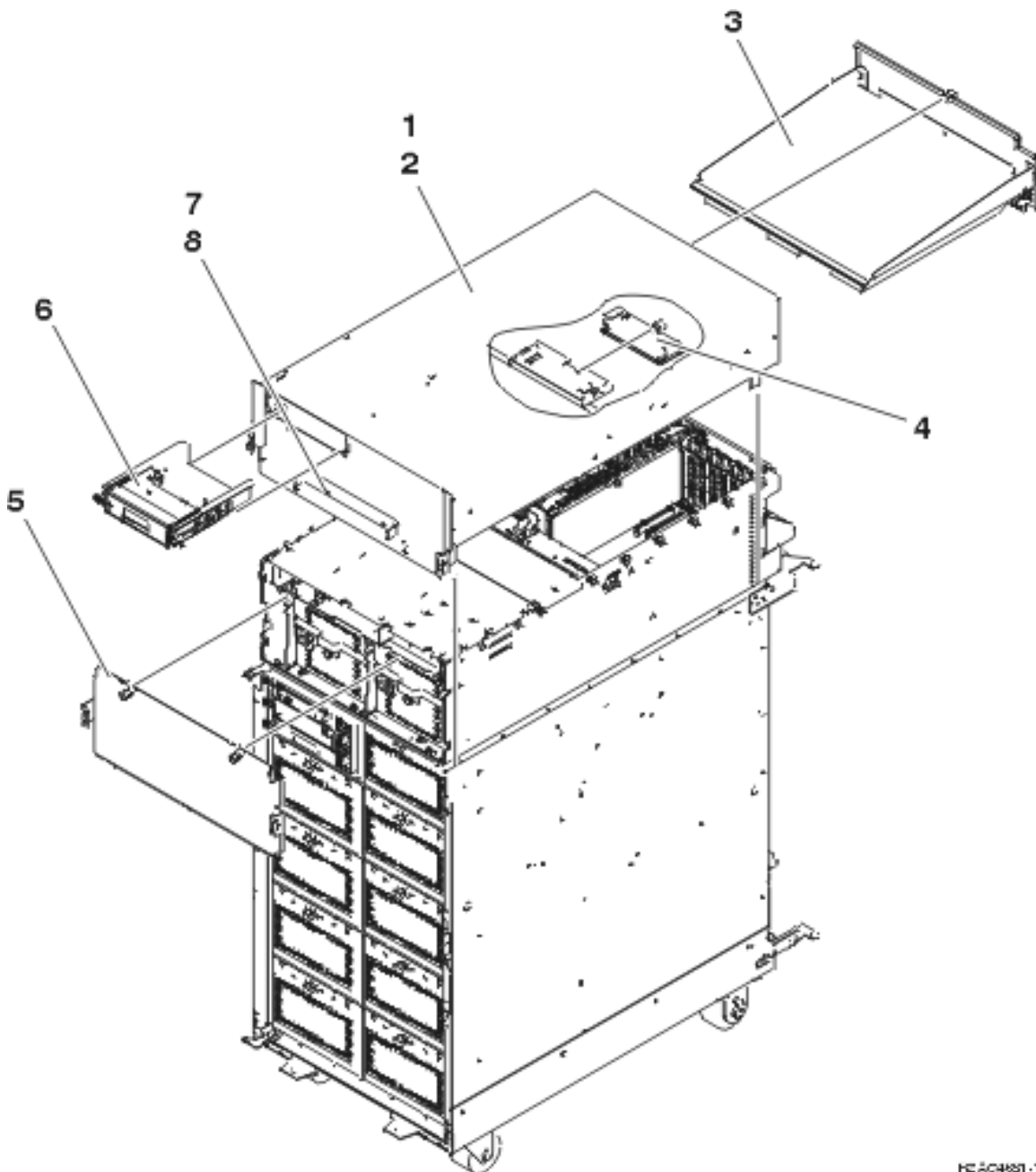
Table 78. Cover assembly part numbers for 5088 expansion unit (continued)

Index	Part number	Units	Description
5	1621811*	16	Screw, M4 (10 mm)
6	04N5974**	1	Front cover, lower
7	44L0252**	1	Front cover, upper

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Final assembly for 5088 expansion unit



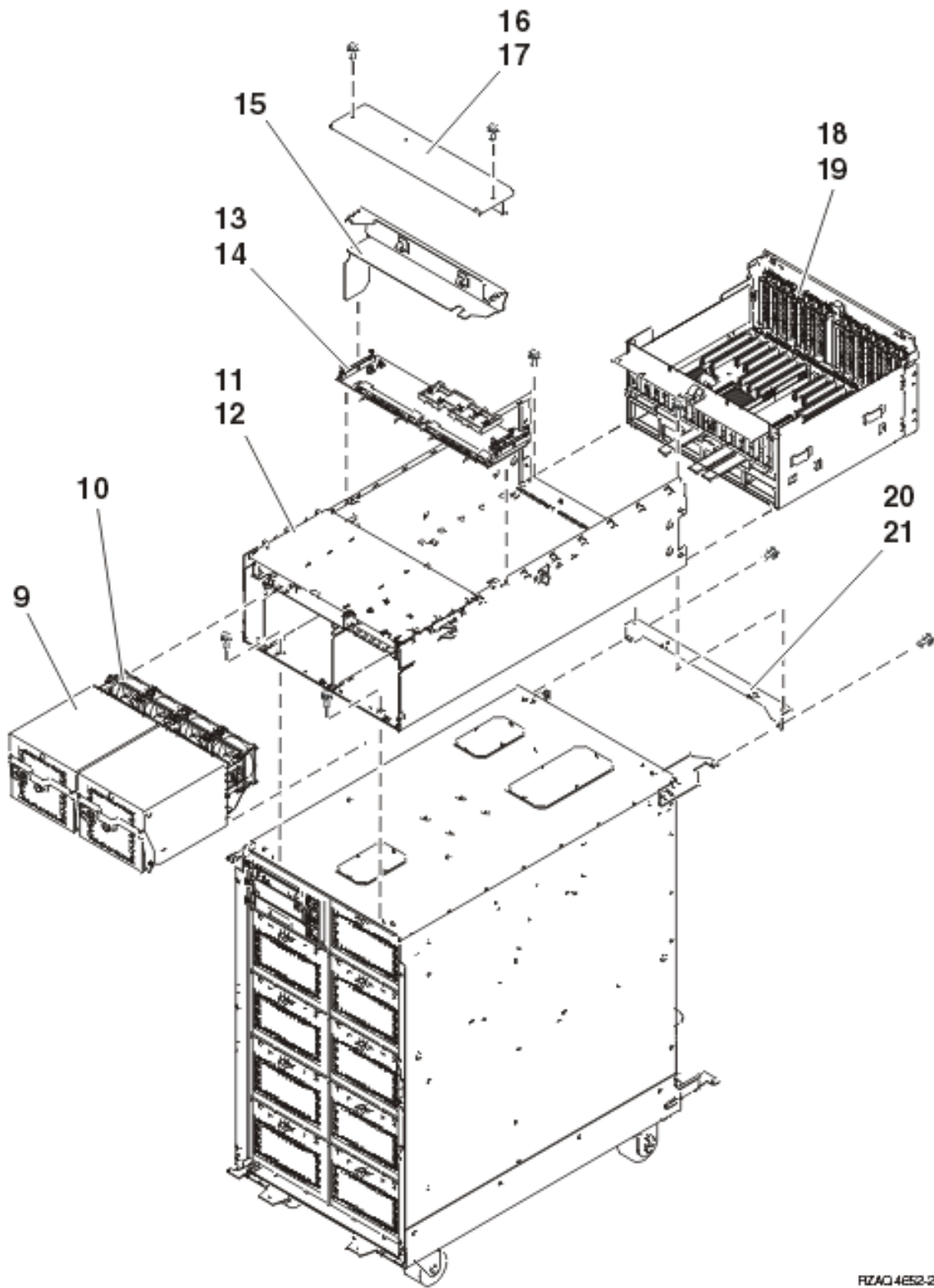
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Table 79. Final assembly part numbers for 5088 expansion unit

Index	Part number	Units	Description
1	04N4523	1	Top wrap assembly
2	00G1268* 40F9987**	4	Screws, M4X
3	NONUM	1	Back EMC shield
4	11K1107**	1	Air-moving device (AMD) control card
5	04N4500	1	Front EMC shield
6	39J4611* 24L0962**	1	Display panel assembly
8	00G1268* 40F9987**	2	Screws, M4X

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement



RZ4Q4E52-2

Table 80. Final assembly part numbers for 5088 expansion unit

Index	Part number	Units	Description
9	97P5253**	2	AC power supply
10	41L5448**	2	Air-moving device

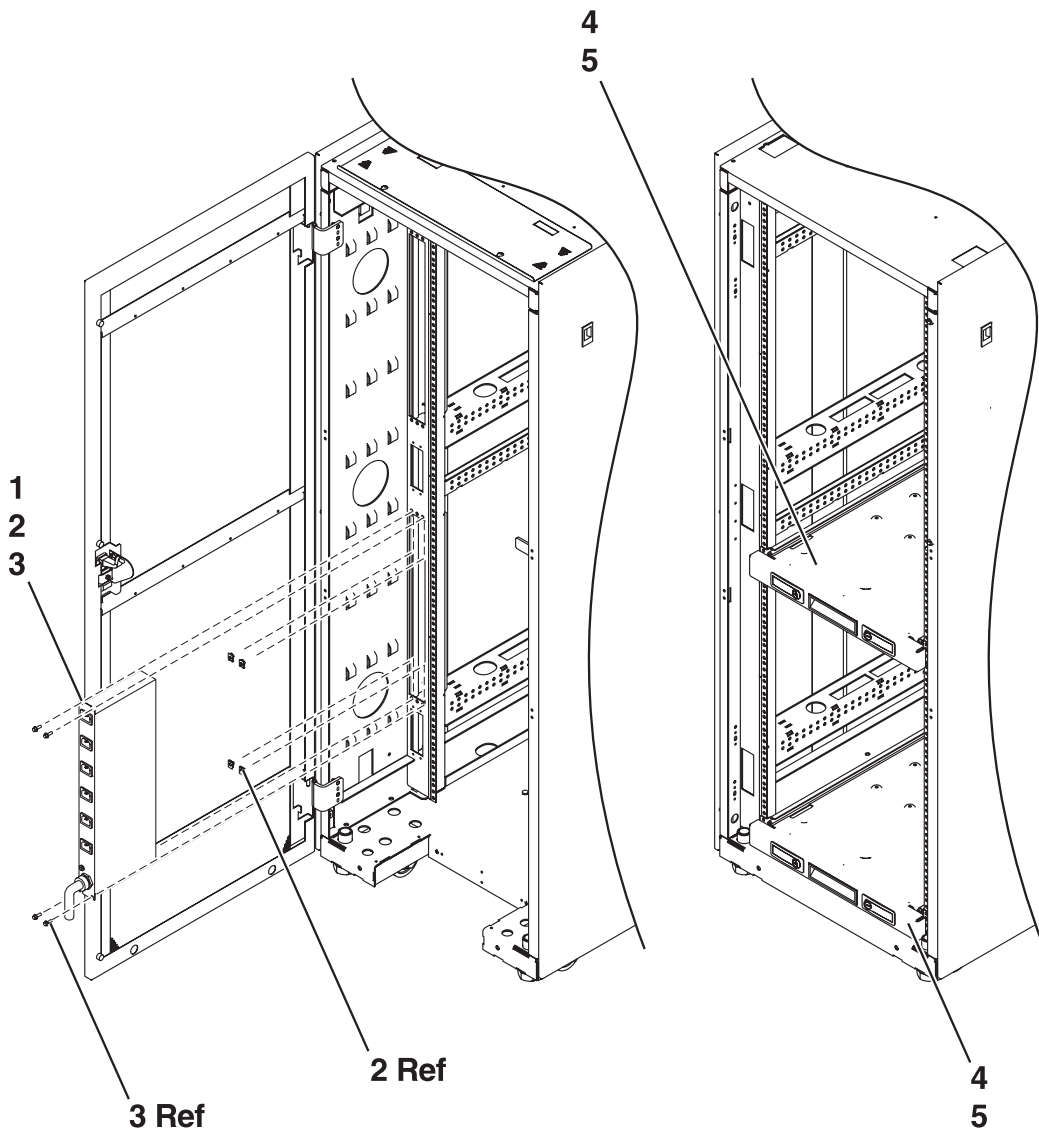
Table 80. Final assembly part numbers for 5088 expansion unit (continued)

Index	Part number	Units	Description
11	21P4894**	1	Chassis
12	1621811*	6	Screw, M4 (10 mm)
13	00P2382**	1	Power distribution
14	00G1268* 40F9987**	6	Screws, M4X
15	NONUM	1	Cable tray
16	41L5207**	1	Cover
17	00G1268* 40F9987**	2	Screw, M4X
18	53P6026**	AR	PCI node board assembly
19	00G1268* 40F9987**	6	Screw, M4X
20	04N4498	1	Mounting bracket
21	1621811*	2	Screw, M4 (10 mm)
NA	04N3038**	AR	Power supply to PDU line cord
NA	21P6094**	AR	Miscellaneous power cable
NA	41L5650**	AR	SPCN cable
NA	41L5649**	AR	Display panel cable
NA	41L5652**	AR	Fan control cable

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Optional hardware assembly for 0551, 5079, 5294, and 5296 expansion units



RZAG6804-0

Table 81. Optional hardware assembly part numbers for 0551, 5079, 5294, and 5296 expansion units

Index	Part number	Units	Description
1	00P2200**	1	Type 6 power distribution unit single phase U.S.
	00P2201**	1	Type 6 power distribution unit two phase
	00P2202**	1	Type 6 power distribution unit three phase
	09P2891**	1	Type 6 power distribution unit single phase World Trade
	00P3663**	1	Type 7 Power distribution panel (1 Phase)
	97P3574**	1	Type 7 Power distribution panel (1 Phase World Trade)
	97P3575**	1	Type 7 Power distribution panel (3 Phase World Trade)

Table 81. Optional hardware assembly part numbers for 0551, 5079, 5294, and 5296 expansion units (continued)

Index	Part number	Units	Description
2	74F1823* 0375867**	4	Nut clip
3	1624779* 6200684**	4	Screw
5	1624779* 6200684**	16	Screw

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

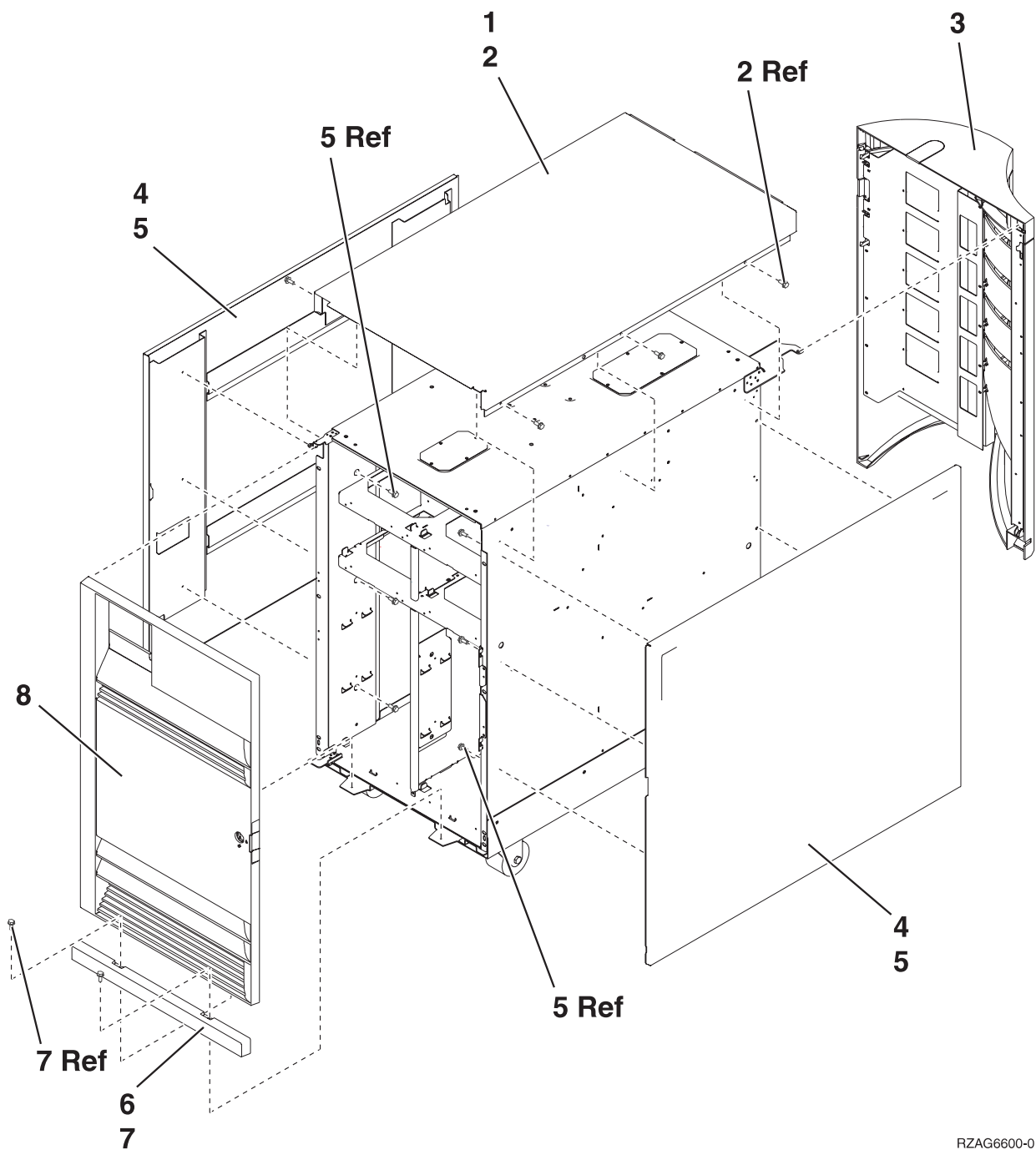
Part assembly diagrams for 5094, 5096, 5074, 8294, and 9194 expansion units

Assembly diagrams.

Cover assembly

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Note: The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.



RZAG6600-0

Table 82. Cover assembly part numbers

Index	CCIN	Part number	Units	Description
1		39J4314* 24L0825**	1	Top cover
2		1621811*	4	Screw, M4 (10 mm)
3		04N5975* 24L1079**	1	Back cover
		24L1071**	1	Hinge pin, top
4		39J4313* 24L0824**	1	Side cover

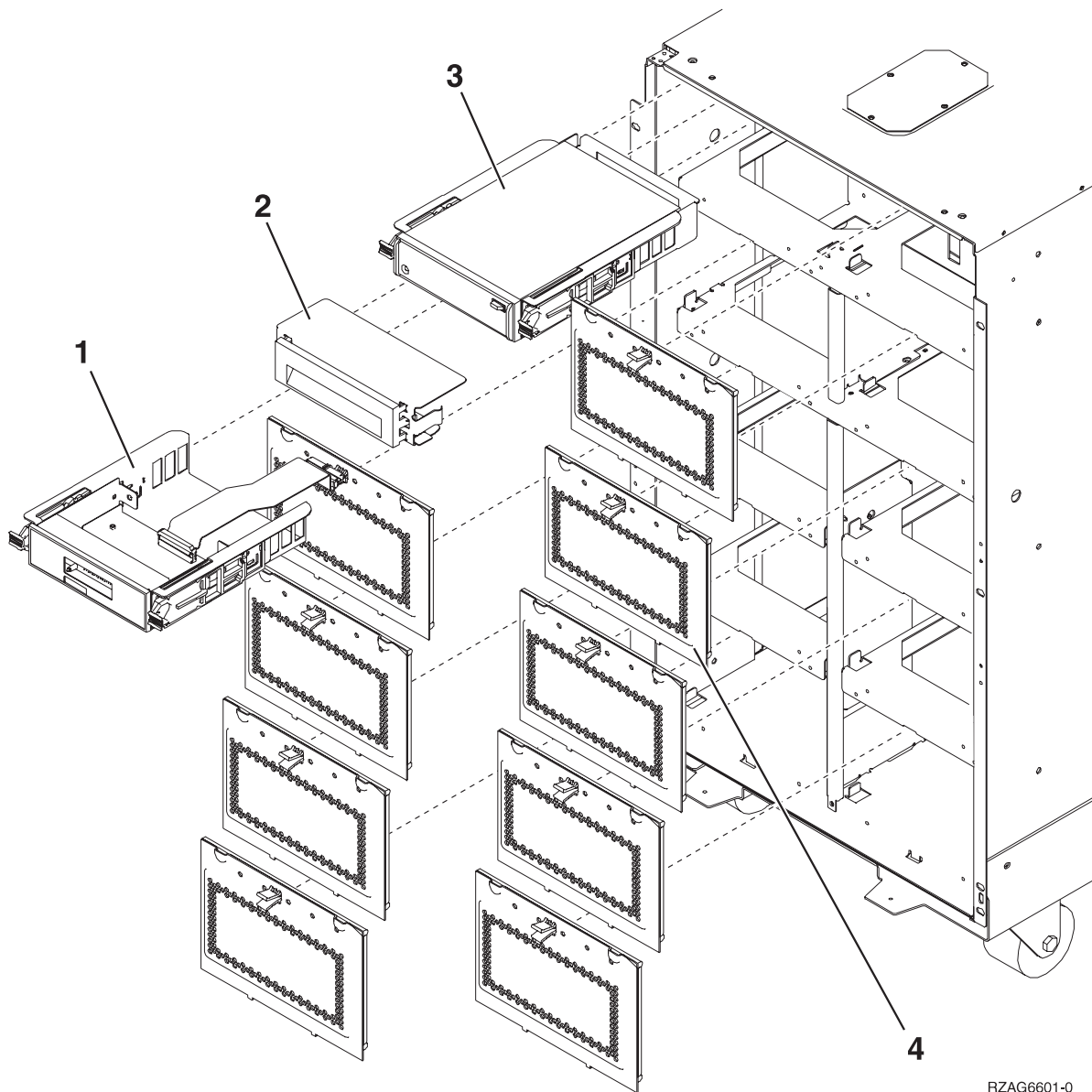
Table 82. Cover assembly part numbers (continued)

Index	CCIN	Part number	Units	Description
5		1621811*	12	Screw, M4 (10 mm)
6		24L1078**	1	Front filler cover
7		1621811*	2	Screw, M4 (10 mm)
8		04N5974**	1	Front cover
		24L1071**		Hinge pin, top

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Final assembly



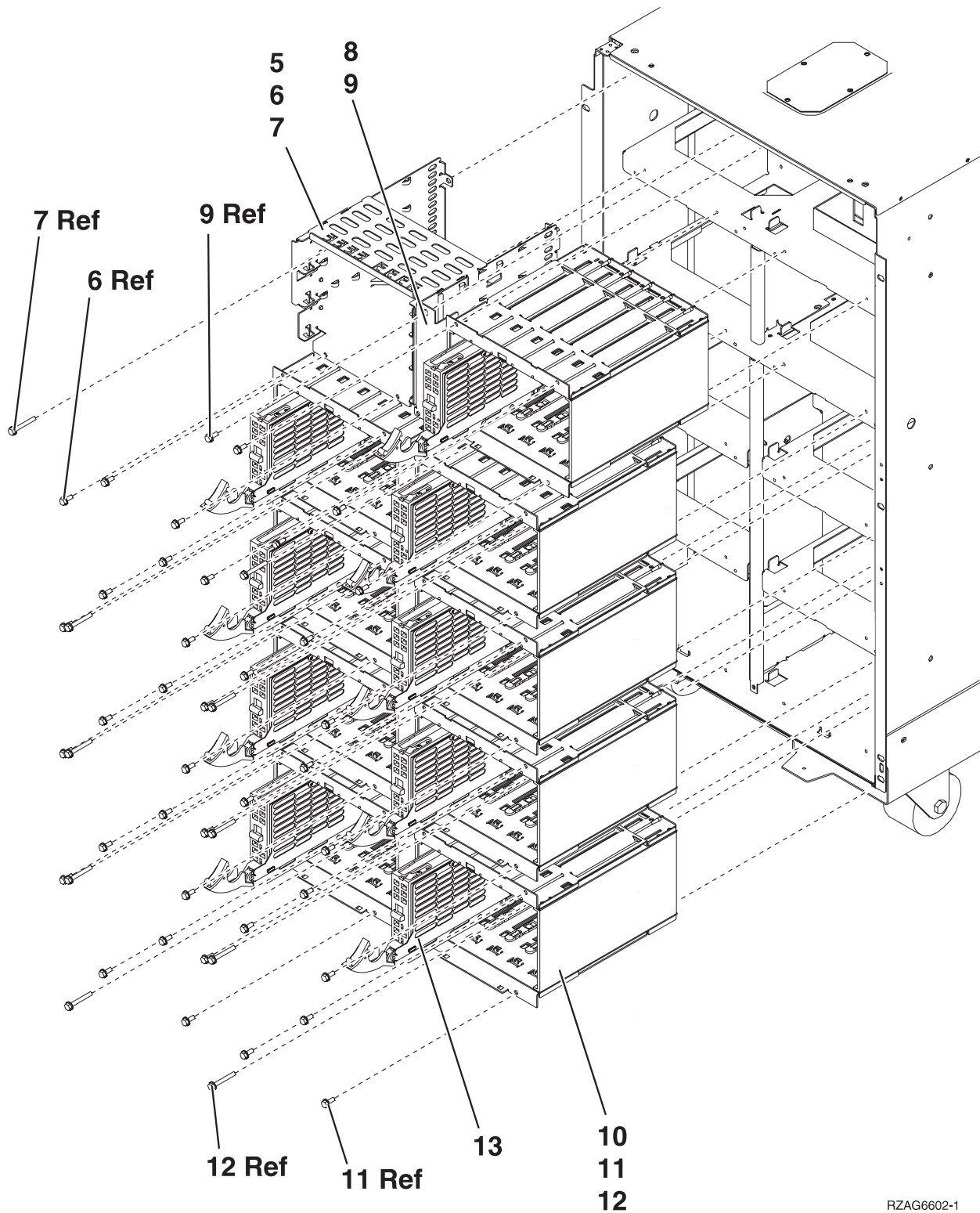
RZAG6601-0

Table 83. Final assembly part numbers

Index	CCIN	Part number	Units	Description
1	247B	See "System parts" on page 277	1	Display panel
2		42R4037* 44H8406**	AR	Filler (removable media)
2		See "System parts" on page 277	AR	Optical storage unit Note: This part is not applicable for the 5096.
3		See "Removable media device parts" on page 362	AR	Removable media. Note: This part is not applicable for the 5096.
4		42R4045* 24L0821**	AR	Disk unit EMC access plate for 5096 and 5296 only.

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement



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Table 84. Final assembly part numbers

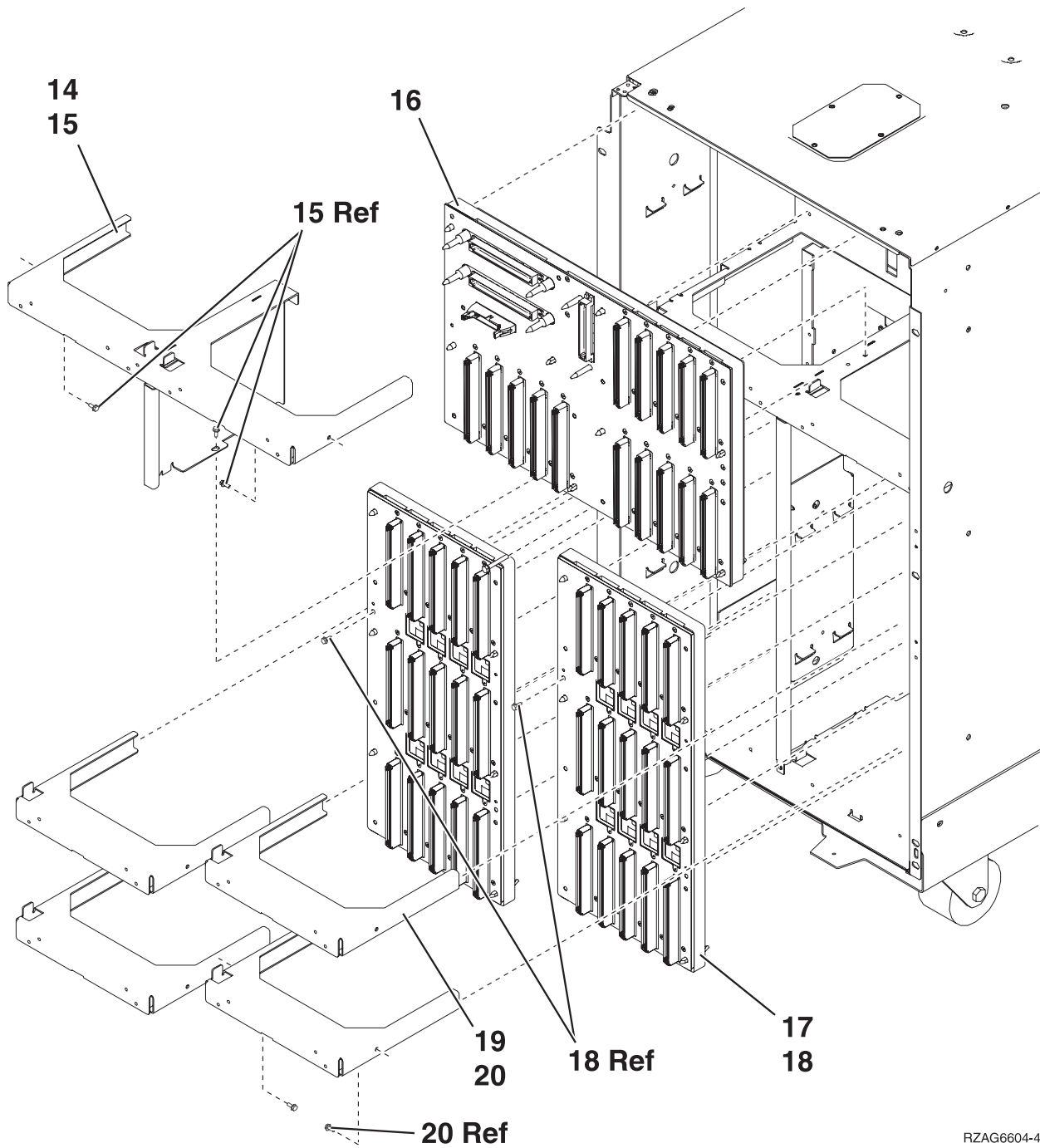
Index	CCIN	Part number	Units	Description
5		NONUM	1	Removable media enclosure assembly
6		1621811*	2	Screw, M4 (10 mm)

Table 84. Final assembly part numbers (continued)

Index	CCIN	Part number	Units	Description
7		1621817*	2	Screw
8		39J5598 * 24L1067**	1	Center support bracket
9		1621811*	2	Screw, M4 (10 mm)
10		NONUM	AR	Five disk unit enclosure assembly Note: This part is not applicable for the 5096.
11		1621811*	12	Screw, M4 (10 mm)
12		1621817*	6	Screw
13	6714	See "Disk unit parts" on page 299	AR	Disk unit assembly Note: This part is not applicable for the 5096.

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement



RZAG6604-4

Table 85. Final assembly part numbers

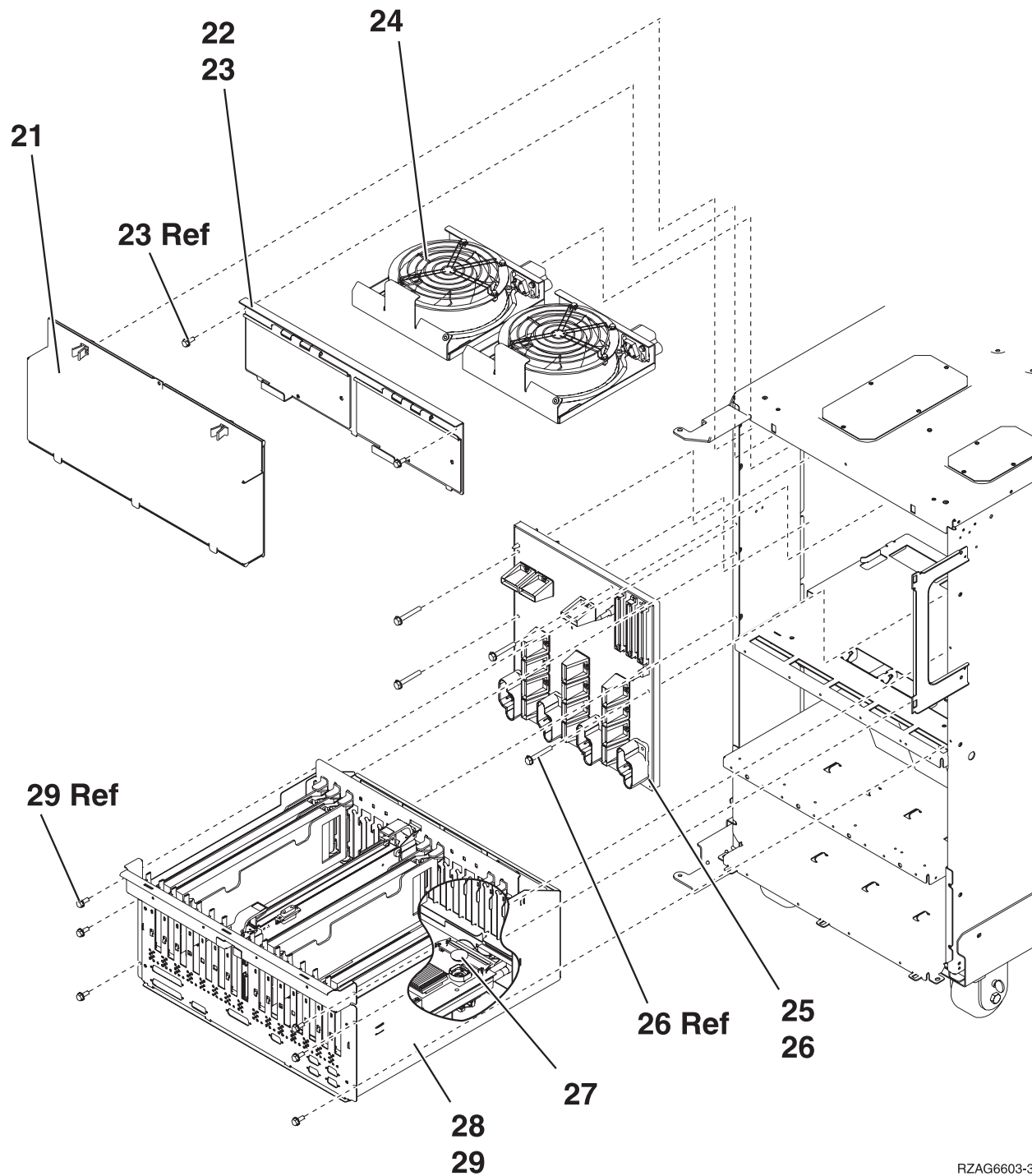
Index	CCIN	Part number	Units	Description
14		NONUM	1	Shelf, base disk unit
15		1621811*	3	Screw, M4 (10 mm)
16		42R3859* 53P4001**	1	Base disk unit board/stiffener assembly (5074)

Table 85. Final assembly part numbers (continued)

Index	CCIN	Part number	Units	Description
17		42R3798* 53P4002**	AR	Disk unit board/stiffener assembly 5074 5094
18		1621838*	1	Screw
19		NONUM	AR	Shelf, disk unit
20		1621811*	2	Screw, M4 (10 mm)

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement



RZAG6603-3

Table 86. Final assembly part numbers

Index	CCIN	Part number	Units	Description
21		42R4046 * 24L0823**	1	EMC access plate
22		NONUM	1	Air-moving device (fan) door assembly
23		1621811*	2	Screw, M4 (10 mm)
24		39J5235* 04N3345**	2	Air-moving device (fan)

Table 86. Final assembly part numbers (continued)

Index	CCIN	Part number	Units	Description
25		39J3082* 21P3793**	1	Power board/stiffener assembly
26		1621816*	6	Screw
27		See "Power parts" on page 359	1	Time of day (TOD) battery
28		Backplanes	1	I/O backplane (5074)
28		See Backplane parts	1	I/O backplane (5094)
29		1621811	6	Screw, M4 (10 mm) Note: This applies only to the 5074.

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Final assembly for 5074 (single line cord)

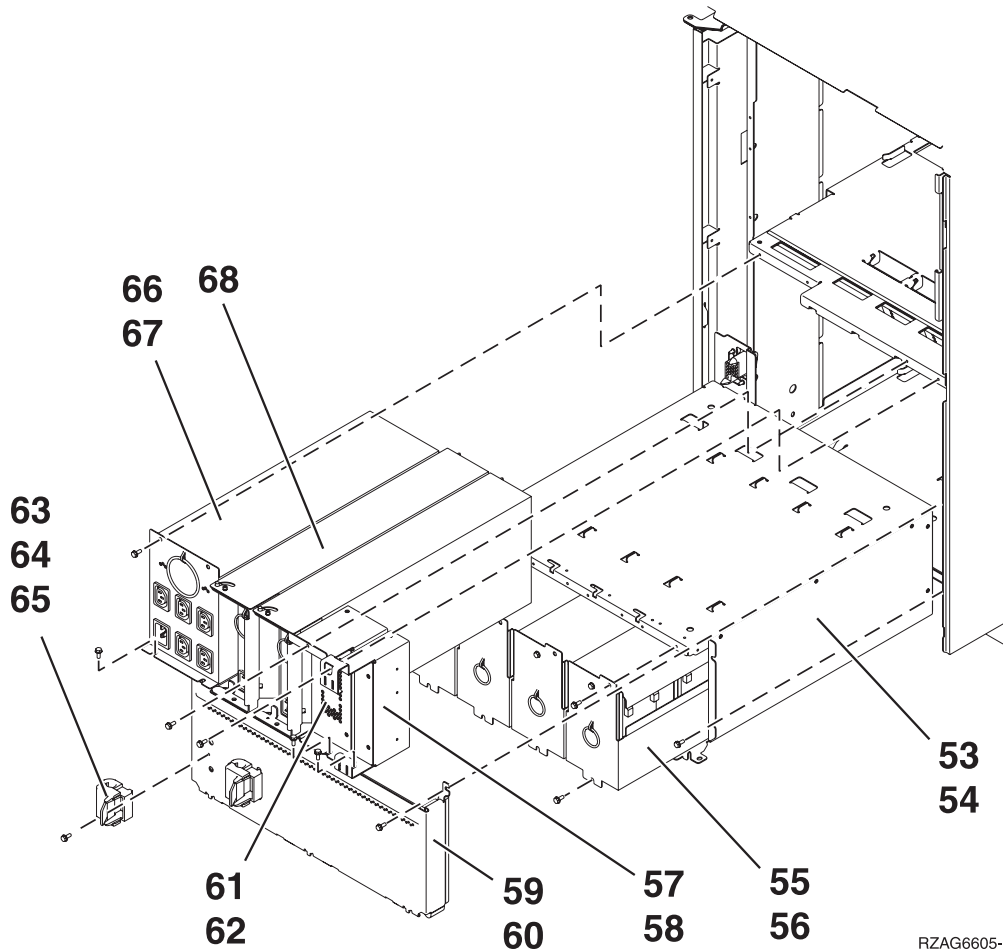


Table 87. Final assembly part numbers for 5074 (single line cord)

Index	CCIN	Part number	Units	Description
53		42R4092* 53P4651**	1	Power subframe assembly

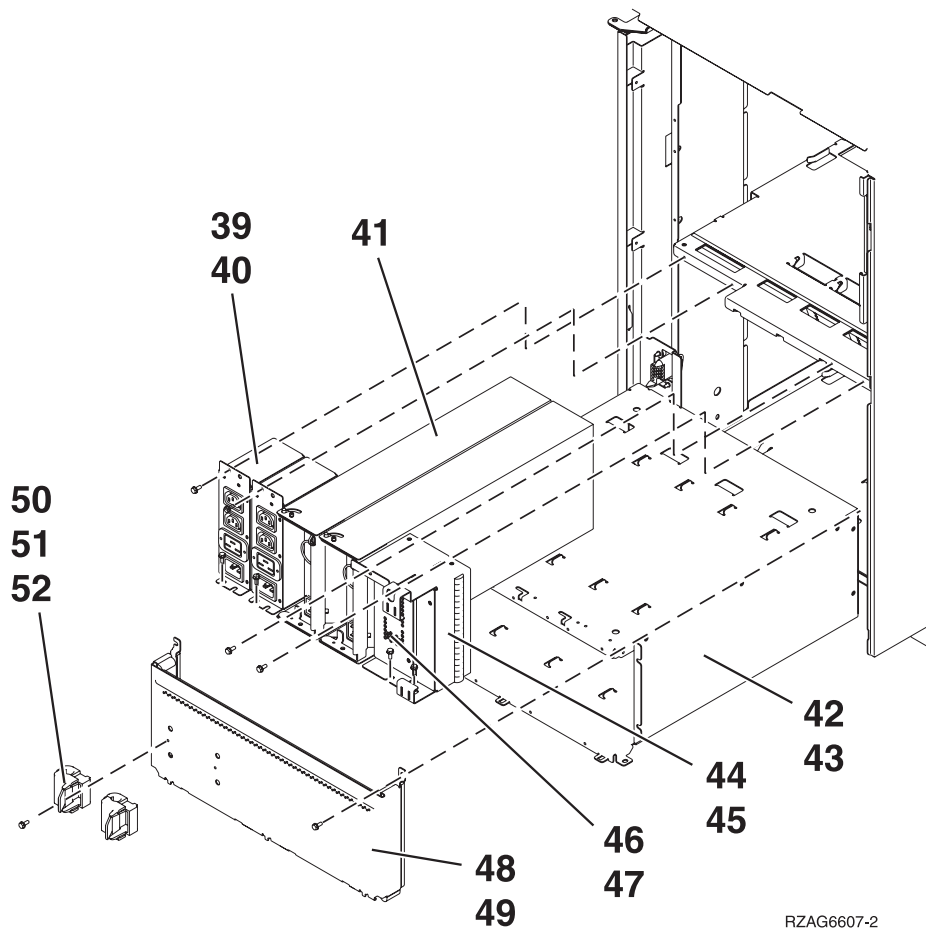
Table 87. Final assembly part numbers for 5074 (single line cord) (continued)

Index	CCIN	Part number	Units	Description
54		1621811*	12	Screw, M4 (10 mm)
55		97H7318**	1	Battery pack. This part number includes four batteries. For additional information, refer to symbolic FRU BATTERY.
56		1621811*	12	Screw, M4 (10 mm)
57		39J5845* 24L0940**	AR	Filler, spacer
58		1621811*	2	Screw, M4 (10 mm)
59		NONUM	1	EMC access plate
60		1621811*	2	Screw, M4 (10 mm)
61		NONUM	AR	Filler, power supply
62		1621811*	2	Screw, M4 (10 mm)
63		44H8641**	2	Cable clamp, top
64		44H8640**	2	Cable clamp, base
65		1621811*	2	Screw, M4 (10 mm)
66		97H7316**	1	Battery charger
67		1621811*	4	Screw, M4 (10 mm)
68		39J5273* 53P1038**	3	Power supply, 840 W (P01, P02, P03)

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Final assembly for 5074 (two power supply dual line cord)



RZAG6607-2

Table 88. Final assembly part numbers for 5074 (two power supply dual line cord)

Index	CCIN	Part number	Units	Description
39		21P6347**	2	AC module
40		1621811*	4	Screw, M4 (10 mm)
41		39J5273* 53P1038**	2	Power supply, 840 W
42		42R4092* 53P4651**	1	Power subframe assembly
43		1621811*	12	Screw, M4 (10 mm)
44		39J5845* 24L0940**	AR	Filler, Spacer
45		1621811*	2	Screw, M4 (10 mm)
46		NONUM	AR	Filler, power supply
47		1621811*	2	Screw, M4 (10 mm)
48		NONUM	1	EMC access plate
49		1621811*	2	Screw, M4 (10 mm)
50		44H8641**	2	Cable clamp, Top
51		44H8640**	2	Cable clamp, Base

Table 88. Final assembly part numbers for 5074 (two power supply dual line cord) (continued)

Index	CCIN	Part number	Units	Description
52		1621811*	2	Screw, M4 (10 mm)

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Final assembly

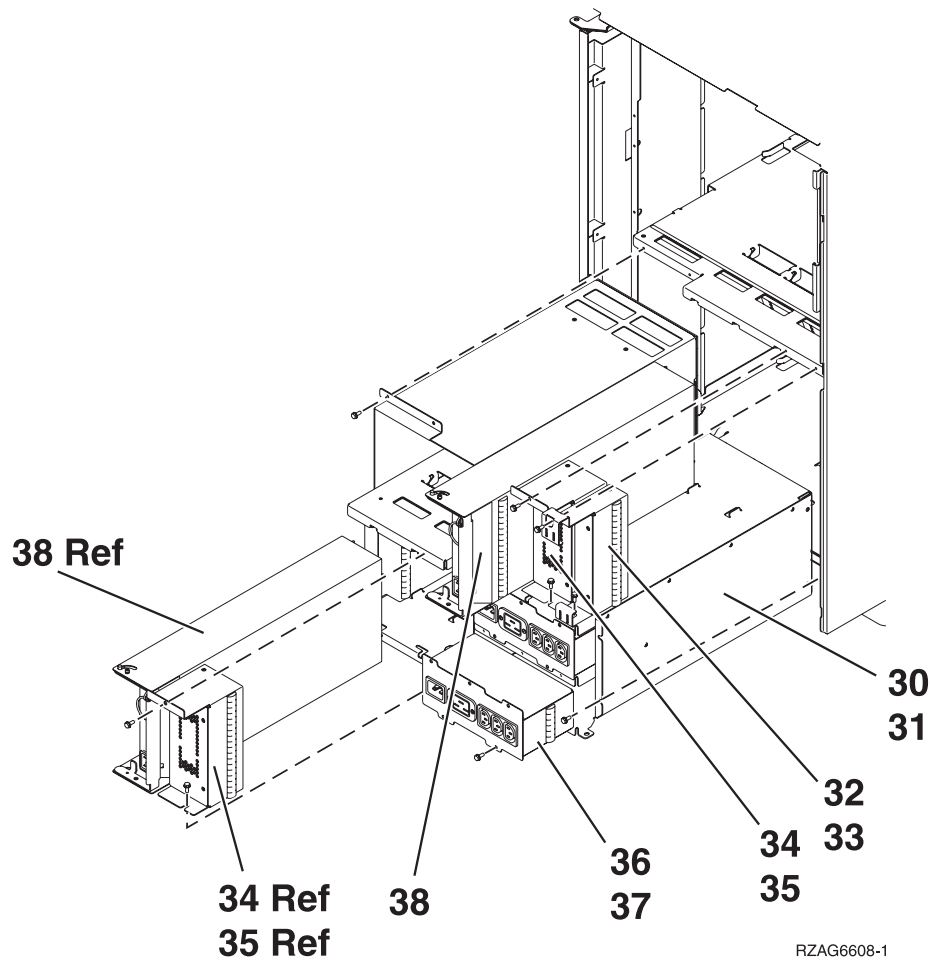


Table 89. Final assembly part numbers

Index	CCIN	Part number	Units	Description
30		42R4295* 53P5259**	1	Power subframe assembly for dual line cord
31		1621811*	8	Screw, M4 (10 mm)
32		39J5845* 24L0940**	2	Filler, spacer
33		1621811*	2	Screw, M4 (10 mm)
34		24L0939	2	Filler, power supply
35		1621811*	4	Screw, M4 (10 mm)

Table 89. Final assembly part numbers (continued)

Index	CCIN	Part number	Units	Description
36		39J5171* 53P5263**	2	AC power distribution assembly. See symbolic FRU ACMODUL.
37		1621811*	4	Screw, M4 (10 mm)
38		39J5273* 53P1038**	4	Power supply assembly - 840 W

* Designed to comply with RoHS requirement

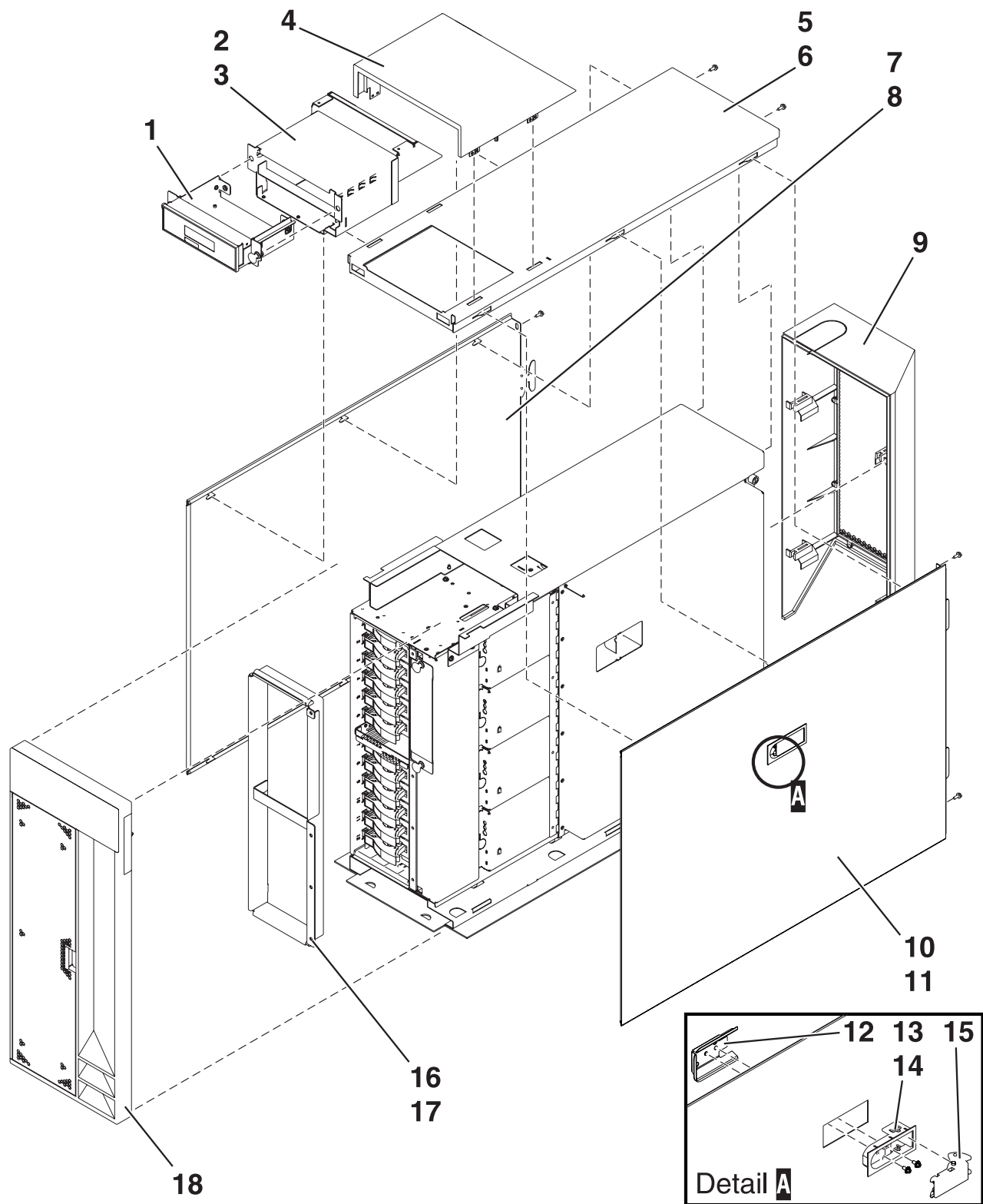
** Not designed to comply with RoHS requirement

Part assembly diagrams for 0595 and 5095 expansion units

Assembly diagrams.

Cover assembly for 5095 expansion unit

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.



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Table 90. Cover assembly part numbers for 5095 expansion unit

Index	Part number	Units	Description
1	39J3084* 53P0330**	1	Display panel tray assembly

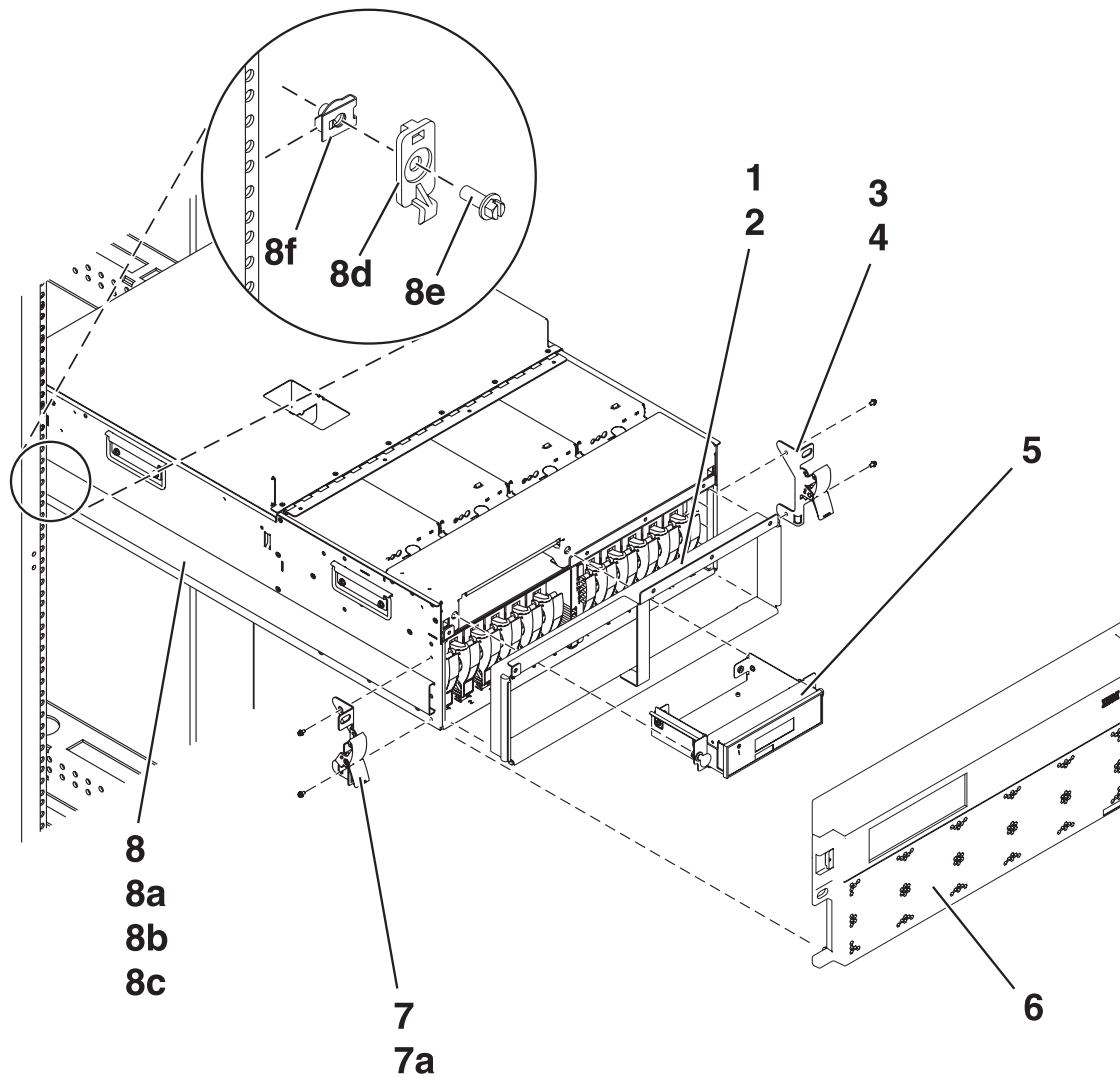
Table 90. Cover assembly part numbers for 5095 expansion unit (continued)

Index	Part number	Units	Description
2	NONUM	1	Display panel enclosure assembly
3	53P0320	5	Screw
4	53P0308*	1	Cover, display panel
5	53P0280	1	Cover, top
6	53P0320	2	Screw
7	53P0285*	1	Cover, left side
8	53P0320	2	Screw
9	53P0303*	1	Cover assembly, back
10	39J1179* 53P0286**	1	Cover assembly, right side
11	53P0320	2	Screw
12	(order part listed in index 10)	1	EMC bracket
13	06P5858 (order part listed in index 10)	1	Latch housing
14	03K9553* (order part listed in index 10)	2	Screw, M3.5 x 7
15	06P5857 (order part listed in index 10)	1	Latch handle
16	NONUM	1	Bracket, DASD filler
17	NONUM	4	Screw
18	39J3317* 53P1359**	1	Cover assembly, front

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Final assembly for 0595 expansion unit (rack mounted)



IPHAU820-0

Table 91. Final assembly part numbers for 0595 expansion unit (rack mounted)

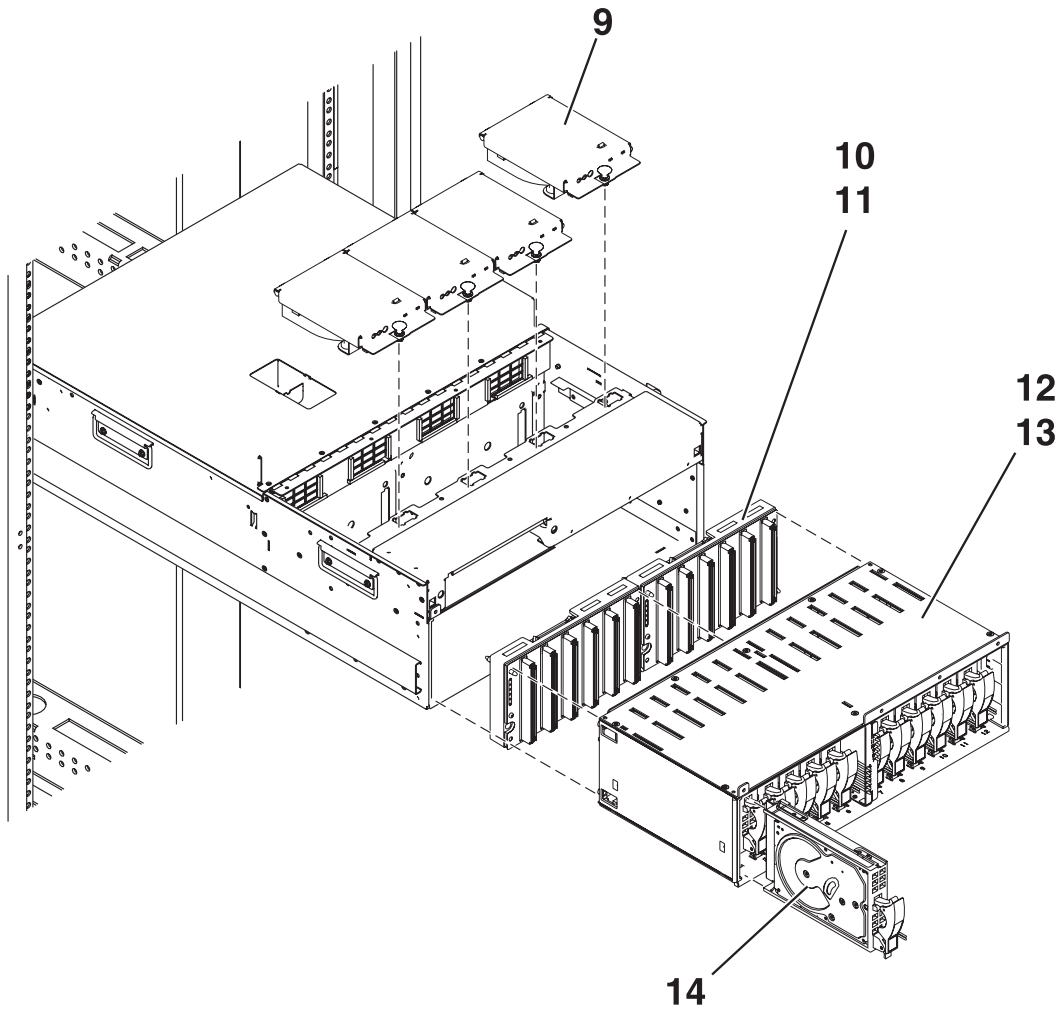
Index	Part number	Units	Description
1	NONUM	1	Bracket, DASD filler
2	75G2878*	4	Screw, M3.5 x 8 mm
3	53P2573*	1	Latch assembly, right
4	75G2878*	2	Screw, M3.5 x 8mm
5	39J3084* 53P0330**	1	Display panel tray assembly
6	39J3326* 53P1457**	1	Cover assembly, front
7	53P2572*	1	Latch assembly, left
7a	75G2878*	2	Screw, M3.5 x 8 mm
8	42R4300* 53P0296**	1	Cable management arm. General location, but not shown.

Table 91. Final assembly part numbers for 0595 expansion unit (rack mounted) (continued)

Index	Part number	Units	Description
8a	42R5254* 53P3451**	1	Slide assembly, left side
8b	42R5255* 53P3452**	1	Slide assembly, right side
8c	42R5260* 53P3726**	AR	Rail-mounting kit
8d	NONUM	AR	• Rack latch (included in rail-mounting kit)
8e	NONUM	AR	• Screw (included in rail-mounting kit)
8f	NONUM	AR	• Nut clip (included in rail-mounting kit)

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement



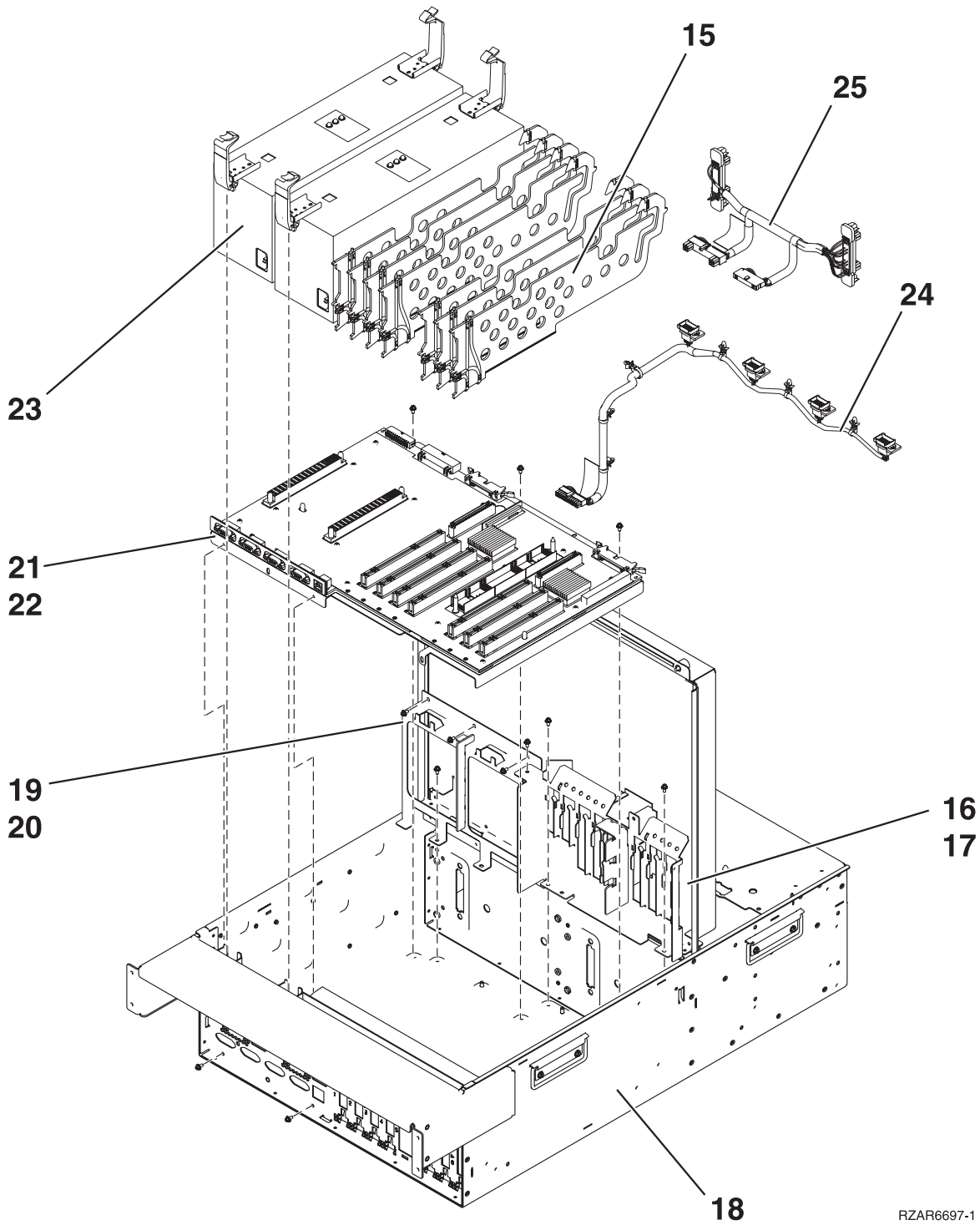
RZAR6698-0

Table 92. Final assembly part numbers for 0595 expansion unit (rack mounted)

Index	Part number	Units	Description
9	39J1176* 53P0262**	4	Blower assembly
10	39J1695* 97P3138**	2	Disk unit enclosure backplane
11	75G2878*	8	Screw, M3.5 x 8mm
12	39J3383* 53P0250**	2	Disk unit enclosure
13	75G2878*	4	Screw, M3.5 x 8mm
14	See "Disk unit parts" on page 299	AR	Disk unit
14	See "Disk unit parts" on page 299	AR	Disk unit

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement



RZAR6697-1

Table 93. Final assembly part numbers for 0595 expansion unit (rack mounted)

Index	Part number	Units	Description
15	53P2728*	1	PCI divider
	53P2729*	1	PCI divider (C01, C06)
16	NONUM	NP	PCI headstock
17	75G2878*	3	Screw, M3.5 x 8 mm

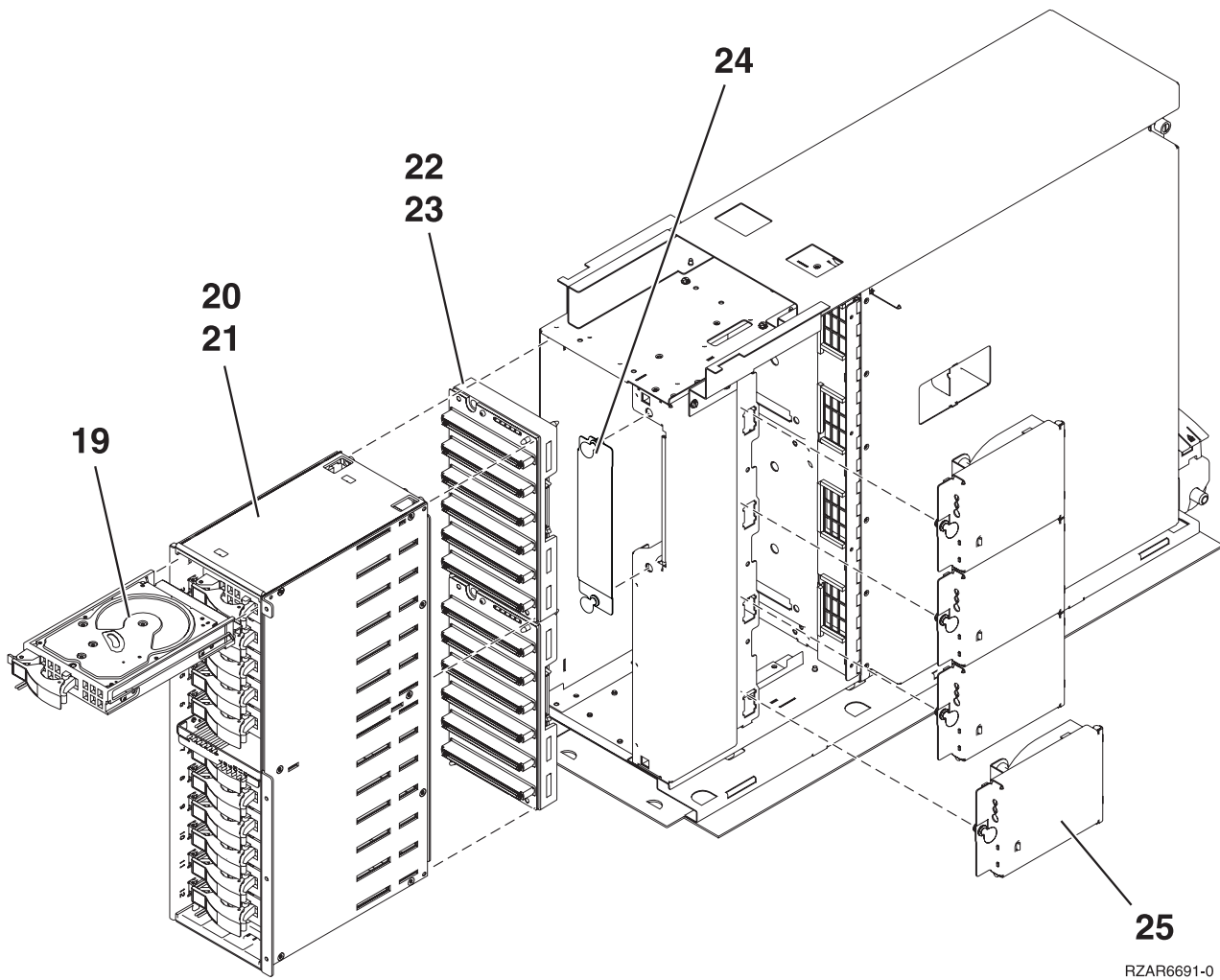
Table 93. Final assembly part numbers for 0595 expansion unit (rack mounted) (continued)

Index	Part number	Units	Description
18	53P0222	NP	Frame assembly
19	NONUM	NP	Power bulkhead
20	75G2878*	5	Screw, M3.5 x 8 mm
21	39J0515* 53P3472**	AR	PCI backplane assembly CB1
22	75G2878*	5	Screw, M3.5 x 8 mm
23	39J2781* 53P4832**	AR	Power supply
23	39J1175* 53P0233**	AR	Filler, power supply
24	53P4065*	1	AMD cable
25	NONUM	1	Disk unit cable

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Final assembly for 5095 expansion unit



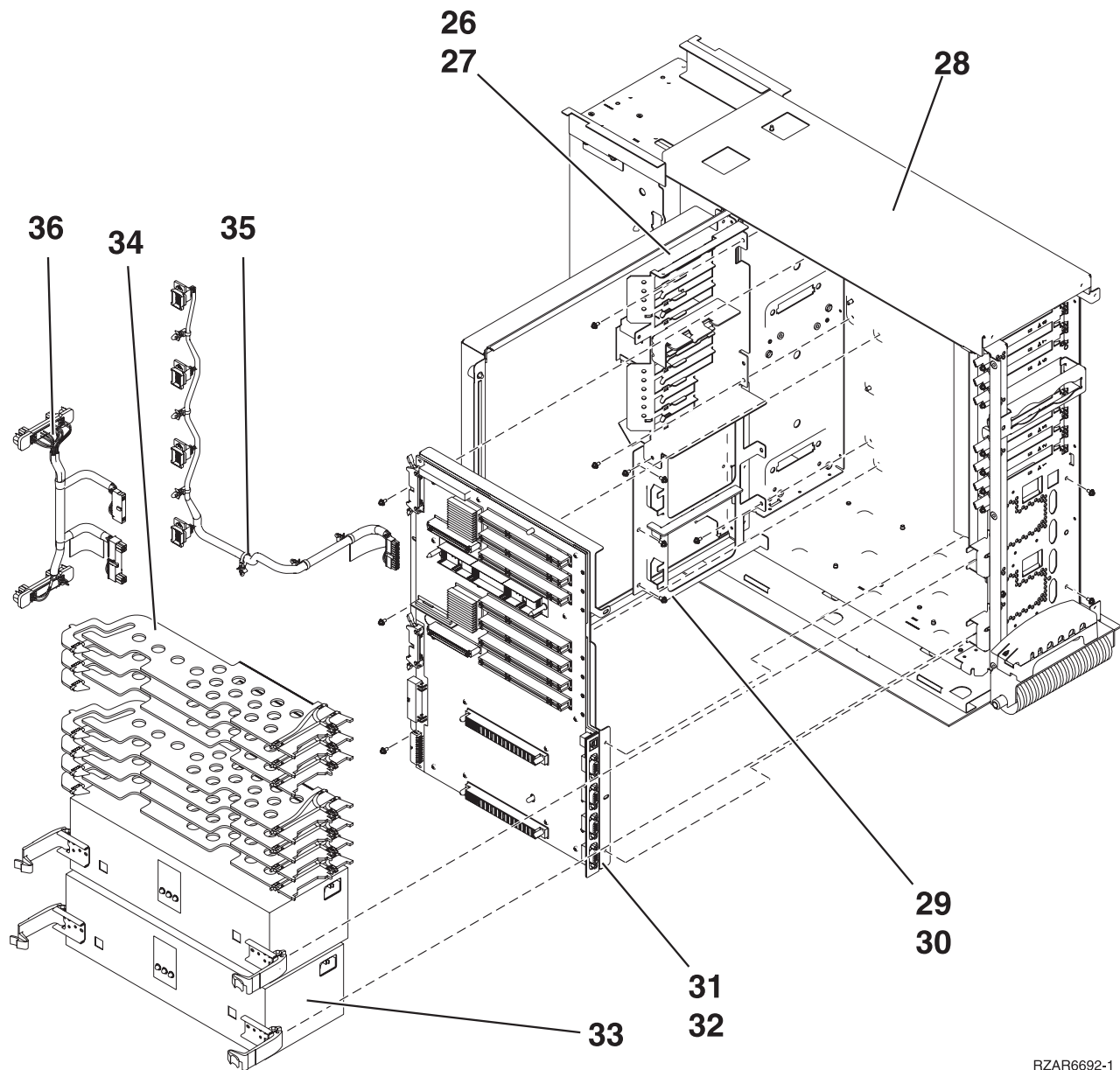
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Table 94. Final assembly part numbers for 5095 expansion unit

Index	Part numbers	Units	Description
19	24L0900	AR	Disk unit
20	39J3383* 53P0250**	2	Disk unit enclosure
21	44H7366*	AR	Screw, M3.5 x 8 mm
21	53P0319	AR	Screw
22	39J1695	2	Disk unit enclosure backplane
23	NONUM	8	Screw
24	39J1176* 53P0262**	1	EMC enclosure
25	39J1176* 53P0262**	4	Air-moving device (blower assembly)

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement



RZAR6692-1

Table 95. Final assembly part numbers for 5095 expansion unit

Index	Part numbers	Units	Description
26	NONUM	1	Bracket, PCI Headstock
27	44H7366 [†]	3	Screw
28	53P0222	NP	Frame assembly
29	39J2781 [*] 53P4832 ^{**}	1	Bracket, power supply
30	44H7366 [†]	4	Screw
31	53P0239	1	Processor backplane assembly
32	44H7366 [†]	5	Screw
33	39J2781 [*] 53P4832 ^{**}	AR	Power supply

Table 95. Final assembly part numbers for 5095 expansion unit (continued)

Index	Part numbers	Units	Description
33	39J1175* 53P0233**	AR	Filler, Power supply
34	53P2728*	AR	PCI divider
34	53P2729*	AR	PCI divider

* Designed to comply with RoHS requirement

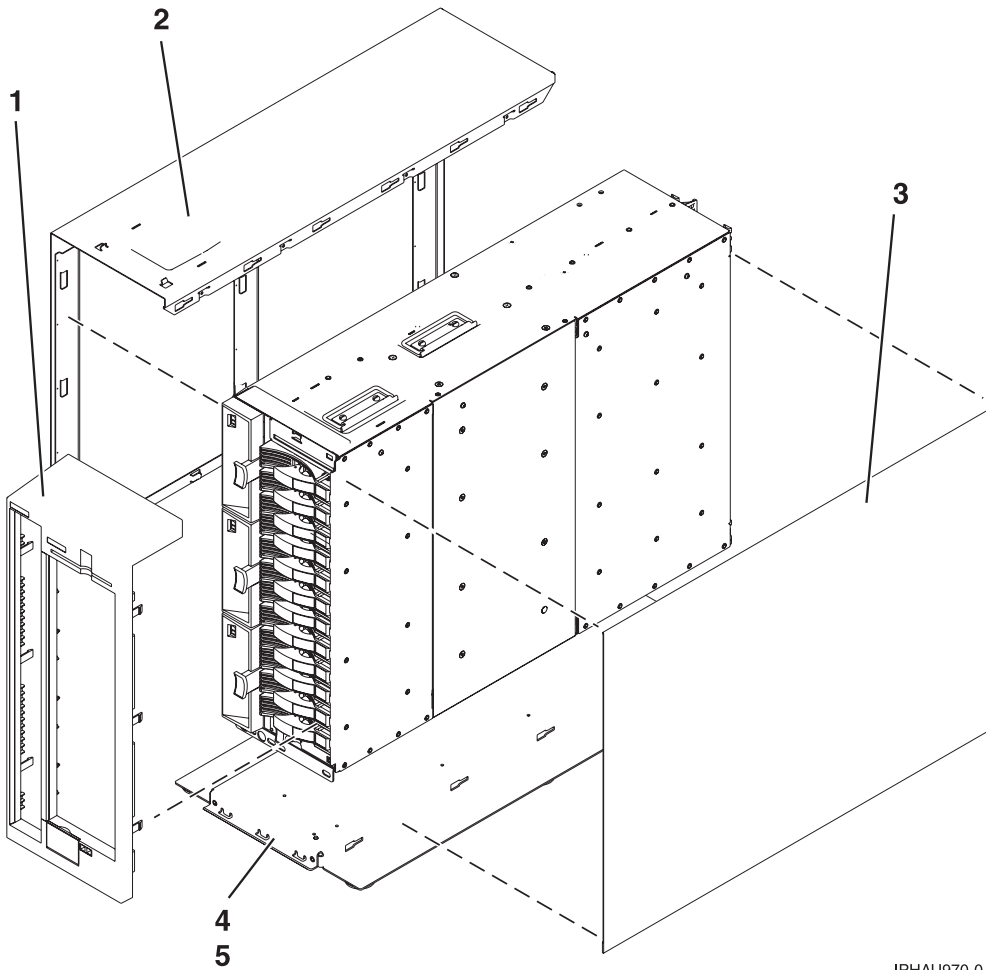
** Not designed to comply with RoHS requirement

Part assembly diagrams for 5786, 5787, 7031-D24, and 7031-T24 expansion units

Assembly diagrams.

Cover assemblies

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.



IPHAU970-0

Table 96. Cover assembly part numbers

Index number	Part number	Units per assembly	Description
1	12R8505*	1	Front cover assembly – tower
2	12R8373*	1	Side cover assembly – tower, left
3	12R8376*	1	Side cover assembly – tower, right
4	12R8379*	1	Footstand assembly – tower
5	12R8382**	4	Screw, M3 x 4 – pan head

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

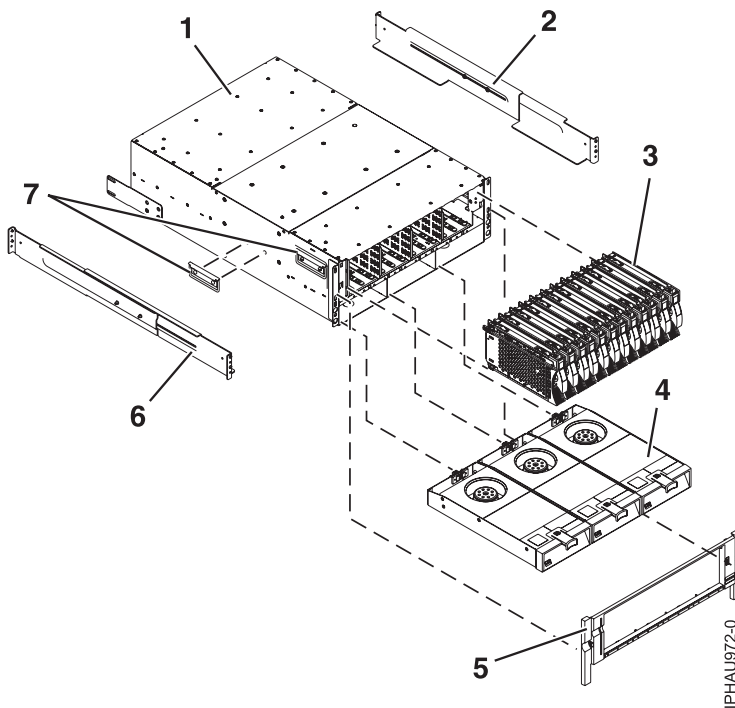


Table 97. 5786, 5787, 7031-D24, and 7031-T24 I/O enclosure assembly (front view)

Index number	Part number	Units per assembly	Description
1	41U0299*	1	Rack configured chassis assembly (includes chassis, disk drive backplane, VPD card). Removal and replacement procedures are sent with the FRU.
1	41U0301*	1	Tower configured chassis assembly (includes chassis, disk drive backplane, VPD card). Removal and replacement procedures are sent with the FRU.
2	39J2051*	1	Mount Rail assembly (7031-D24 only)
2	97P4178* 3P5556**		DASD bezel (not shown)
2	97P4179* 53P6213**		DASD filler panel (not shown)

Table 97. 5786, 5787, 7031-D24, and 7031-T24 I/O enclosure assembly (front view) (continued)

Index number	Part number	Units per assembly	Description
3	03N5260* 00P3833**	up to 12 per side	73.4 GB Disk drive with U320 carrier, 10K RPM, 80 pin
3	03N6325* 00P3072**	up to 12 per side	73.4 GB Disk drive with U320 carrier, 10K RPM, 80 pin
3	03N5265* 00P3835**	up to 12 per side	146.8 GB Disk drive with U320 carrier, 10K RPM, 80 pin
3	03N6330* 00P2665**	up to 12 per side	146.8 GB Disk drive with U320 carrier, 10K RPM, 80 pin
3	03N5270* 80P3157**	up to 12 per side	300 GB Disk drive with U320 carrier, 10K RPM, 80 pin
3	03N6335* 80P3400**	up to 12 per side	300 GB Disk drive with U320 carrier, 10K RPM, 80 pin
3	03N5275* 80P3159**	up to 12 per side	36.4 GB Disk drive with U320 carrier, 15K RPM, 80 pin
3	03N6340* 00P2693**	up to 12 per side	36.4 GB Disk drive with U320 carrier, 15K RPM, 80 pin
3	03N5280* 80P3163**	up to 12 per side	73.4 GB Disk drive with U320 carrier, 15K RPM, 80 pin
3	03N6345* 00P2685**	up to 12 per side	73.4 GB Disk drive with U320 carrier, 15K RPM, 80 pin
3	03N5285* 80P3911**	up to 12 per side	146.8 GB Disk drive with U320 carrier, 15K RPM, 80 pin
3	10N8578*	up to 12 per side	300 GB Disk drive with U320 carrier, 15K RPM, 80 pin
4	15R6792* 12R9950**	3	Fan assembly
5	41U0264*	1	Front bezel (Rack unit only)

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

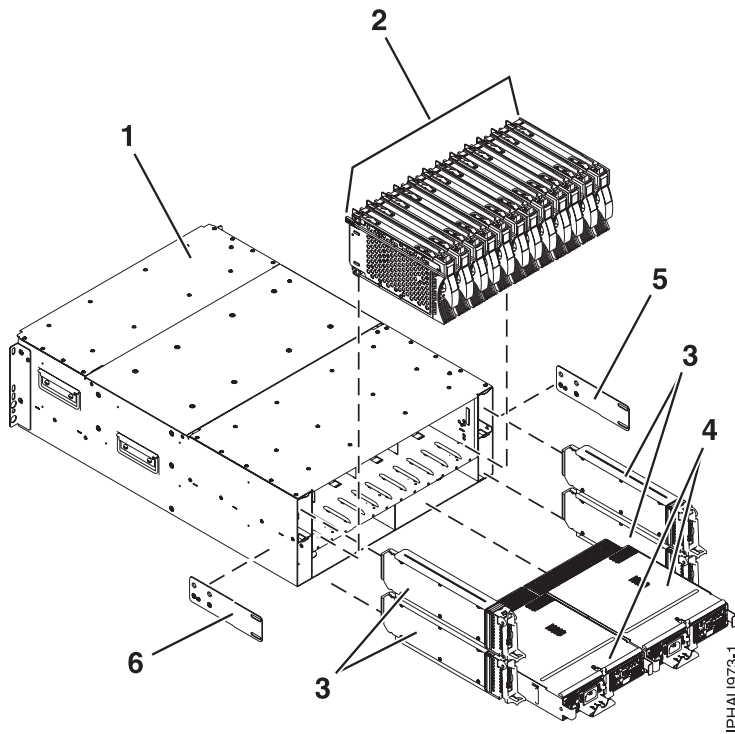


Table 98. 5786, 5787, 7031-D24, and 7031-D24 I/O enclosure assembly (back view)

Index number	Part number	Units per assembly	Description
1			Chassis assembly (refer to table 2 for part number)
2			Disk drive assemblies (refer to table 2 for part number)
3	12R9042* 12R7477**	up to 4	SCSI repeater card assembly – single
3	12R9040* 12R7475**	up to 4	SCSI repeater card assembly – dual
3	12R7457*	up to 3	SCSI repeater card filler assembly (not shown)
4	12R9078**	up to 2	966 W Power supply assembly pSeries
4	15R7998*	up to 2	845 W power supply iSeries
4	12R7454*	1	Power supply filler assembly (not shown)
5	12R6121*	1	Left chassis bracket
6	12R6122*	1	Right chassis bracket

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Table 99. I/O enclosure external cables (not shown)

Description	Units per assembly	FRU part number
20 meter cable		09L3307**
0.5 meter (2 ft), ultra320 SCSI cable for I/O drawer attachment		42D9817**
10 meter (33 ft), ultra320 SCSI VHDCI cable		09L3305**
1 meter (3 ft), ultra320 SCSI VHDCI cable		09L3299**

Table 99. I/O enclosure external cables (not shown) (continued)

Description	Units per assembly	FRU part number
Power cord, listing by country see ../iphad/plug.htm		

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Part assembly diagrams for 5791 and 5794 expansion units

Assembly diagrams.

Final assembly

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

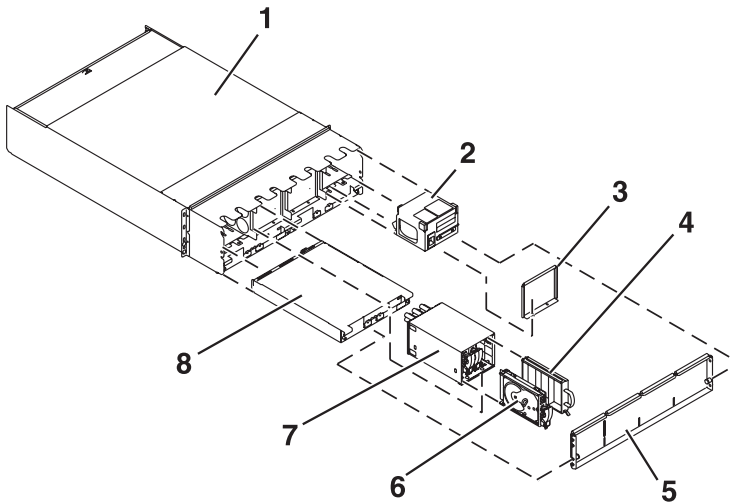


Table 100. Final assembly (front) part numbers

Index number	Part number	Units per assembly	Description
1	41V0453* 44P2285**	1	Chassis
	07H5247**	2	Frame rail
2	12R9234* 11P4624**	AR	Fan assembly
3	44P1277* 11P3661**	AR	Disk drive enclosure filler
4	11P3662*	AR	Disk drive filler
5	44P4573* 44P4568**	1	Front cover
6	See "Disk unit parts" on page 299	AR	Disk drive

Table 100. Final assembly (front) part numbers (continued)

Index number	Part number	Units per assembly	Description
7	41V0608* 11P4855**	AR	Disk unit enclosure and backplane assembly
	41V1064* 11P2436**		Screw
	11P3457*		Screw
	11P3667**		Screw
8	41V0942* 16R1060**	2	Power supply (DCA-BC)***
	41V0943* 16R1062**		Power supply (5DCA-BCS)***

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

*** These DCAs cannot be mixed in the same drawer.

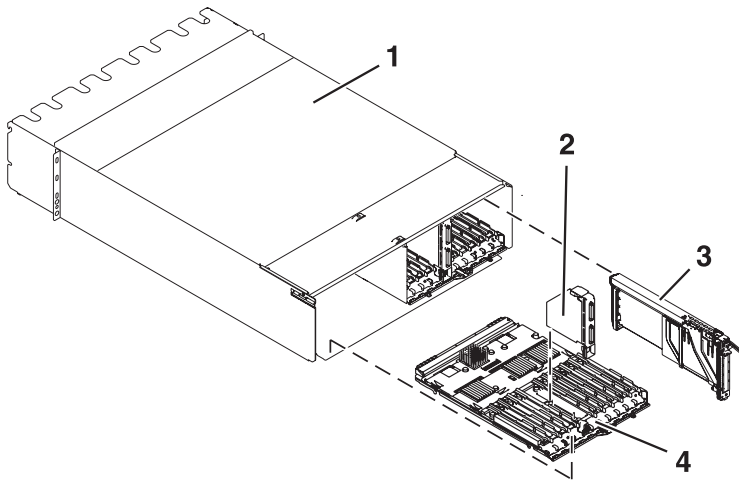


Table 101. Final assembly (back) part numbers

Index number	Part number	Units per assembly	Description
1	41V0453* 44P2285**	1	Chassis
2	NONUM	AR	RIO/HSL riser card, part of the I/O backplane (see index number 4)
3	16R0091* 12R7032**	AR	PCI adapter cassette assembly
	44P1675**	AR	PCI adapter cassette assembly - double wide
	11P4089**	AR	PCI adapter cassette filler
4	See "Backplane parts" on page 277	AR	I/O backplane

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Part assembly diagrams for 5795 expansion unit

Assembly diagrams.

Final assembly

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Table 102. Final assembly part numbers

Index number	Part number	Units per assembly	Description
	11P4616* 11P2293**	2	Rail
	54G2882*	4	Screw, rail
	11P2445*	2	Clamp, rail
	54G2882*	4	Screw, rail clamp
	NONUM	1	Filler, control panel
	NONUM	1	Filler, diskette
	See "Removable media device parts" on page 362	AR	Media device
	11P2444*	1	Filler, media device
	21L3165*	AR	Screw, media device
	07H6655**	AR	Cable tie
	NONUM	1	Cover assembly
	84X4841*	8	Nut, M4 cover assembly
	32G1536**	8	Screw, M4 Torx cover assembly

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

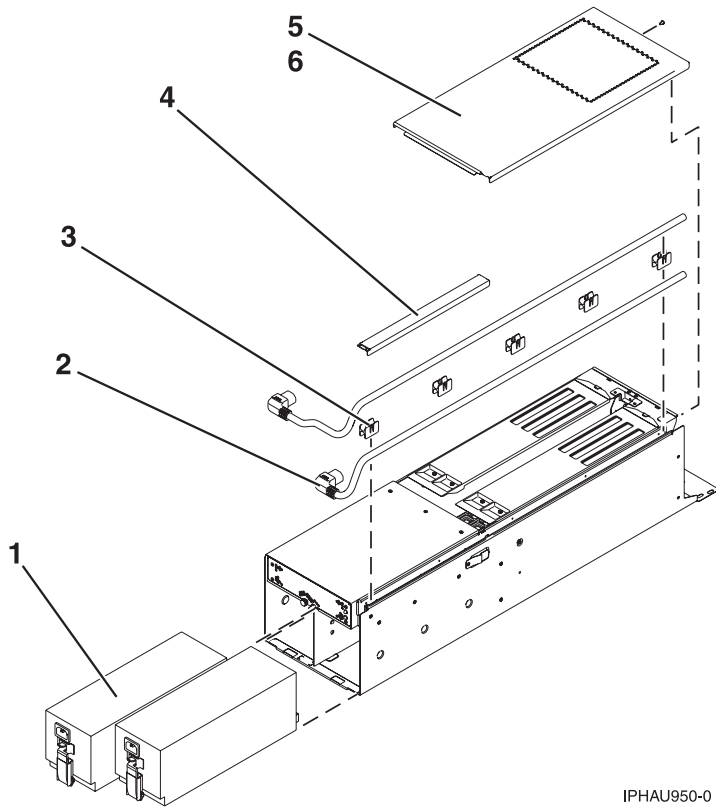
Part assembly diagrams for 7311-D10, 7311-D11, and 5790 expansion units

Assembly diagrams.

Note: For 7311-D10 part number information, see 7311-D10 service guide (SA38-0627).

Final assembly

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.



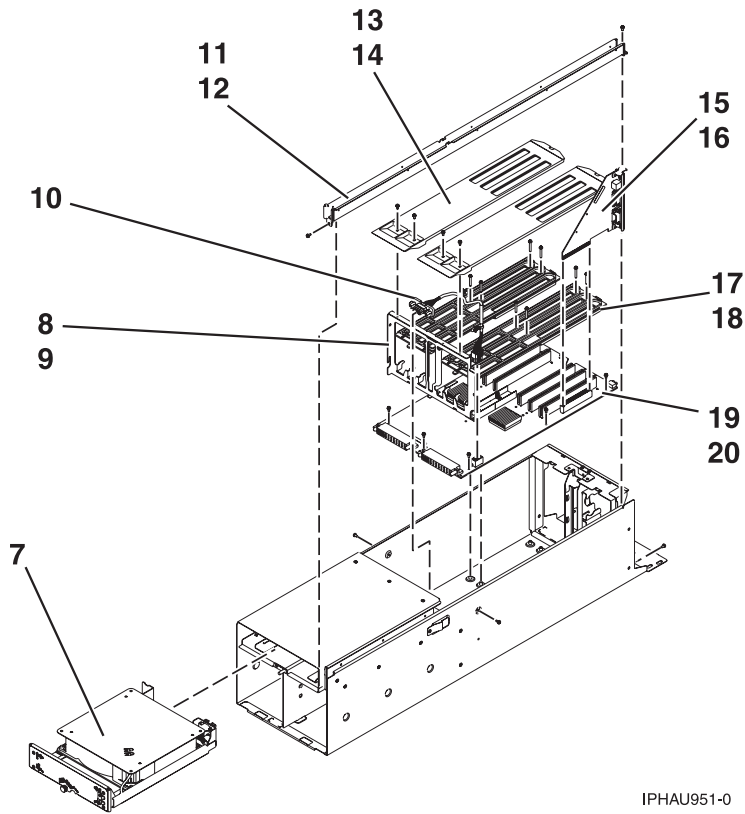
IPHAU950-0

Table 103. Final assembly part numbers

Index number	CCIN	Part number	Units	Description
1		See "Part number catalog" on page 160	2	Power supply
2		See "Part number catalog" on page 160	2	Cable, power
3		09P3185**	5	Guide, power cable
4		80P2654	1	Cover, power cable channel
5		80P2646	1	Access cover
6		1624743**	2	Screw, access cover

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement



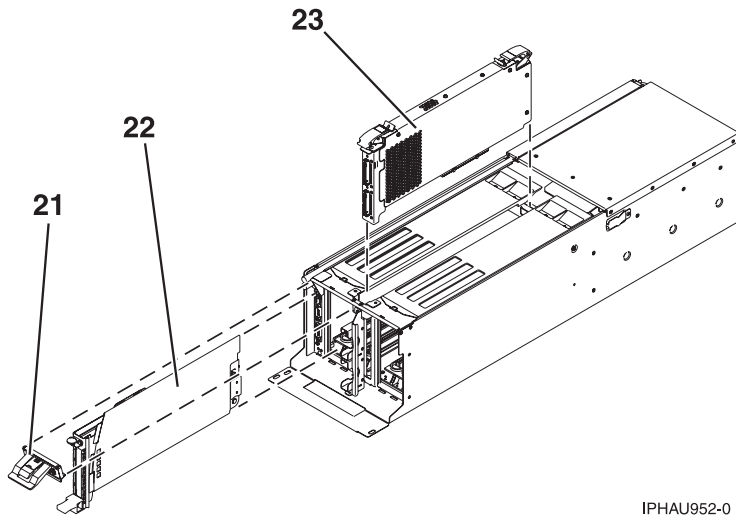
IPHAU951-0

Table 104. Final assembly, continued

Index number	CCIN	Part number	Units	Description
7		32N1256* 03N606**	1	Fan assembly
8		80P2645	1	Bracket, bulkhead
9		1621829**	2	Screw, bulkhead bracket
10		03N6196* 09P5417**	1	Cable, fan
11		80P2648	1	Tray, power cable
12		1621829**	2	Screw, tray mounting
13		80P2648	2	Guide, upper
14		1621829**	4	Screw, upper guide mounting
15		NONUM		SPCN connector card (included with index number 20)
16		NONUM		Screw (included with index number 20)
17		NONUM	2	Guide, lower
18		1624749**	8	Screw, lower guide mounting
19		See "Part number catalog" on page 160	1	I/O backplane assembly (includes SPCN connector card)
20		1624743**	6	Screw, backplane mounting

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement



IPHAU952-0

Table 105. Final assembly, continued

Index number	CCIN	Part number	Units	Description
21		NONUM	2	Filler, EMC
22		00P2750	AR	PCI cassette
23	28FF	See "Part number catalog" on page 160	1	RIO/HSL card

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Rack-mounting enclosure

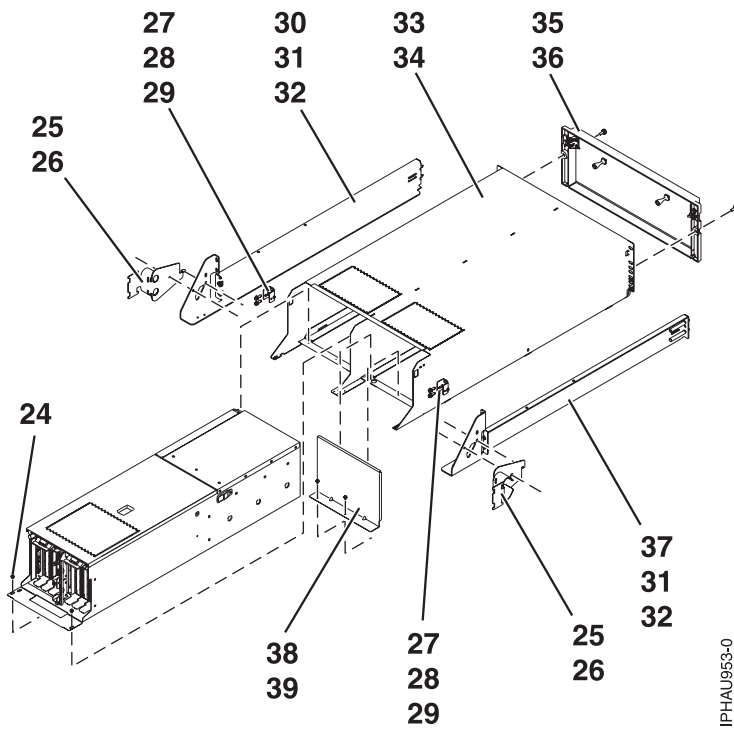


Table 106. Rack-mounting enclosure

Index number	CCIN	Part number	Units	Description
24		93H4729*	2	Screw, chassis
25		80P2665*	2	Cable support bracket
26		00G1268* 40F9987**	2	Screw, bracket mounting
27		NUNUM	2	I/O subsystem retention bracket
28		1624779* 6200684**	4	Screw, I/O subsystem mounting
29		1621829**	2	Screw
30		39J4472* 03N3847**	1	Right rail
31		1624779* 6200684**	4	Screw, rail mounting
32		74F1823* 0375867**	12	Nut clip, rail mounting
33		NONUM	1	Chassis
34		1624779* 6200684**	4	Screw, rail mounting
35		80P5233* 09P4778**	1	Front cover
36		04N6587*	2	Thumbscrew, shipping
37		39J4471* 03N3845**	1	Left rail
38		80P2664*	1	Back filler for empty I/O subsystem space

Table 106. Rack-mounting enclosure (continued)

Index number	CCIN	Part number	Units	Description
39		93H4729*	2	Screw, filler mounting

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Part assembly diagrams for 7311-D20 expansion unit

Assembly diagrams.

I/O backplane and cabling assembly

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

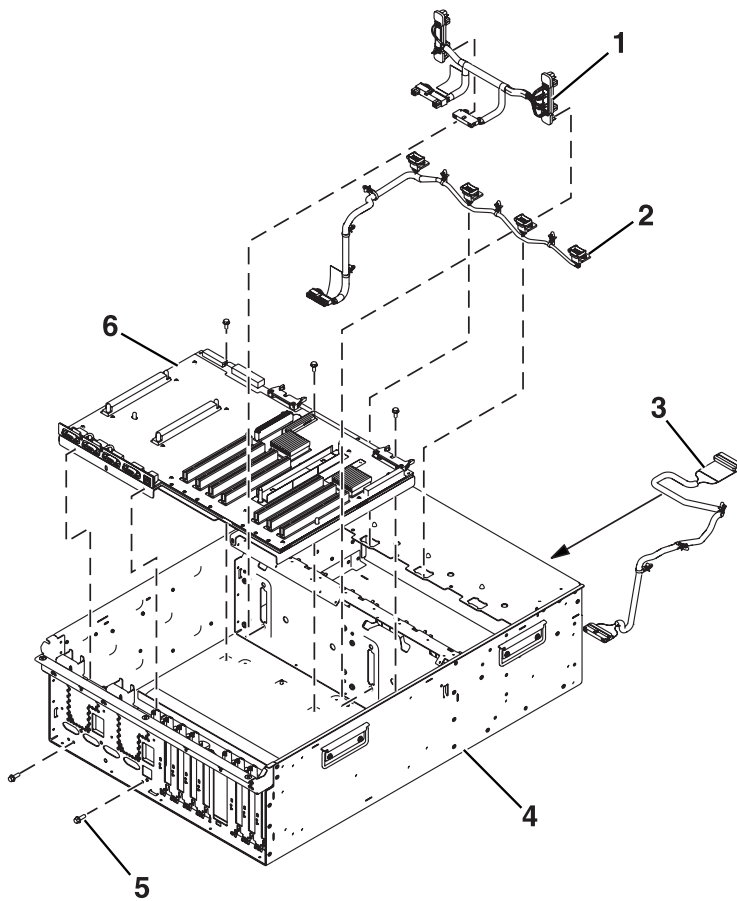


Table 107. I/O backplane and cabling assembly part numbers

Index number	CCIN	Part number	Units	Description
1		53P0416*	1	DASD cable
2		53P4065*	1	Blower cable
3		53P0414*	1	Control panel cable

Table 107. I/O backplane and cabling assembly part numbers (continued)

Index number	CCIN	Part number	Units	Description
4		39J1173* 53P0220**	1	Chassis assembly
5		44H7366*	5	Mounting screw, stiffener
6		See Backplane parts	1	I/O backplane

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

PCI adapters assembly

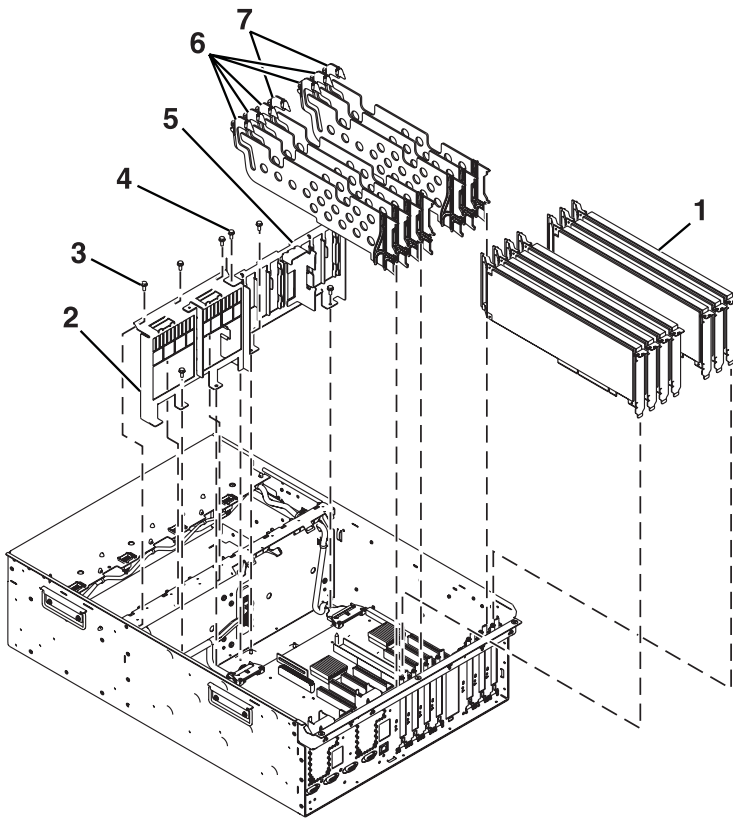


Table 108. PCI adapters assembly part numbers

Index number	CCIN	Part number	Units	Description
1		See "System parts" on page 277	7 (maximum quantity)	PCI adapter
2		39J1118* 53P0248**	1	Power supply bulkhead
3		44H7366*	4	Screw, power bulkhead mounting
4		44H7366*	3	Screw, PCI plate mounting
5		39J1119*	1	PCI adapter headstock bracket
6		53P2728*	5	PCI dividers

Table 108. PCI adapters assembly part numbers (continued)

Index number	CCIN	Part number	Units	Description
7		53P2729*	2	PCI dividers

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Power, RIO/HSL adapter, and cabling assembly

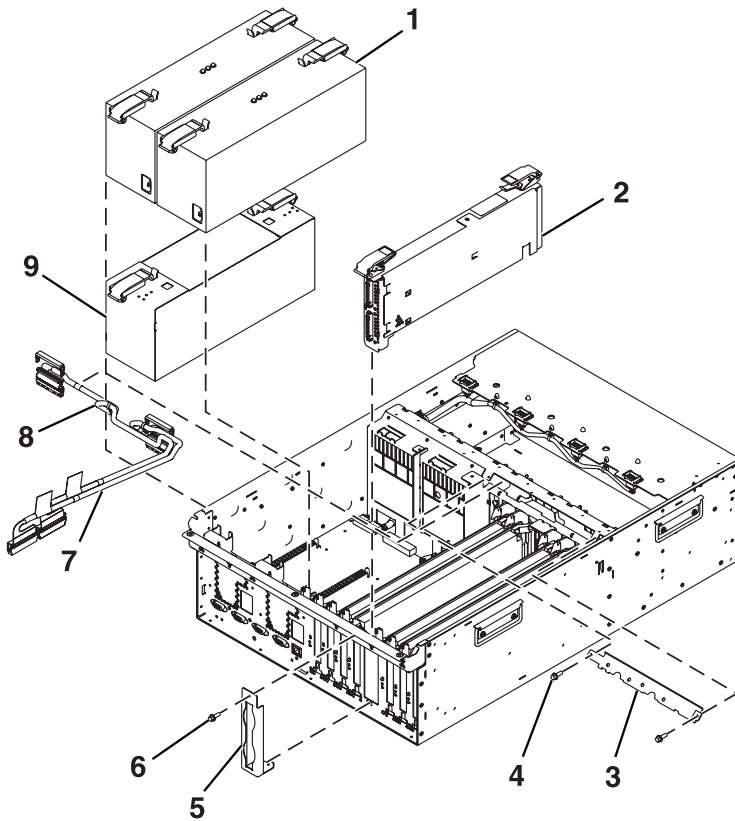


Table 109. Power, RIO/HSL adapter, and cabling assembly part numbers

Index number	CCIN	Part number	Units	Description
1		See "Power parts" on page 359	2 (maximum quantity)	Power supply
2	2887	See "System parts" on page 277	1	RIO/HSL bus adapter
	28E7	See "System parts" on page 277	1	RIO/HSL-2 bus adapter
3		39J1170*	3	Cable bracket, SCSI
4		44H7366*	1	Screw, SCSI cable
5		39J3287* 53P0639**	5	RIO/HSL-2 cable bracket
6		44H7366*	2	Screw, RIO/HSL-2 cable bracket
7		53P0417*	Configuration dependent	SCSI bus cable

Table 109. Power, RIO/HSL adapter, and cabling assembly part numbers (continued)

Index number	CCIN	Part number	Units	Description
8		42R4058* 53P0418**	Configuration dependent	SCSI bus cable
9		39J1175* 53P0233**	1	Power supply filler

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Operator panel assembly

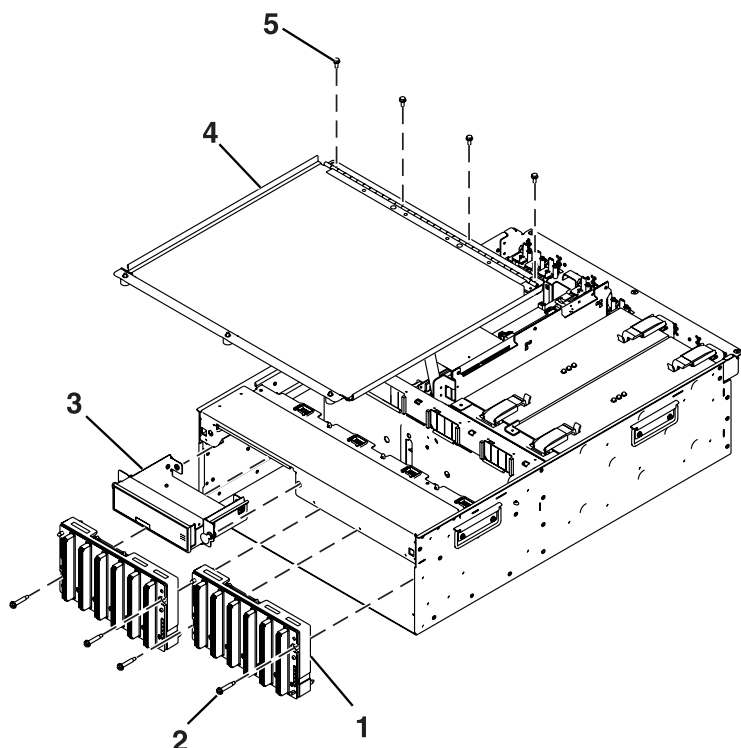


Table 110. Operator panel assembly part numbers

Index number	CCIN	Part number	Units	Description
1		See "Disk unit parts" on page 299	2	Disk drive backplane (disk drive enclosure included)
2		39J3284*	4	Screw, disk-drive-backplane mounting
3	250D	See "Control panel parts" on page 298	1	Operator panel
4			1	Processor cover
5		44H7366*	4	Screw, cover-mounting

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Fans and disk drives assembly

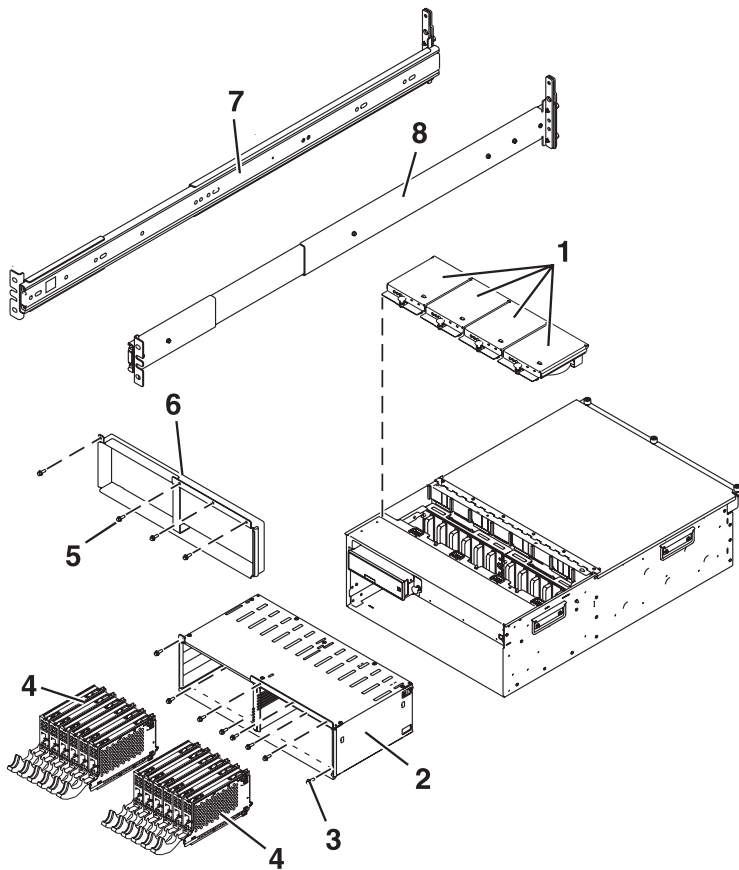


Table 111. Fans and disk drives assembly part numbers

Index number	CCIN	Part number	Units	Description
1		39J1176* 53P0262**	4	Fan assembly
3		39J3383* 53P0250**	1	Disk-drive enclosure 12 pack (disk drive backplanes included)
4		39J3283*	8	Screw, disk drive enclosure mounting
5		See "Disk unit parts" on page 299		Disk drives
6		44H7366*	4	Screw, filler-plate mounting
7		NONUM	1 (optional)	Disk drive filler plate
8		42R5254* 53P3451**	1	Left rail
9		42R5255* 53P3452**	1	Right rail

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Covers and brackets assembly

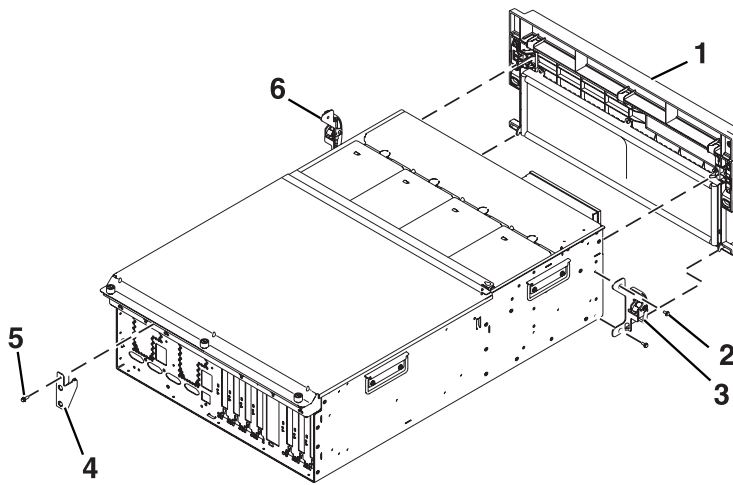


Table 112. Covers and brackets assembly part numbers

Index number	CCIN	Part number	Units	Description
1		39J3326* 53P1457**	1	Front bezel
2		44H7366*	2	Screw, latch bracket
3		53P2572*	1	Latch bracket assembly left
4		42R4299* 53P6019**	4	Cable arm bracket
5		44H7366*	1	Screw, cable arm bracket
6		53P2573*	1	Latch bracket assembly right

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Part assembly diagrams for 0553, 7014-T00, and 7014-T42 racks

Assembly diagrams.

Frames, side panels, and top cover assembly for 7014-T00 and 7014-T42

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

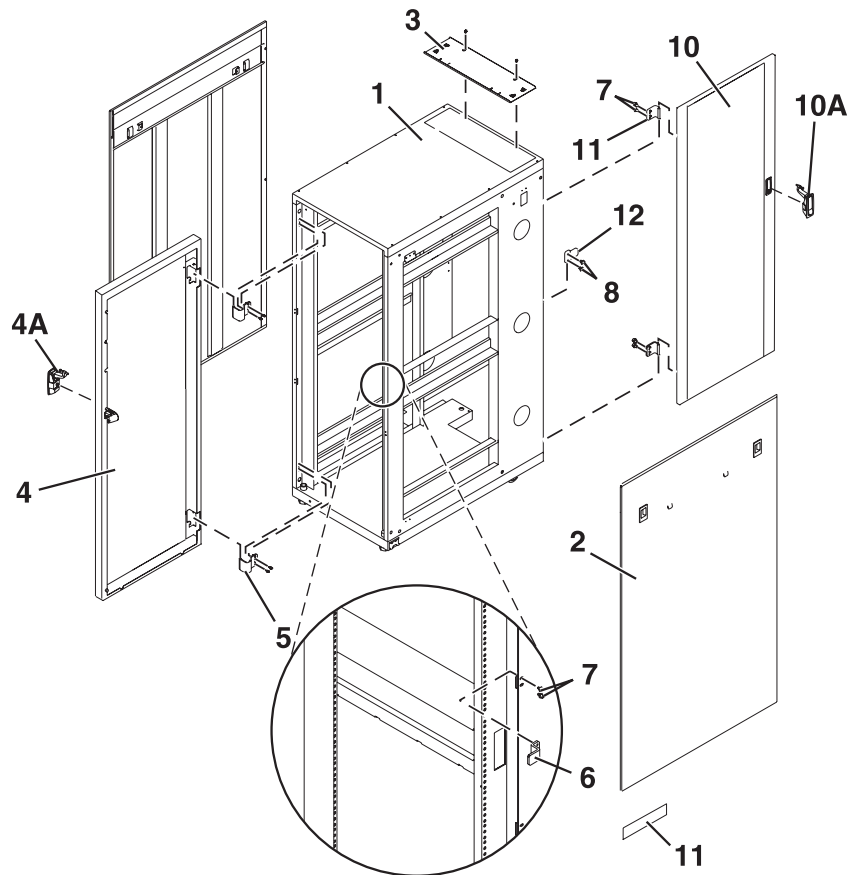


Table 113. Frames, side panels, and top cover assembly part numbers for 7014-T00 and 7014-T42

Index Number	Part Number	Units	Description
1	41V0486* 11P0423**	1	Frame (7014-T00 black, 1.8 m)
	41V0085* 05N4867**	1	Frame (7014-T00, white, 1.8 m)
	41V0087* 11P0313**	1	Frame (7014-T42, black, 2.0 m)
	11P0314**	1	Frame (7014-T42, white, 2.0 m)
2	05N6478* 31L7519**	2	Side panel (7014-T00 and 7014-T42, black)
	05N6477* 31L7518**	2	Side panel (7014-T00 and 7014-T42, white)
3	21L4290*	1	Top cover (7014-T00 and 7014-T42, white, 7014-T42 cable access)

Table 113. Frames, side panels, and top cover assembly part numbers for 7014-T00 and 7014-T42 (continued)

Index Number	Part Number	Units	Description
4	41V0088* 05N4863**	1	7014-T00, black (55 mm)
	11P0319**	1	7014-T42, black (55 mm)
	12K0456**	1	7014-T00, white (35 mm)
	11P0318**	1	7014-T42, white (35 mm)
	41V0416* 32P1029**	1	7014-T00, High Perforation front door for 1.8M racks, black
	41V0593* 45P1429**	1	7014-T42, High Perforation front door for 2M racks, black
	21P4049**	1	7014-T00, (100 mm)
	21P4729**	1	7014-T42, (100 mm)
5	11P4106* 31L7547**	2	Hinge (55 mm)
	09N9686*	2	Hinge (High Perforation front Door)
	05N4865**	2	Hinge (35 mm)
	21P4042**	2	Hinge (100 mm)
6	41V0082* 31L7545**	1	Latch plate (55 mm)
	05N4866**	1	Latch plate (35 mm)
	21P4043**	1	Latch plate (100 mm)
7	31L8594*	4	Screw
8	31L7540*	2	Screw
9	51H9502**	11	Hook-and-loop fastener
10	41V0101*	1	Rear white door, 1.8 meter 7014-T00
	11P0723**	1	7014-T42, with foam, round, white (20 mm)
	39J4215* 21P4468**	1	7014-T00, with foam, hex, black (20 mm)
	39J4214* 21P4467**	1	7014-T42, with foam, hex, black (20 mm)
10A	21P4054**	1	Latch
11	41V0080* 31L7533**	2	Hinge (20 mm)
12	NONUM	1	Latch plate (20 mm)

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Top frame assembly for 7014-T42

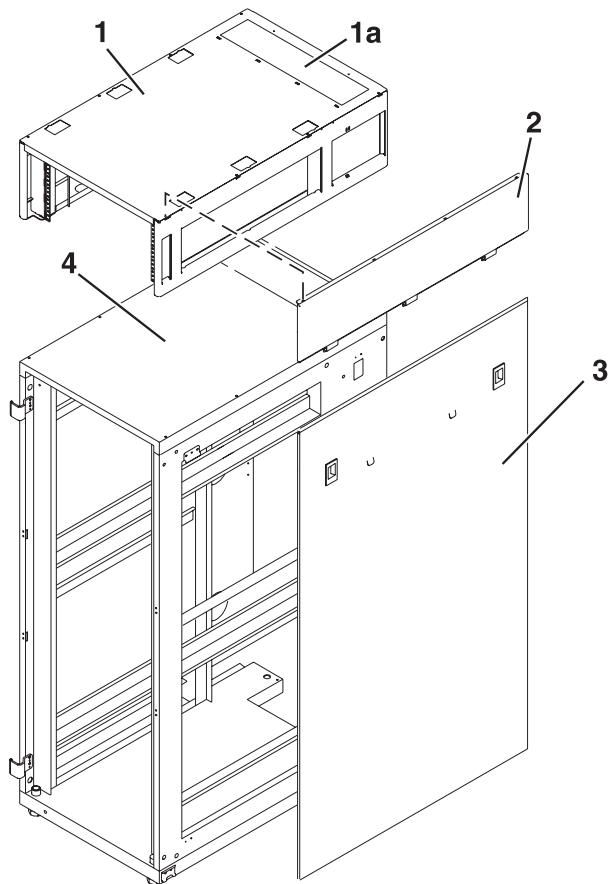


Table 114. Top frame assembly part numbers for 7014-T42

Index number	Part number	Units	Description
1	21L4296*	1	Top frame. This is the only orderable top frame part number. This part has a default color of white. If you need a black top frame, request it when you place the order along with the 21L4296 part number.
1a	NONUM	1	Top Cable Access Cover (Black)
1a	21L4290*	1	Top Cable Access Cover (White)
2	NONUM	2	Top Frame Side Panel (Black)
2	NONUM	2	Top Frame Side Panel (White)
3	05N6478* 31L7519**	2	Lower Side Panel (Black)
3	05N6477* 31L7518**	2	Lower Side Panel (White)
4	41V0087* 11P0313**	1	Rack Frame (Black)
4	11P0314**	1	Rack Frame (White)

Earthquake brace assembly for 7014-T00 and 7014-T42

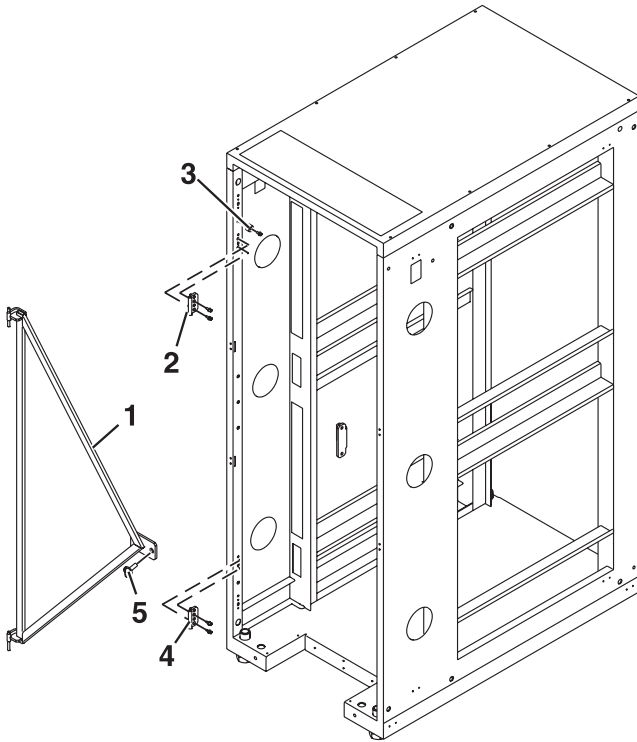


Table 115. Earthquake brace assembly part numbers for 7014-T00 and 7014-T42

Index number	Part number	Units	Description
1	41V0488* 05N4697**	1	Earthquake brace kit
2	REF	2	Hinge
3	REF	1	Spacer
4	REF	7	Screw
5	76X4687**	1	Bolt

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Blank fillers assembly for 7014-T00 and 7014-T42

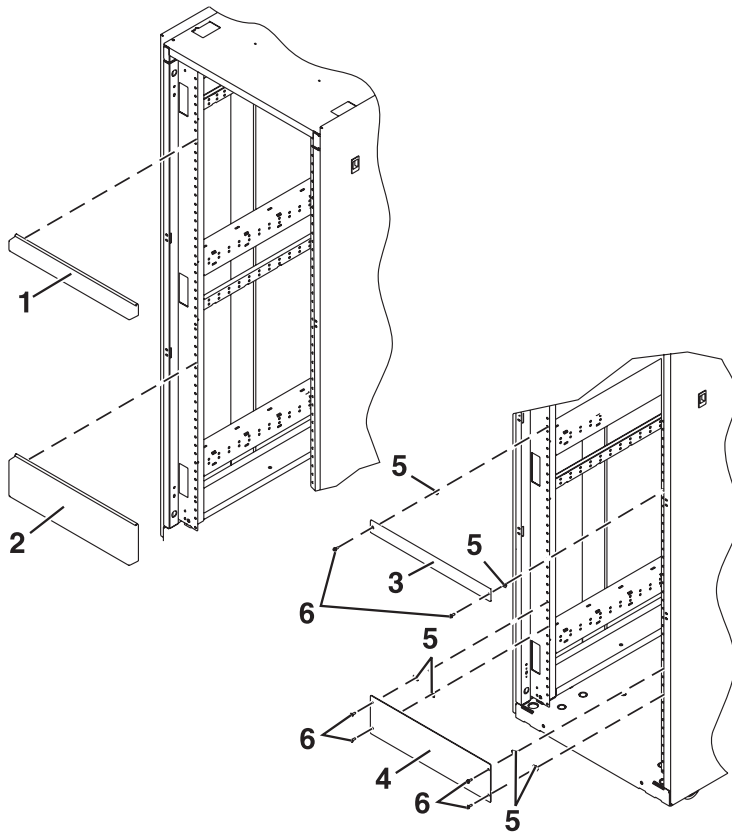


Table 116. Blank fillers assembly part numbers for 7014-T00 and 7014-T42

Index number	Part number	Units	Description
1	97H9754*	AR	1U Filler snap (black)
	62X3443**	AR	1U Filler snap (white)
2	97H9755*	AR	3U Filler snap (black)
	62X3444**	AR	3U Filler snap (white)
3	12J4072*	AR	1U Filler screw (black)
4	12J4073*	AR	3U Filler screw (black)
5	74F1823*	AR	M5 Nut clip
	0375867**		
6	74F1823*	AR	M5 Nut clip
	0375867**		
	1624779*	AR	M5 X 14 Hex flange
	6200684**		
1624779*	AR	M5 X 14 Hex flange	
6200684**			

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Power distribution bus assembly for 7014-T00 and 7014-T42

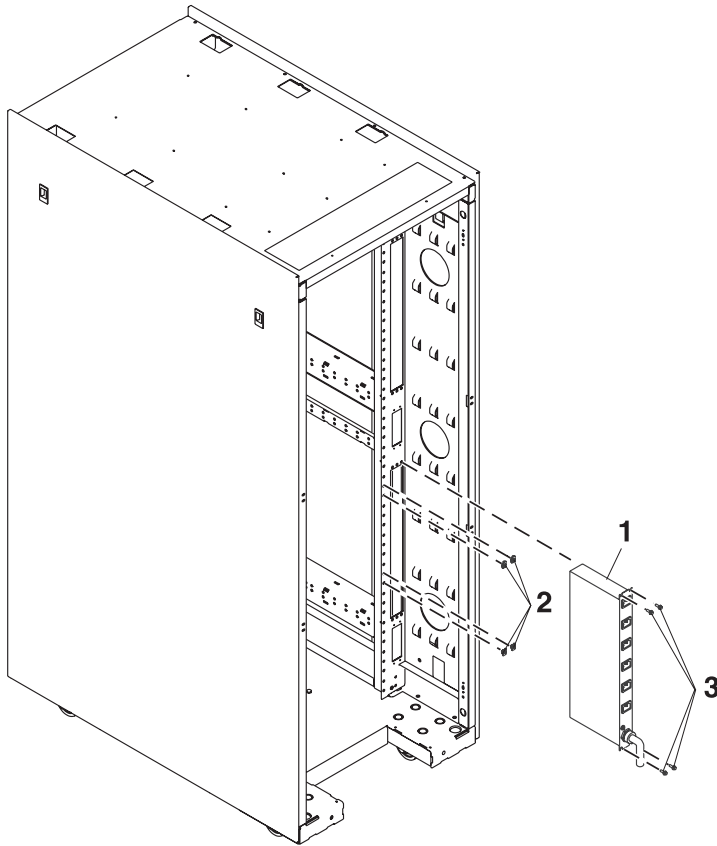


Table 117. Power distribution bus assembly part numbers for 7014-T00 and 7014-T42

Index number	Part number	Units	Description
1	00P2200**	1	Type 6 power distribution panel (1 phase U.S.)
	00P2201**	1	Type 6 power distribution panel (2/3 phase)
	00P2202**	1	Type 6 power distribution panel (3 phase)
	09P2891**	1	Type 6 power distribution panel (1 Phase World Trade)
	97P3573**	1	Type 7 Power distribution panel (1 Phase)
	97P3574**	1	Type 7 Power distribution panel (1 Phase World Trade)
	97P3575**	1	Type 7 Power distribution panel (3 Phase World Trade)
	39J1183* 97P6221**	1	Power Distribution Unit (PDU) has twelve customer-usable IEC 320-C13 outlets rated at 200-240 V ac.
2	1624779*	4	Nut Clip
	6200684**		
3	74F1823*	4	Screw
	0375867**		

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Note: Type 6 power distribution buses have six IEC320-C13, 200 V to 240 V ac outlets. Type 7 power distribution buses have nine IEC320-C13, 200 V to 240 V ac outlets and two IEC320-C19, 200 V to 240 V ac outlets.

Stabilizer assembly for 7014-T00 and 7014-T42

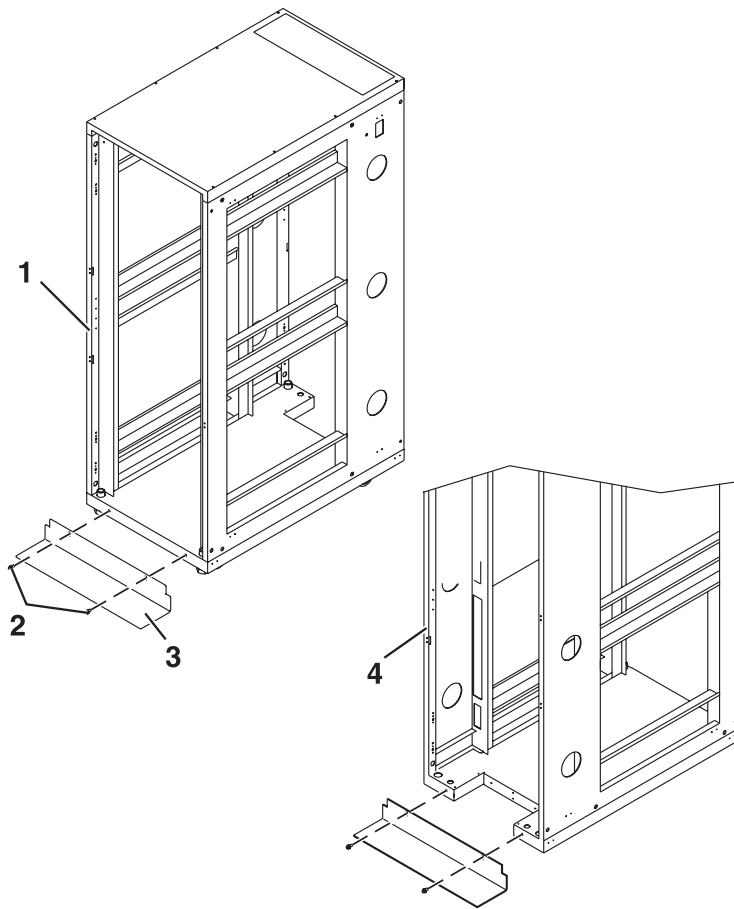


Table 118. Stabilizer assembly for 7014-T00 and 7014-T42

Index number	Part number	Units	Description
1	REF	1	Rack frame
2	REF	2	Screw, M8X25 button head (provided as part of stabilizer kit)
3	41V0584* 31L8305**	1	Front stabilizer kit (black)
3	41V0585* 31L8306**	1	Front stabilizer kit (white)
3	41V0586* 44P1850**	1	Back stabilizer kit (black)
3	41V0587* 44P1851**	1	Back stabilizer kit (white)
4	REF	1	Rack frame

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Power distribution panel assembly for 7014-T00 and 7014-T42

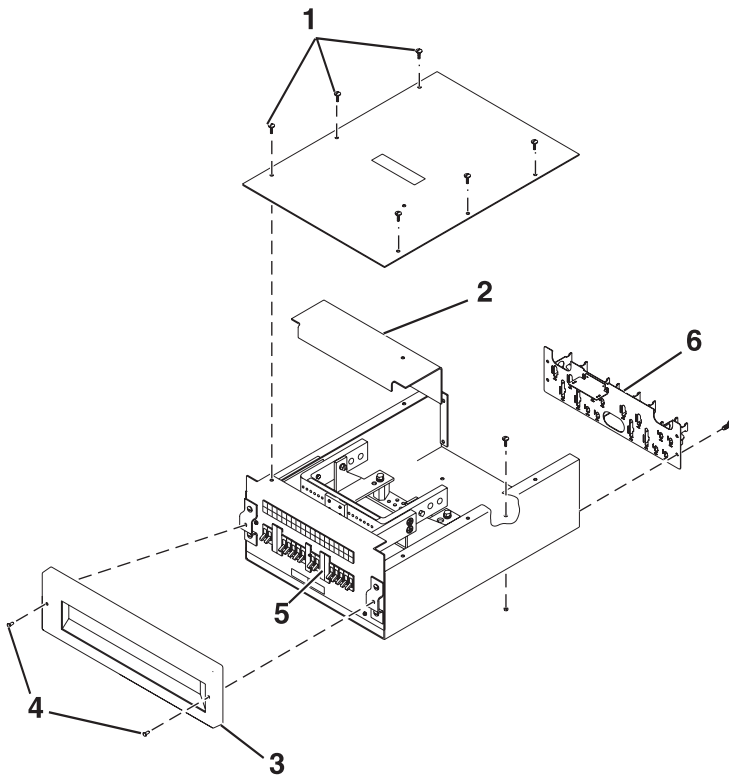


Table 119. Power distribution panel assembly part numbers for 7014-T00 and 7014-T42

Index number	Part number	Units	Description
1	4759076**	6	Screw, M4 x 10
2	NONUM	1	Bus bar shield
3	93H4918**	1	Front bezel
4	93H4919**	2	Screws, 10-32 button head
5	REF	AR	Filler plate for empty circuit breaker positions
	8185540**	AR	50 amp circuit breaker
6	8185540**	1	I/O backplane

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Power distribution panel interior assembly for 7014-T00 and 7014-T42

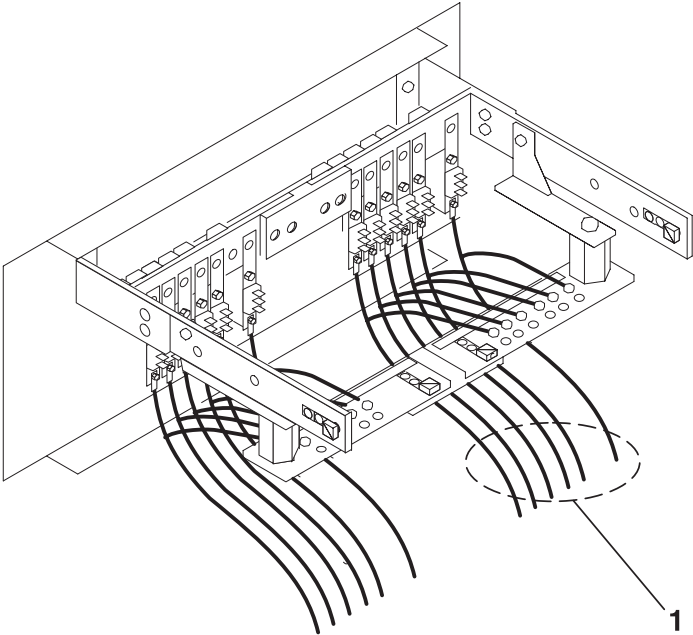


Table 120. Power distribution panel interior assembly part numbers for 7014-T00 and 7014-T42

Index number	Part number	Units	Description
1	NONUM	varies	Cable

Leveling feet assembly for 7014-T00 and 7014-T42

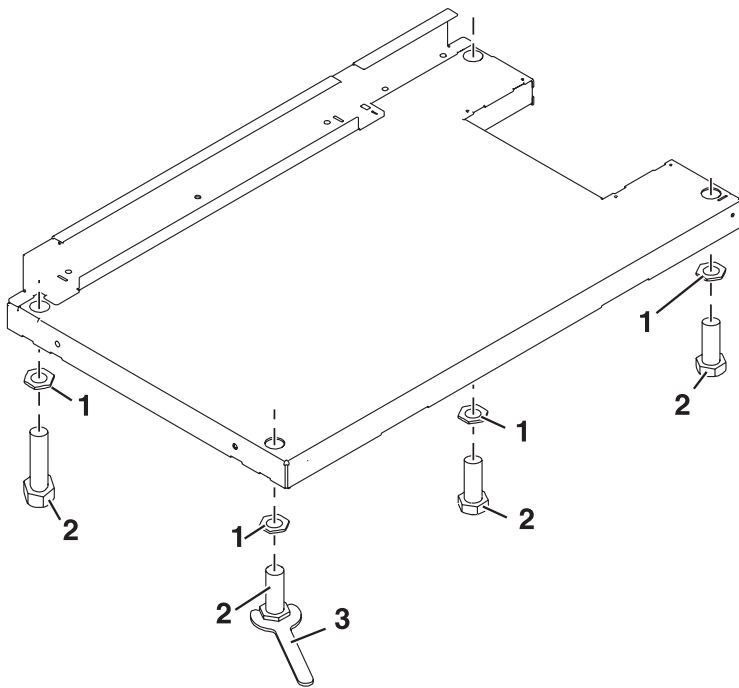


Table 121. Leveling feet assembly part numbers for 7014-T00 and 7014-T42

Index number	Part number	Units	Description
1	REF	4	Jam nut
2	REF	4	Leveling Feet
3	31L8313**	1	Wrench

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Brace assembly for 7014-T42

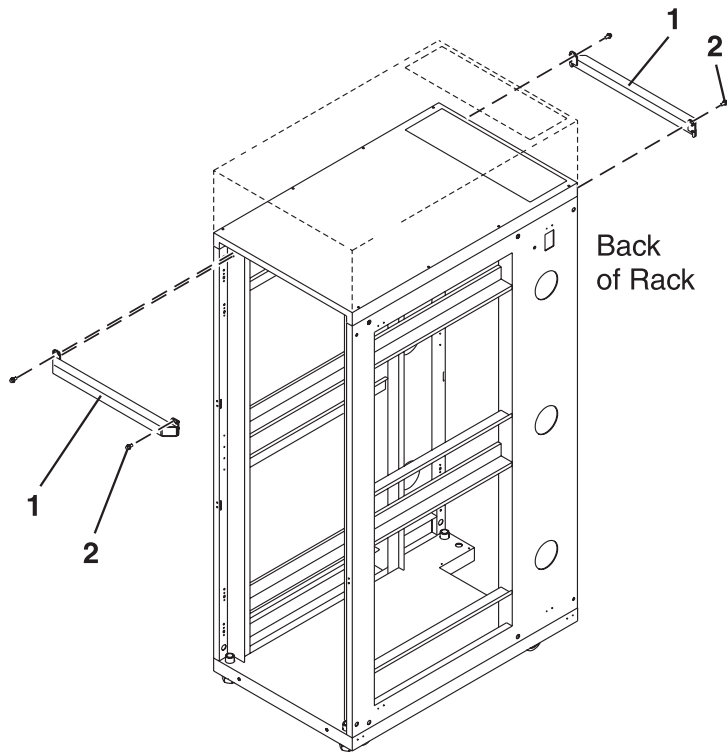


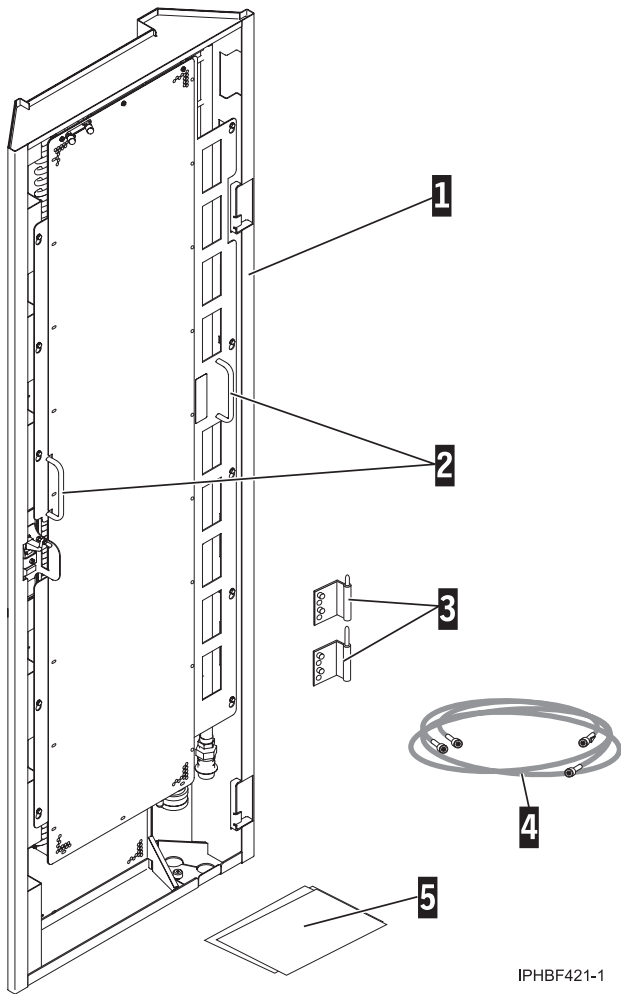
Table 122. Brace assembly part numbers for 7014-T42

Index number	Part number	Units	Description
1	12K0489**	2	Brace
2	REF	4	Bolt

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Heat exchanger rear door for 7014-T42



IPHBF421-1

Table 123. Rear heat exchanger door for 7014-T42

Index number	Part number	Units	Description
1	32R0712**	1	Heat exchanger rear door assembly (comes complete with parts shown)
2	N/A		Handles
3	N/A		Hinge kit
4	N/A		Air-purging tool
5	N/A		Documentation

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Rack beacon assembly for 7014-T00 and 7014-T42

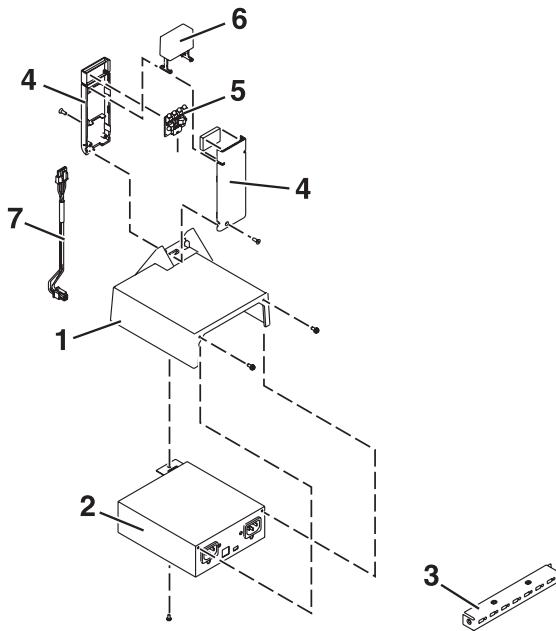


Table 124. Rack beacon assembly part numbers for 7014-T00 and 7014-T42

Index number	Part number	Units	Description
1	NOMUM	1	Cover
2	93H3753**	1	Power supply
3	53P2231**	1	Junction box assembly
4	53P1776	2	Arm
5	53P3997	1	Card assembly
6	53P1777	1	Lens
7	53P2236	1	Cable
Not Shown	53P2237**	AR	USB cable
Not Shown	53P2854**	1	USB cable

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Part assembly diagrams for 0554 and 7014-S11 racks

Rack assembly diagrams.

Final assembly

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Table 125. Final assembly part numbers

Index number	Part number	Units per assembly	Description
	32P1629**	1	Rack door lock
	32P1630**	1	Door
	32P1631**	1	Rack with door
	32P1632**	1	Miscellaneous hardware kit
	32P1633**	1	Tilt foot kit
	12J3279**	4	Fixed caster
	12J3283**	4	Swivel caster
	00P2200**	1	Type 6 power distribution panel (1 phase U.S.)
	00P2201**	1	Type 6 power distribution panel (2/3 phase)
	00P2202**	1	Type 6 power distribution panel (3 phase)
	00P2203**	1	Type 6 power distribution panel (1 Phase World Trade)
	97P3573**	1	Type 7 Power distribution panel (1 Phase)
	97P3574**	1	Type 7 Power distribution panel (1 Phase World Trade)
	97P3575**	1	Type 7 Power distribution panel (3 Phase World Trade)
	39J1183* 97P6221**	1	Power Distribution Unit (PDU) has twelve customer-usable IEC 320-C13 outlets rated at 200-240 V ac.

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Note: Type 6 power distribution buses have six IEC320-C13, 200 V to 240 V ac outlets. Type 7 power distribution buses have nine IEC320-C13, 200 V to 240 V ac outlets and two IEC320-C19, 200 V to 240 V ac outlets.

Part assembly diagrams for 0555 and 7014-S25 racks

Rack assembly diagrams.

Final assembly

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Table 126. Final assembly part numbers

Index number	Part number	Units per assembly	Description
	13N2060*	1	Split door, right
	13N2061*	1	Split door, left
	16R1491*	1	Top cover
	16R1490*	2	Side panel
	16R1496*	1	Latch
	16R1497*	1	Keys

Table 126. Final assembly part numbers (continued)

Index number	Part number	Units per assembly	Description
	16R1489*	1	Front door
	16R1499**	1	Hardware kit
	16R1495**	1	Front stabilizer
	16R1494*	2	Adjustable foot
	16R1492*	2	Fixed caster, front
	16R1493*	2	Swivel caster, back
	39M6653*	AR	Kit, cable management
	00P2200**	1	Type 6 power distribution panel (1 phase U.S.)
	00P2201**	1	Type 6 power distribution panel (2/3 phase)
	00P2202**	1	Type 6 power distribution panel (3 phase)
	0P22023**	1	Type 6 power distribution panel (1 Phase World Trade)
	97P3573**	1	Type 7 Power distribution panel (1 Phase)
	97P3574**	1	Type 7 Power distribution panel (1 Phase World Trade)
	97P3575**	1	Type 7 Power distribution panel (3 Phase World Trade)
	39J1183* 97P6221**	1	Power Distribution Unit (PDU) has twelve customer-usable IEC 320-C13 outlets rated at 200-240 V ac.

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Note: Type 6 power distribution buses have six IEC320-C13, 200 V to 240 V ac outlets. Type 7 power distribution buses have nine IEC320-C13, 200 V to 240 V ac outlets and two IEC320-C19, 200 V to 240 V ac outlets.

Part assembly diagrams for OpenPower models

Use this information to view diagrams of various hardware part assemblies for OpenPower systems.

The part assembly diagrams contain mechanical and connecting parts. See the following for other parts:

- For parts that have CCINs, System p Failing Function Code numbers, or OpenPower Failing Function Code numbers, see “System parts” on page 277.
- For internal signal and power cables and external cables, see “Cables” on page 375.
- For miscellaneous parts such as cable wraps or cleaning kits, see “Miscellaneous parts” on page 414.
- For Hardware Management Console (HMC) parts, see “Hardware Management Console (HMC) parts” on page 416.

For more details, see How to use this parts listing.

Note: Some part numbers listed in the part assembly diagrams may not be orderable. If you need a part that is not orderable, contact your next level of support.

Part assembly diagrams for model 51x and OpenPower 710:

Assembly diagrams.

This content covers the 9110-510, 9110-51A, and OpenPower 710 models.

Final assembly

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

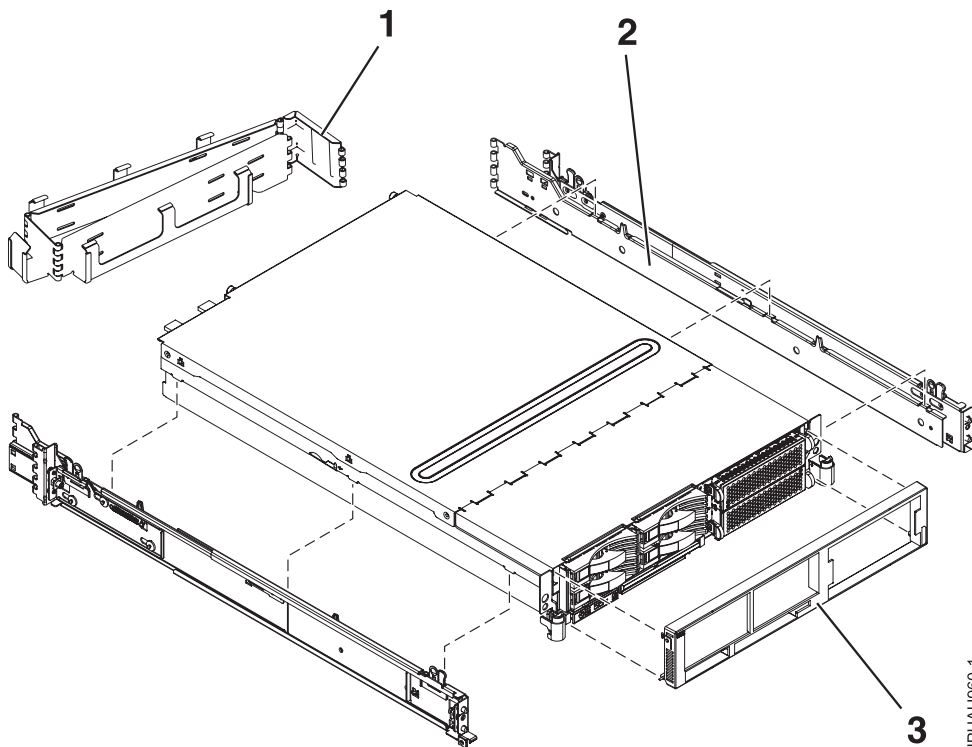
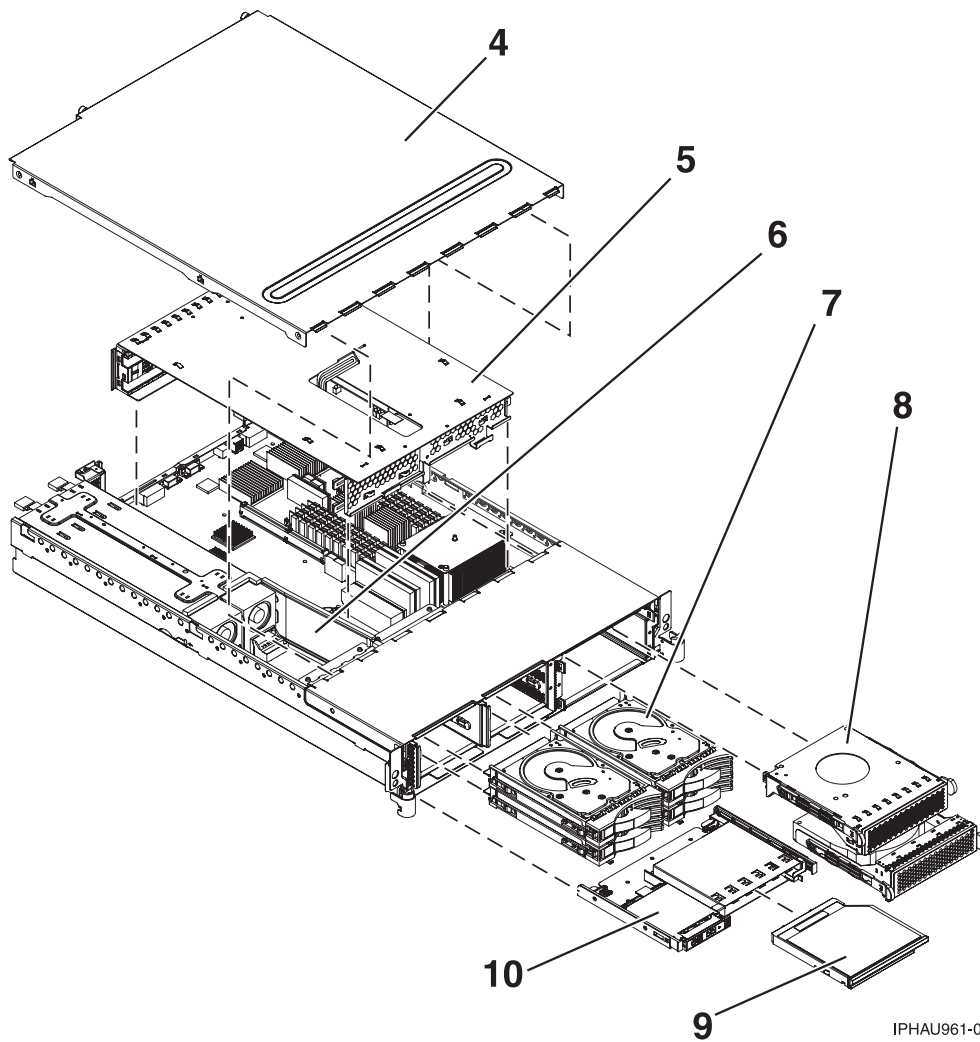


Table 127. Final assembly part numbers

Index number	Part number	Units per assembly	Description
1	NONUM	AR	Cable arm
2	39M6938* 90P4069**	1	Rail kit
3	39J0315*	1	Cover, model 510
3	97P5841*	1	Front bezel, model OpenPower 710
3	39J3381**	1	Front bezel, model 9110-51A

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement



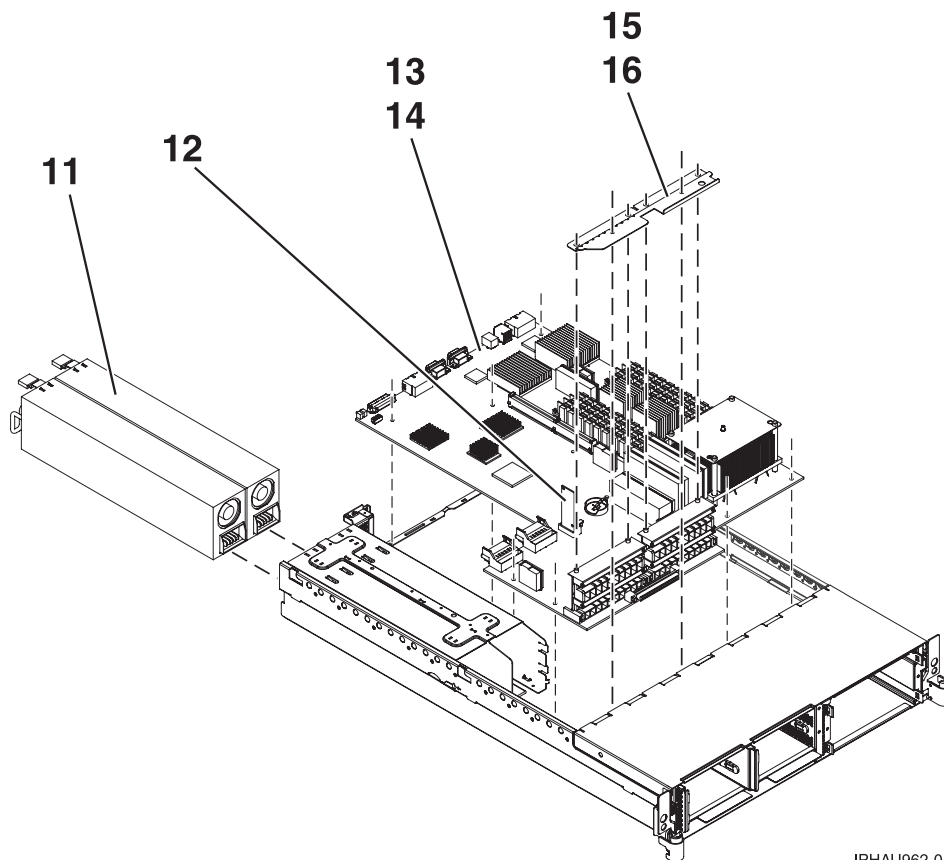
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Table 128. Final assembly part numbers

Index number	Part number	Units per assembly	Description
4	97P5817*	1	Top cover
5	See Backplane parts	1	Enclosure, PCI adapter
	See "System parts" on page 277	AR	PCI adapter
6	NONUM	1	Air dam
7	See "Disk unit parts" on page 299	AR	Disk unit
	97P4179* 53P6213**	AR	Filler, disk unit
8	97P5819*	2	Blower
	97P6840*	2	Cable, fan
9	See "Removable media device parts" on page 362	AR	Removable media
	53P5867*	AR	Filler, removable media
10	See Control panel parts	1	Control panel and removable media tray assembly

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement



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Table 129. Final assembly part numbers

Index number	Part number	Units per assembly	Description
11	See Power parts	AR	Power supply
	39J0534* 97P5843**	AR	Filler, power supply
12	See VPD parts	1	VPD card
13	See Backplane parts	1	System backplane
14	39J0199*	AR	Screw, system backplane
15	NONUM	1	Bracket, support
16	NONUM	AR	Screw, support bracket
17	40K6435*	1	Right latch
18	27F4212**	2	Latch screw
19	40K6434*	1	Left latch
	See Memory parts	AR	Memory card
	44H8167*	AR	Filler, memory card
	See Power parts		Voltage regulator, 1.3

Table 129. Final assembly part numbers (continued)

Index number	Part number	Units per assembly	Description
	See Power parts		Voltage regulator, 2.5
	See Power parts		Battery

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Part assembly diagrams for model 55x and OpenPower 720:

Assembly diagrams.

This content covers the 9406-550, 9133-55A, and OpenPower 720 models.

Final assembly

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

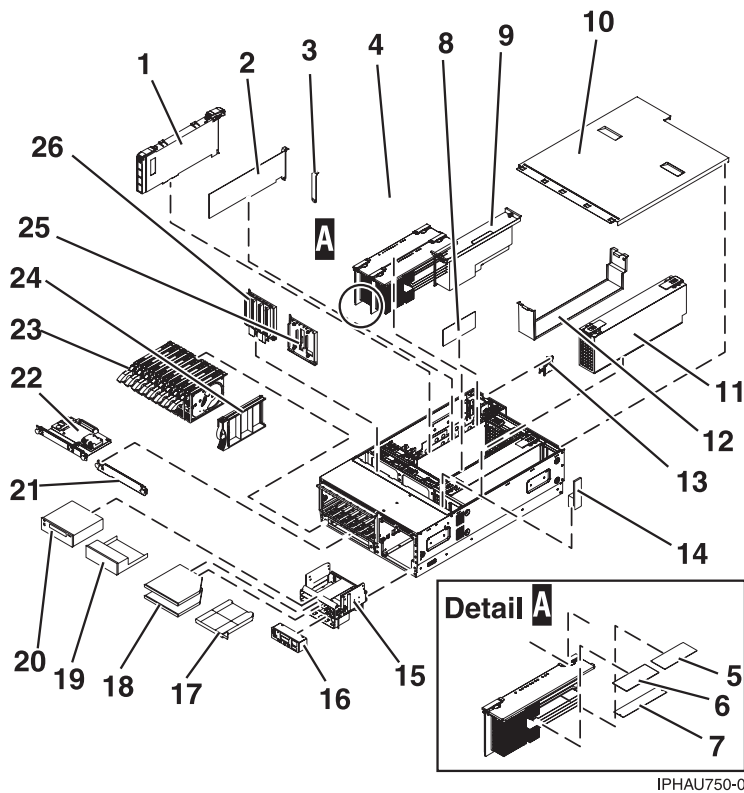


Table 130. Final assembly

Index number	Part number	Units	Description
1	See Bus parts	1	RIO/HSL adapter

Table 130. Final assembly (continued)

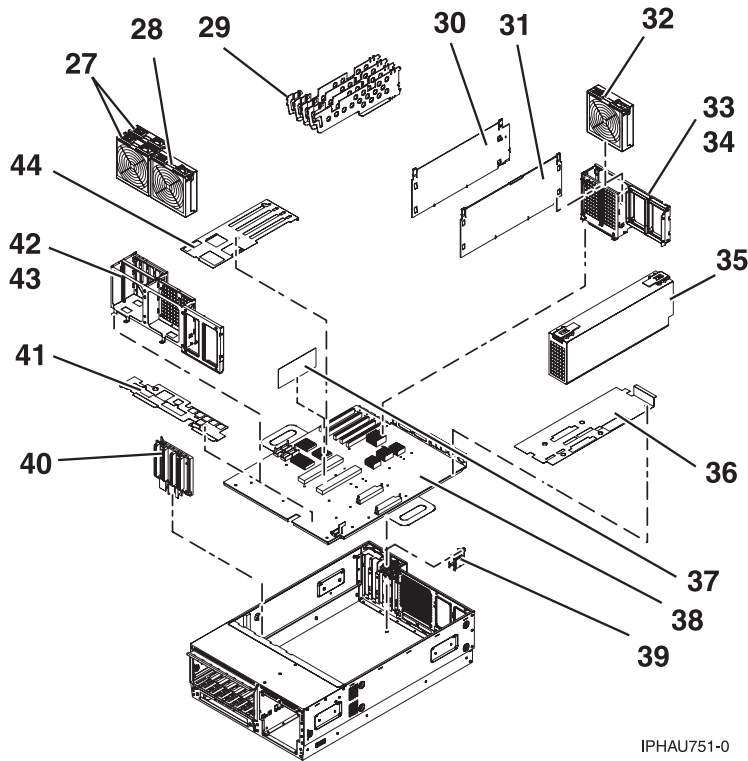
Index number	Part number	Units	Description
2	See "System parts" on page 277	AR	PCI adapter
3	01R1473* 03K8992**	AR	PCI blank
4	See Processor parts	AR	System processor
5	See Power parts	1	Voltage regulator (1.5 V)
6	See Power parts	1	Voltage regulator (2.5 V)
7	See Memory parts	AR	Memory module
	44H8167*	AR	Filler, memory module
8	See Power parts	1	Voltage regulator (1.2 V)
9	39J1228* 97P4370**	AR	System processor filler
10	39J1226* 97P4610**	1	Top cover
11	See Power parts	1	Power supply
12	39J1219* 97P4369**	1	Power supply filler
13	97P6144**	3	Retainer for PCI adapter (slots C1, C2, or C3)
	97P6794**	2	Retainer, with bracket, for PCI adapter (slots C4 or C5)
14	See VPD parts	1	VPD card
15	See Backplane parts	1	Media backplane assembly
16	See Control panel parts	1	Control panel assembly
16	71P8467**	1	Power button shield
17	53P5867*	AR	Media device filler
18	See "Removable media device parts" on page 362	AR	Media device
19	39J1002* 97H9137 **	AR	Media device filler
20	See "Removable media device parts" on page 362	AR	Media device
21	39J1004* 53P4407**	AR	RAID enablement card filler
22	See Storage parts	AR	RAID enablement card assembly
23	See "Disk unit parts" on page 299	AR	Disk unit assembly
23	05J7885**	AR	Guide rail, disk unit, comes with disk unit assembly

Table 130. Final assembly (continued)

Index number	Part number	Units	Description
24	97P4179* 53P6213**	AR	Disk unit filler assembly
25	97P5270**	AR	Disk unit backplane filler
26	See Backplane parts	AR	Disk unit backplane assembly

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement



IPHAU751-0

Table 131. Final assembly, continued

Index number	Part number	Units	Description
27	39J2389* 97P6567**	2	Fan, PCI
28	39J2390* 97P6568**	1	Fan, Processor
29	97P5894**	4	PCI adapter divider
30	NONUM	1	Processor divider
31	NONUM	1	Power supply divider
32	39J2390* 97P6568**	1	Fan, Processor
33	NONUM	1	Rear support
34	NONUM		Screw, rear support
35	See Power parts	AR	Power supply

Table 131. Final assembly, continued (continued)

Index number	Part number	Units	Description
36	NONUM	1	Power supply insulator sheet
37	See Power parts	1	Voltage regulator (1.2 V)
38	See Backplane parts	1	System backplane
39	97P6144**	3	Retainer for PCI adapter (slots C1, C2, or C3)
	97P6794**	2	Retainer, with bracket, for PCI adapter (slots C4 or C5)
40	See Backplane parts	AR	Disk unit backplane assembly
41	NONUM	1	System insulator sheet
42	NONUM	1	Front support
43	NONUM		Screw, front support
44	NONUM	1	PCI card insulator sheet

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Stand-alone cover assembly

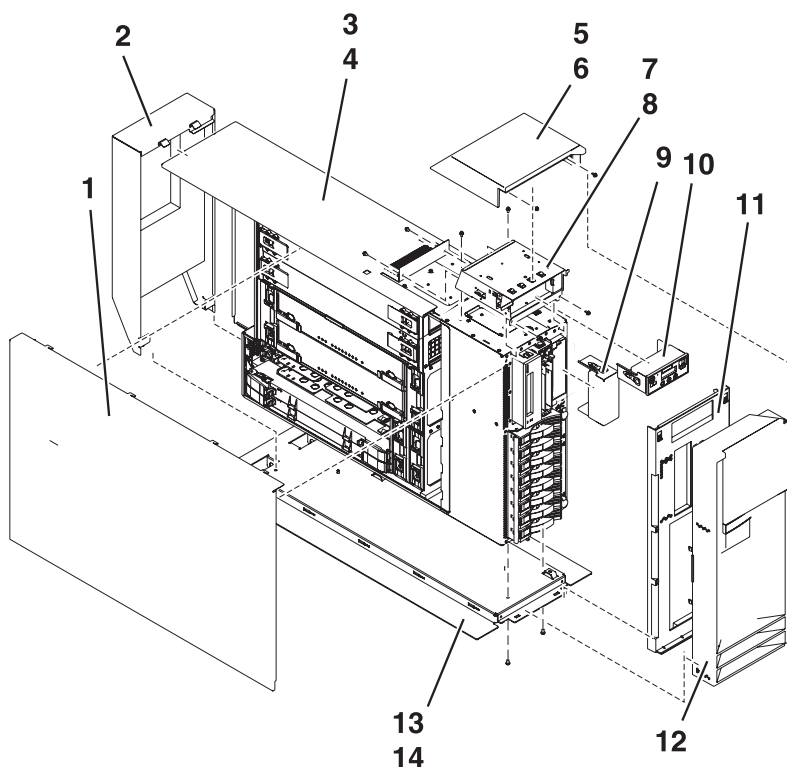


Table 132. Stand-alone cover assembly part numbers

Index number	Part number	Units	Description
1	NONUM	1	Side cover
2	97P3772*	1	Back cover

Table 132. Stand-alone cover assembly part numbers (continued)

Index number	Part number	Units	Description
3	NONUM	1	Side wrap
4	NONUM		Screw
5	97P5284* 53P6139**	1	Top cap
6	09P3744*	2	Screw
7	39J1233* 97P5912**	1	Control-panel mounting-bracket assembly
8	NONUM		Screw
9	39J5589* 97P2731**	1	Control panel filler
10	See Control panel parts	1	Control panel
	71P8467**	1	Power button shield
11	97P5907* 97P5283**	1	Front cover
12	39J2502* 97P5038**	1	Door assembly (System i)
	39J2503* 97P6148**	1	Door assembly (System p)
	39J2506**	1	Door assembly (OpenPower 720)
13	NONUM		Tip plate
14	NONUM		Screw

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Front cover and rail assembly

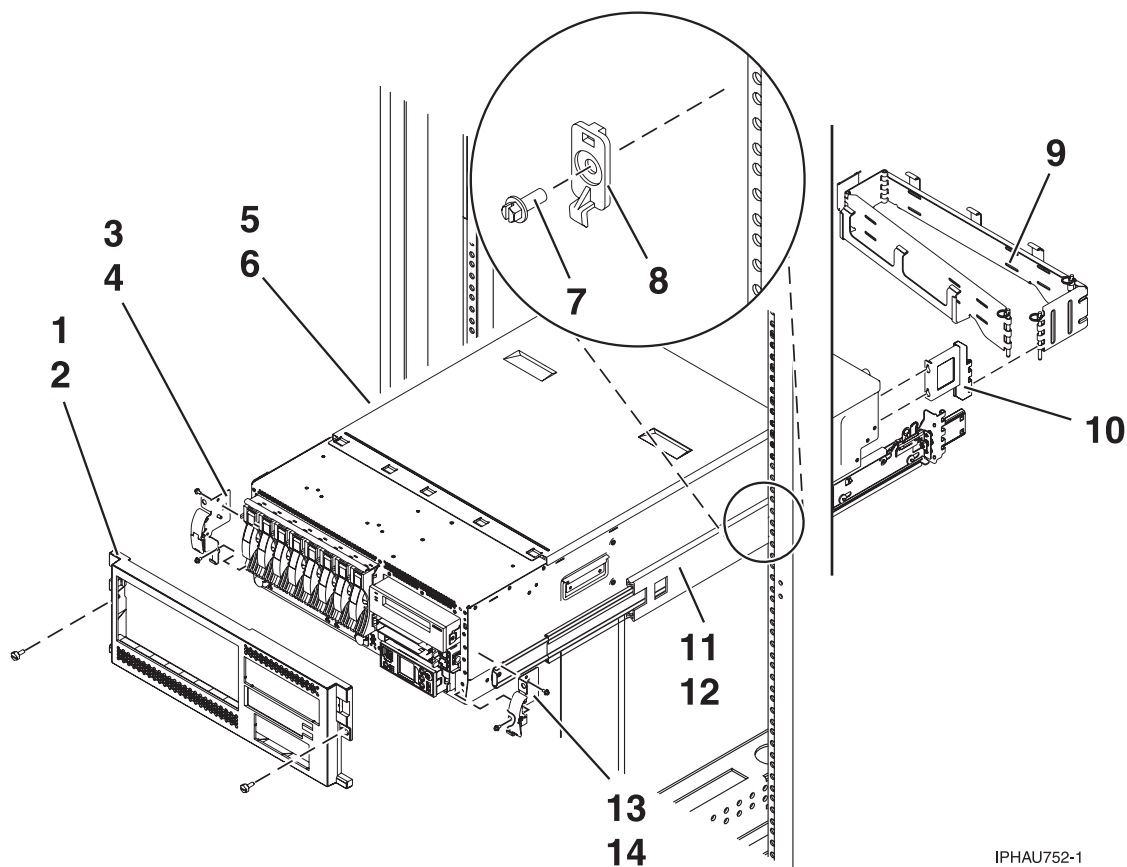


Table 133. Front cover and rail assembly part numbers

Index number	Part number	Units	Description
1	97P5037*	1	Front cover assembly IBM eServer i5
1	97P6149*	1	Front cover assembly IBM eServer p5
2	04N6587*	2	Thumbscrew, front cover mounting
3	97P5896**	1	Rack bracket - left
4	09P3744*	2	M3.5 screw
5, 6, 11, 12	97P5271* 05J7885*	1	Rail assembly
7	39J5310* 53P1463**	2	Catch rack latch
8	26H7213*	2	M5 screw
9	NONUM	1	Cable management arm assembly
10	NONUM	1	Cable management bracket
13	97P5895**	1	Rack bracket - right

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

System parts

Use this information to find part numbers for parts that have CCIN or Failing Function Code numbers.

Note: This topic contains tables that cross-reference FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

The following tables map a CCIN, hardware type, or Failing Function Code to a part number. See the following for other parts:

- For mechanical and connecting parts, see “Part assembly diagrams” on page 160.
- For internal signal and power cables and external cables, see “Cables” on page 375.
- For miscellaneous parts such as cable wraps or cleaning kits, see “Miscellaneous parts” on page 414.
- For Hardware Management Console (HMC) parts, see “Hardware Management Console (HMC) parts” on page 416.

Choose the part you want to replace:

- “Backplane parts”
- “Processor parts” on page 286
- “Bus parts” on page 290
- “Cables” on page 291
- “Control panel parts” on page 298
- “Disk unit parts” on page 299
- “Integrated xSeries parts” on page 309
- “Keyboard parts” on page 310
- “Memory parts” on page 320
- “Miscellaneous” on page 324
- “Non-storage IOA and IOP parts” on page 357
- “Power parts” on page 359
- “Removable media device parts” on page 362
- “Storage parts” on page 367
- “VPD parts” on page 370
- “OpenPower parts by failing function code” on page 373

Backplane parts

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
Model 9411-100 backplanes:				
282A		I/O drawer backplane	9411-100	80P6626* 80P4915**
Model 185 and A50 backplanes:				
5324	282, 2C4, 308	System backplane, 1-core, 2.5 GHz FFC 308 is an I/O bridge problem.	7047-185, 7037-A50	42R5210* 42R5208**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
5325	282, 2C4, 308	System backplane, 2-core, 2.5 GHz FFC 308 is an I/O bridge problem.	7047-185, 7037-A50	42R5211* 42R5209**
Model 505 backplanes:				
252C	282, 2C4, 2D3, 2D6, 308	System backplane, 2-core, 1.9 GHz	9115-505	10N6772
254A	282, 2C4, 2D3, 2D6, 308,	System backplane, 1-core, 1.65 GHz FFC 308 is an I/O bridge problem.	9115-505	03N7073* 10N7083**
254C	282, 2C4, 2D3, 2D6, 308,	System backplane, 2-core, 1.65 GHz FFC 308 is an I/O bridge problem.	9115-505	03N7082* 10N7091**
254D	282, 2C4, 2D3, 2D6, 308,	System backplane, 2-core, 1.5 GHz FFC 308 is an I/O bridge problem.	9115-505	03N7090* 10N7098**
834A	282, 2C4, 2D3, 2D6, 308	System backplane, 1-core, 1.9 GHz	9115-505	10N6762*
834B	282, 2C4, 2D3, 2D6, 308	System backplane, 2-core, 2.1 GHz	9115-505	10N6781*
834C	282, 2C4, 2D3, 2D6, 308	System backplane, 4-core, 1.65 GHz	9115-505	10N6790*
		Ultra320 SCSI RAID, SFF daughter card 1. Card 2. Battery	9115-505	1. 39J5676* 39J4610** 2. 42R5064* 39J0374**
Model 510 and 51A backplanes:				
		Ultra320 SCSI RAID, SFF daughter card 1. Card 2. Battery	9110-51A	1. 39J5676* 39J4610** 2. 42R5064* 39J0374**
261D	282, 2C4, 2D3, 2D6, 308	System backplane, 1-core, 1.5 GHz, no L3 FFC 308 is an I/O bridge problem.	9110-510	03N6254* 10N7324**
261E	282, 2C4, 2D3, 2D6, 308	System backplane, 1-core, 1.65 GHz FFC 308 is an I/O bridge problem.	9110-510	10N7313**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
261F	282, 2C4, 2D3, 2D6, 308	System backplane, 2-core, 1.65 GHz FFC 308 is an I/O bridge problem.	9110-510	10N7292**
262A	282, 2C4, 2D3, 2D6, 308	System backplane, 2-core, 1.5 GHz FFC 308 is an I/O bridge problem.	9110-510	03N6268* 10N7335**
	282, 2C4, 2D3, 2D6, 308	System backplane, 1-core, 1.9 GHz FFC 308 is an I/O bridge problem.	9110-51A	03N7217* 10N6666**
	282, 2C4, 2D3, 2D6, 308	System backplane, 0-2-core, 1.9 GHz FFC 308 is an I/O bridge problem.	9110-51A	03N7207* 10N6658**
	282, 2C4, 2D3, 2D6, 308	System backplane, 4-core, 1.5 GHz FFC 308 is an I/O bridge problem.	9110-51A	03N7197* 10N6650**
52B0	308	PCI-adaptor riser enclosure, double high FFC 308 is an I/O bridge problem.	9110-51A	03N7051* 03N6119**
52B1	308	PCI-adaptor riser enclosure, single high FFC 308 is an I/O bridge problem.	9110-51A	03N7054* 03N6122**
6B15	308	PCI adapter and riser enclosure FFC 308 is an I/O bridge problem.	9110-510, OpenPower 710	03N5849* 80P7060**
834D	282, 2C4, 2D3, 2D6, 308	System backplane, 1-core, 2.1 GHz	9110-51A	10N6624*
834F	282, 2C4, 2D3, 2D6, 308	System backplane, 0-4-core, 1.65 GHz, DDR2	9110-51A	10N6604*
		Disk unit backplanes, listed below		
		Media backplanes, listed below		
Model 515, 520, 52A, 525, and 285 backplanes:				
5228	282, 2C4, 308	System backplane, 1-core, 1.65 GHz DCM processor	9405-520, 9406-520	03N6629* 80P6966**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
5229	282, 2C4, 308	System backplane, 2-core, 1.65 GHz DCM processor	9406-520, 9111-520	03N6621* 80P6958**
522A	282, 2C4, 308	System backplane, 1-core, 1.5 GHz SCM processor	9111-520, 9405-520, 9406-520	03N6612* 80P6949**
523C	282, 2C4, 308	System backplane, 2-core, 1.5 GHz DCM processor	9111-520	03N6638* 80P6975**
53B9		2.1 GHz processor card, 2-core with 36 MB L3 cache	9111-285, 9131-52A	42R7424*
53C1		System backplane, Pilot 2-core, 1.65 GS DCM	9131-52A	44V2761*
53C2, 8325	282, 2C4, 308	System backplane, 1-core, 1.9 GHz, DDR2, SCM. Refer to required prerequisites.	9405-520, 9406-520	44V2748*
53C3, 8327	282, 2C4, 308	System backplane, 1-core, 1.9GHz, DDR2. Refer to required prerequisites.	9111-285, 9407-515, 9131-52A, 9405-520, 9406-520	44V2741*
53C4		System Backplane, 0-2-core, 1.9GHz, DDR2, DCM. Refer to required prerequisites.	9406-520	42R6413
8321	282, 2C4, 308	System backplane, 1-core, 1.65 GHzD, DDR2, SCM	9131-52A	39J4072*
8323	282, 2C4, 308	System backplane, 0-2-core 1.65 GHz, DDR2, DCM	9131-52A	39J4067*
8330	282, 2C4, 308	System backplane, 0-2-core, 1.9 GHz, DDR2, DCM	9111-285, 9131-52A, 9406-520, 9407-515, 9406-525	44V2735* 42R5846**
8333	282, 2C4, 308	System backplane, 0-4-core, 1.5 GHz, DDR2, QCM	9131-52A	39J4078*
53B7		System backplane, 4-core, 1.65 GHz	9131-52A	42R7418*
53B8		System backplane, 1-core, 2.1 GHz	9111-285, 9131-52A	42R7430*
		Disk unit backplanes, listed below		
		Media backplanes, listed below		
Model 550, 55A, OpenPower 720 backplanes:				
28A2	282, 2C4, 2D3, 2D6, 308	System backplane, includes an integrated service processor This backplane receives pluggable system processor assemblies, see "Processor parts" on page 286 below.	9406-550	03N7301* 03N5811**
28D9	282, 2C4, 2D3, 2D6, 308	System backplane This backplane receives pluggable system processor assemblies, see "Processor parts" on page 286 below.	9133-55A	32N1238* 32N1239**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
28EC	282, 2C4, 2D3, 2D6, 308	System backplane This backplane receives pluggable system processor assemblies, see "Processor parts" on page 286 below.	9113-550, 9406-550, OpenPower 720	03N7294* 03N4987** 03N6954**
		Disk unit backplanes, listed below		
		Media backplanes, listed below		
Model 561 and 570 backplanes:				
25F8		Passthru card	9116-561, 9406-570, 9117-570	39J0780* 97P4214**
27AE	282, 2C4, 308	System backplane This backplane receives pluggable system processor assemblies, see "Processor parts" on page 286 below.	9116-561, 9117-570, 9406-570	10N7272* 03N4920**
28DA	221, 227, 2C8, 292	I/O backplane	9116-561, 9117-570, 9406-570	42R5104* 39J3748**
7733	221, 227, 2C8, 292	I/O backplane (used only with 2.2 GHz processor)	9406-570	42R5113* 42R4779**
		Disk unit backplanes, listed below		
		Media backplanes, listed below		
Model 575 backplanes:				
260D	282, 2C4, 308	System processor backplane, 1.9 GHz	9118-575	03N7251* 03N5905**
28F0	221, 227, 28C, 292	I/O backplane assembly	9118-575	03N6819* 03N7185**
7657	282, 2C4, 308	16-core 1.5 GHz DCM processor (GR) L3, system planar (0-16-core includes 16 activations) FFC 308 is an I/O bridge problem.	9118-575	03N7119* 03N6747**
Model 590 and 595 backplanes:				
28E0	282, 2C4, 308	Processor book (also referred to as a node backplane). The lift tool (09P2481) is required for installation.	9406-595, 9119-590, 9119-595	12R6528**
28E1	282, 2C4, 308	System unit backplane (where processor books are plugged)	9406-595, 9119-590, 9119-595	41V1642* 12R8747**
528C	282, 2C4, 308	Processor book, 16-core, capacity backup (also referred to as a node backplane). The lift tool (09P2481) is required for installation.	9119-590 9119-595, 9406-595	60H2319* 12R8762**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
8973		1.9G Hz CUoD processor card	9406-595	60H2592*
		8-16 CUoD processor book, 1.65 GHz (GR), 36 MB L3/2W, 16 memory/8 GX slots	9119-590, 9119-595, 9406-595	60H2322* 12R8635**
		Disk unit backplanes, listed below		
		Media backplanes, listed below		
Model OpenPower 710 backplanes:				
261B	282, 2C4, 2D3, 2D6, 308	System backplane, 1-core, 1.65 GHz	OpenPower 710	10N7302**
261C	282, 2C4, 2D3, 2D6, 308	System backplane, 2-core 1.65 GHz	OpenPower 710	10N7282**
		Disk unit backplanes, listed below		
		Media backplanes, listed below		
Model 7311-D10, 7311-D11, and 5790 backplanes:				
28C3	2C8, 2C9, 2D2, 2D9, 2E0, 2E1, 2E2, 2E6, 221, 227, 28C, 292, 307	I/O drawer backplane	7311-D10, 7311-D11	80P6626* 80P4915**
282A		I/O drawer backplane	5790	80P6626* 80P4915**
28BB	221, 227, 28C, 292	I/O drawer backplane	7311-D11	23R0181* 22R6222**
Model 7311-D20 backplanes:				
	EC8, 2C9, 2D2, 2D9, 2E0, 2E1, 2E2, 2E6, 221, 227, 28C, 292, 307	I/O drawer backplane	7311-D20	39J0515* 53P3472**
		Disk unit backplanes, listed below		
		Media backplanes, listed below		
Model 7031-D24, 7031-T24, 5786, and 5787 backplanes:				
506D		SCSI repeater card assembly, dual	5786, 5787, 7031-D24, 7031-T24	12R9040* 12R7475**
506E		SCSI repeater card assembly, single	5786, 5787, 7031-D24, 7031-T24	12R9042* 12R7477**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		The disk drive backplane is part of the chassis assembly FRU, see "Part assembly diagrams for 5786, 5787, 7031-D24, and 7031-T24 expansion units" on page 236.		
Model 5074, 5079, 8093-002 backplanes:				
283C		Device backplane (DB3)	5074, 5079, 8093-002	42R3859* 53P4001**
Model 5074, 5079, 8079-002 backplanes:				
28AB		I/O backplane	5074, 5079, 8079-002	97H7307**
Model 5094, 5294, 5096, 5296, 8094-002, 8294 backplanes:				
28B7		I/O backplane	5094, 5294, 5096, 5296, 8094-002, 8294, 9194	39J3058* 53P6023**
Model 5088, 0588 backplanes:				
28B8		I/O backplane	5088, 0588	53P6026**
Model 5095 and 0595 backplanes:				
28B9		Ultra320 SCSI disk drive 6-pack backplane. (An Ultra320 SCSI PCI adapter is required to connect to the backplane.)	5095, 0595	39J1695* 97P3138**
28BE		I/O backplane	5095	39J0515* 53P3472**
Model 5791, 5794 backplanes:				
28C6		I/O backplane	5791, 5794	41V1231* 16R0001**
Model 5094, 5294, 8093-001, 8294 backplanes:				
28CB		Device backplane (DB3)	5094, 5294, 8093-001, 8294	42R3859* 53P4001**
Depopulated disk-drive backplane (5096, 5296 only)				
		Depopulated disk drive backplane	5096, 5296 Note: Media and populated disk-drive backplanes are not applicable to these two models.	42R7218*
Disk drive backplanes [sometimes referred to as SCSI Enclosure Service (SES) backplane]:				
28D2	199	Ultra320 SCSI disk drive 4-pack backplane	9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9407-515, 9406-525, OpenPower 720	32N1203* 80P4610**
28DB	199	Ultra320 SCSI disk drive 6-pack backplane	9116-561, 9117-570, 9406-570	03N4801* 80P4812**
28DF	199	Ultra320 SCSI disk drive 4-pack backplane for mirroring. (An Ultra320 SCSI PCI adapter card is required to connect this backplane.)	9405-520, 9406-520, 9406-525	80P3561**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
28F5	199	Ultra320 SCSI disk drive 4-pack backplane for external SCSI port. (This feature enables external SCSI devices to connect to internal SCSI controller channels.)	9111-285, 9131-52A, 9405-520, 9406-520, 9111-520	03N5875* 80P6429**
28F6	199	Ultra320 SCSI disk drive 4-pack backplane	9131-52A, 9133-55A, 9406-550, 9113-550, OpenPower 720	32N1201* 80P4770**
28F7	199	Use CCIN 292E		
292C	199	Ultra320 SCSI disk drive 4-pack backplane for external SCSI port. (This feature enables external SCSI devices to connect to internal SCSI controller channels.)	9113-550, 9133-55A, 9406-550, OpenPower 720	03N5876* 80P5393**
292D	199	Disk unit backplane (an Ultra320 SCSI disk drive 4-pack backplane for mirroring. (An Ultra320 SCSI PCI adapter card is required to connect this backplane.)	9111-520, 9131-52A, 9405-520, 9406-520, 9406-525, 9407-515	03N5878* 80P5002**
292E	199	Ultra320 SCSI disk drive 4-pack backplane for mirroring. (An Ultra320 SCSI PCI adapter card is required to connect this backplane.)	9133-55A, 9406-550, 9113-550, OpenPower 720	03N5880* 80P5105**
28B9	199	Ultra320 SCSI disk drive 6-pack backplane. (An Ultra320 SCSI PCI adapter is required to connect to the backplane.)	9405-520, 9406-520, 7311-D10, 7311-D20	39J1695* 97P3138**
28CC	199	Disk drive backplane	5094, 9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	42R3798* 53P4002**
Media backplanes:				
28D1		Media backplane	9111-285, 9111-520, 9113-550, 9131-52A, 9133-55A, OpenPower 720	03N6005* 39J2523**
28DC		Media backplane	9116-561, 9117-570, 9406-570	03N4808* 80P4556**
291E		Media backplane, SCSI	9405-520, 9406-550, 9406-520, 9407-515, 9406-525	03N6004* 80P4179**
Failing function codes (FFC)				
The following entries are listed according to the FFC. Follow the links or use the preceding tables for FRU part numbers for on your server.				

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	227	ISA/PCI bus logic problem (System backplane or I/O backplane if present)	Select the appropriate server for the unit on which you are working: <ul style="list-style-type: none"> • Model 185, and A50 backplanes • Model 505 backplanes • Model 510 and 51A backplanes • Model 515, 520, 52A, 525, and 285 backplanes • Model 550, 55A, and OpenPower 720 backplanes • Model 561 and 570 backplanes • Model 575 backplanes • Model 590 and 595 backplanes • Model OpenPower 710 backplanes • Model 7311-D10, 7311-D11, and 5790 backplanes • Model 7311-D20 backplanes 	
	2C4	System bus connector problem (system backplane), see the preceding "Backplane parts" on page 277 tables for the unit on which you are working. For internal signal and power cables and external cables, see "Cables" on page 375.	515, 520, 525, 550, 570	
	2C8	Mezzanine bus problem (internal signal or power cables, system backplane, or I/O backplane). For internal signal and power cables and external cables, see "Cables" on page 375. See the preceding "Backplane parts" on page 277 tables for the unit on which you are working.	515, 520, 525, 550, 570	
	2C9	PCI bus problem (I/O backplane or system backplane), see the preceding "Backplane parts" on page 277 tables for the unit on which you are working.	520, 550, 570	
	2D1	ISA bus problem (I/O backplane or system backplane), see the preceding "Backplane parts" on page 277 tables for the unit on which you are working.	515, 520, 525, 550, 570	

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	2D2	Mezzanine bus arbiter problem (I/O backplane), see the preceding "Backplane parts" on page 277 tables for the unit on which you are working.	515, 520, 525, 550, 570	
	2D9	Power controller problem (I/O backplane), see the preceding "Backplane parts" on page 277 tables for the unit on which you are working.	515, 520, 525, 550, 570	
	2E0	Fan sensor problem (I/O backplane). See the preceding tables for the server or expansion unit on which you are working.	515, 520, 525, 550, 570	
	2E1	Thermal sensor problem (system backplane). See the preceding tables for the server or expansion unit on which you are working.	515, 520, 525, 550, 570	
	2E2	Voltage sensor problem (system backplane). See the preceding tables for the server or expansion unit on which you are working.	515, 520, 525, 550, 570	
	307	Expansion unit logic problem (I/O backplane). See the preceding tables for the server or expansion unit on which you are working.	515, 520, 525, 550, 570	
	814, 825	NIO planar	9076/POWER3 SMP High Node	11K0571**

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Processor parts

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Processors	A50, 185, 285, 505, 510, 515, 51A, 52A, 520, 525, OpenPower 710	Replace the system backplane (see Backplane parts)
26D9	282, 2C4, 308	1.9 GHz, DDR1 CUoD processor card, 0-2-core	9117-570	03N5804* 80P7082**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
26DA	282, 2C4, 308	1.9 GHz DDR2 CUoD processor card, 0-2-core	9117-570	03N5820* 03N4518**
26EA	282, 2C4, 308	1.65 GHz DDR1 CUoD processor card, 0-2-core	9406-570	80P4993**
26EB	282, 2C4, 308	1.9 GHz DDR1 CUoD processor card, 0-2-core, low voltage	9117-570	03N5803* 80P7081**
26EF	282, 2C4, 308	1.5 GHz DDR1 processor card, 2-core	9117-570	03N5801* 80P7079**
26F0	282, 2C4, 308	1.5 GHz processor card, 1-core	OpenPower 720	10N6458* 80P5737**
26F1	282, 2C4, 308	1.65 GHz processor card, 2-core	OpenPower 720	10N6843*
26F2	282, 2C4, 308	1.65 GHz DDR1 CUoD processor card, 0-2-core	9117-570, 9406-570	03N5802* 80P7080**
28D7	2D3, 2D6	Service processor card	9405-520 and 9406-520 with integrated HSL ports, 9111-520	32N1303*
28DE	2D3, 2D6	Service processor card	9119-590, 9119-595, 9406-595	60H2214* 60H1931**
28E4		Oscillator card	9119-590, 9119-595	39J2750* 39J0188**
28E6		Multiplexer (MUX) card	9119-590, 9119-595	41U0371* 12R8801**
28EA	2D3, 2D6	Service processor card	9116-561, 9406-570, 9117-570	10N8505*
291A		Light panel assembly, front	9119-595, 9406-595	41V0964* 12R6765**
291B		Light panel assembly, back	9119-595, 9406-595	41V0965* 12R6766**
293A	2D3, 2D6	Service processor card	9111-285, 9407-515, 9406-525 also 9131-52A, 9405-520, and 9406-520 with HSL ports located on FSP card	03N5830* 80P6787**
29AB	282, 2C4, 308	1.9 GHz, DDR2 CUoD processor card, 0-2-core, low voltage	9117-570	03N5819* 03N4514**
834E	282, 2C4, 2D3, 2D6, 308	2.1 GHz, processor card, 0-2-core	9110-51A	10N6614*
5237	282, 2C4, 308	1.65 GHz processor card, 2-core	9406-550, 9113-550	10N6456* 80P5719**
523A		1.5 GHz processor card, 1-core	9113-550	10N6837* 80P5734**
523B		1.5 GHz processor card, 0-2-core	9113-550	10N6454* 80P5540**
		1.9 GHz processor card, 0-16-core, MCM kit	9119-595	60H2388* 12R7669**
52A4		1.65 GHz processor card, 0-16-core, MCM kit	9119-590, 9119-595, 9406-595	60H2387* 12R7074**
523A	282, 2C4, 308	1.5 GHz processor card, 1-core	9113-550	10N6837* 80P5734**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
523B	282, 2C4, 308	1.5 GHz DDR1 processor card, 2-core	9113-550	10N6454* 80P5540**
523D	282, 2C4, 308	1.5 GHz processor card, 2-core, MCM kit	OpenPower 720	10N6461* 80P6315**
53BC		1.8 GHz processor card, 4-core	9116-561	10N8009*
53BD	282, 2C4, 308	2.1 GHz processor card, 0-16-core, MCM kit	9119-590, 9119-595	60H2598*
53BE	282, 2C4, 308	2.3 GHz processor card, 0-16-core, MCM kit	9119-595	60H2602*
53C7	282, 2C4, 308	1.5 GHz DDR2 CUoD processor card, 4-core. Feature code 7781. Refer to required prerequisites.	9116-561	10N8007*
53C8	282, 2C4, 308	1.9 GHz, DDR2 CUoD processor card, 0-2-core. Feature code 7782. Refer to required prerequisites.	9117-570	10N8011
53C9	282, 2C4, 308	2.2 GHz DDR2 CUoD processor card, 0-2-core. Feature code 8338. Refer to required prerequisites.	9406-570, 9117-570	10N8013*
53BB	282, 2C4, 308	2.1 GHz CUoD processor card, 2-core	9133-55A	10N8125*
53BA	282, 2C4, 308	1.65 GHz CUoD processor card, 4-core	9133-55A	10N8123*
7781	282, 2C4, 308	1.5 GHz DDR2 CUoD processor card, 4-core	9116-561	42R5241*
7782	282, 2C4, 308	1.9 GHz, DDR2 CUoD processor card, 0-2-core. Feature code 7782. Refer to required prerequisites.	9117-570	42R5232* 39J4649**
831A	282, 2C4, 308	1.65 GHz DDR2 CUoD processor card, 0-2-core	9133-55A	10N6463* 03N6734**
8312	282, 2C4, 308	1.9 GHz DDR2 CUoD processor card, 2-core.	9133-55A, 9406-550	10N6466* 03N6737**
8313	282, 2C4, 308	1.5 GHz DDR2 CUoD processor card, 0-4-core	9133-55A	10N6469* 03N6951** 03N6740**
8338	282, 2C4, 308	2.2 GHz DDR2 CUoD processor card, 0-2-core. Feature code 8338. Refer to required prerequisites.	9406-570, 9117-570	39J4646*
	185	X.25 interface coprocessor adapter		71G6458**
	186	Coprocessor multiport adapter, model 2 daughter card 1 MB memory module		11K1165** 84F7540** 53F2662**
	210	Fixed point processor problem (system board, processor card)	515, 520, 550, 525, 570	
	2E8	Processor card	515, 520, 525, 570	

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	67B	PCI cryptographic coprocessor card	9405-520, 9406-520, 9406-550, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D20, 9411-100	41U0063**
	780	X.25 interface coprocessor adapter		71G6458**
	781	Coprocessor multiport adapter, model 2 Ddaughter coprocessor multiport adapter, model 2 (Bbase) Note: Replace the daughter card before replacing the base card.		84F7540** 11K1165**
	811	Processor complex being identified.		
	814	Service processor card problem Note: Unless listed, refer to FFC 221 for type/model and FRU information.		
	815	Floating point processor problem Note: For type/model and FRU information refer to FFC 210.		
	820	Interprocessor related testing problem Note: For type/model and FRU information, if not listed here, refer to FFC 221.		
	B69	Coprocessor multiport adapter, model 2 (0 MB)		11K1165**
	2521	Processor subsystem chassis (with backplane and DASD ribbon cable)		12R8039**
		1.9 GHz CUoD processor module, 0-8-core	9119-595	60H2389* 40N1251**
		1.9 GHz processor card, 16-core, 288 MB L3 cache	9118-575	03N7071* 03N6930**
		2.2 GHz processor card, 8-core, GS	9118-575	03N7070* 03N6924**
		1.65 GHz processor card, 1-core	9115-505	03N6733* 03N6759**
		1.65 GHz processor card, 1-core with 36 MB L3 cache	OpenPower 710	10N7302**
		1.65 GHz processor card, 2-core with 36 MB L3 cache	OpenPower 710	10N7282**
		1.65 GHz CUoD processor card	9119-590, 9119-595, 9406-595	60H2320* 12R8633**
		1.9 GHz CUoD processor card	9119-590, 9119-595, 9406-595	60H2390* 12R8637**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		PCI Crypto coprocessor	9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D20	10J0357**
		PCI Crypto coprocessor	9405-520, 9406-520, 9406-550, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D20, 9411-100	41U0063**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Bus parts

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
1800		RIO/HSL card (copper)	9406-570, 9117-570	39J0792* 97P6219**
1801		RIO/HSL card (optical)	570	39J4894* 97P6878**
1806		RIO/HSL card (copper)	9133-55A, 9406-550, 9113-550, OpenPower 720	03N6658* 39J2571**
1807		RIO/HSL card (optical)	9406-550	42R4660* 80P5482**
2691		HSL I/O bridge	5094, 9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9406-525	04N6907**
2739		Optical bus adapter	5074, 5079, 5078, 0578	53P1405**
2886		Bus adapter with two external ports (optical)	9406-550, 9406-570, 9406-595	39J0669*
2887		RIO/HSL card (bus adapter with two external ports)	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 7311-D20, 9411-100, 9406-525	39J0527* 97P2670**
2888		HSL card	9131-52A, also 9405-520 and 9406-520 with HSL ports located on HSL card, 9406-525	39J2923* 39J1099**
28D8		RIO/HSL card	9119-590, 9119-595, 9406-595	10N7269* 03N5447**
28EE		Switch interface adapter	9119-590, 9119-595	12R9350* 12R9013**
28E7		RIO/HSL-2 card. Provides connectivity for 0595, 5094, 5095, 5294, and 82948294 PCI expansion towers and expansion units.	7311-D20, 9407-515, 9406-525	39J0523* 97P2459**
28EB		RIO/HSL card (optical)	9406-595	80P4737**
28FF		RIO/HSL card	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 7311-D10, 7311-D11, 9406-525	03N5633* 80P6006**
		InfiniBand adapter	9119-590, 9119-595	60H1866*
		GX dual-port 12x host channel adapter card	9119-590, 9119-595	60H2304*
		Optical card	9406-595	03N6917*

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Blind swap adapter bracket kit	9116-561, 9406-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	10N8994**

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** Not designed to comply with RoHS requirement

Cables

For additional internal signal and power cables and external cables, see “Cables” on page 375.

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
1307		2 (1.75 meters) (1307, 3156)	9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9406-570, 9117-570, 9406-595, 9411-100, 9406-525	03N5867* 00P5238**
1308		2.5 meter (8') HSL-2 cable (1308, 3168)	9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9406-570, 9117-570, 9118-575, 9406-595, 9411-100, 9406-525	03N5866* 00P5239**
	190	Internal disk signal cable	9406-520, 9111-520, 9406-550, 9113-550, 9406-570, 9117-570, 9406-595, 9119-595, 9406-525	21P7063**
	251	Cables, parallel printer		8529214** 8185219**
	252	Standard 9-pin to 25-pin converter cable	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9406-595, OpenPower 710, OpenPower 720, 9406-525	23R4632* 40H6328**
	253	Cable, multiprotocol, EIA-422A, (customer-provided)		
	254	Cable, 4-port multiprotocol EIA-232, V.24		71F0165**
	256	Cable, token-ring, 10 ft. (3.04 m)		6339098**
	257	Cable, 4-port multiprotocol, V.35		71F0162**
	258	4-port multiprotocol cable		53F2622**
	259	Cable, async EIA-232D, V.24	9406-525	42R5206* 6323741**
	260	Cable, 4-port multiprotocol, X.21		71F0164**
	262	8-port multiport interface cable		09F1801**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	263	Terminal printer cable, EIA-232	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20, 9406-525	10N6535* 12H1204**
	266	RJ-45 to DB-25 converter cable		59F3432**
	267	Cable assembly, 4-port multiprotocol jumper		81F8570**
	271	Cable, X.25 attachment cable, X.21 (3 m) cable, X.25 attachment cable, X.21 (6 m)		07F3151** 53F3926**
	272	Cable, X.25 attachment cable, V.24 (3 m) cable, X.25 attachment cable, V.24 (6 m)		07F3161** 53F3927**
	273	Cable, X.25 attachment cable, V.35 (3 m) cable, X.25 attachment cable, V.35 (6 m)		07F3170** 53F3928**
	276	Cable, SCSI controller cable		31F4221**
	277	Internal SCSI signal cable problem	515, 520, 525, 550, 570	
	2C3	2-Port multiprotocol adapter cable V.24 2-Port multiprotocol adapter cable V.35 2-Port multiprotocol adapter cable V.36 2-Port multiprotocol adapter cable X.21	9406-525	93H5263** 93H5264** 93H5265** 93H5267**
	306	RIO I/O cable	515, 520, 525, 550, 570	
	736	Quiet touch keyboard and speaker cable Note: The part number is printed on the underside of the keyboard.		
	922	Keyboard cable		1394609**
	B54	128-port async controller cable, 0.2m (9 in.) 128-port async controller cable, 4.6m (15 ft.)	9406-525	43G0936** 43G0937**
	B81	Coprocessor multiport interface cable		53F2622**
	B82	Coprocessor multiport V.35 cable		71F0162**
	B83	Coprocessor multiport X.21 cable		71F0164**
	C22	RJ-45 to DB-25 converter cable kit		94H0779**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	C24	Fiber optic cables for PCI Fibre Channel adapter (6.7 m and 12.8 m)		54G3384**
	C36	Attachment adapter cable		65G4892**
	C44	VOO/RSS crossover cable		65G4894**
	C98	IBM ARTIC960 4-port selectable EIA-232 cable IBM ARTIC960 4-port selectable RS-449 cable IBM ARTIC960 4-port selectable X.21 cable IBM ARTIC960 4-port selectable V.35 cable IBM ARTIC960 4-port selectable EIA-530 cable IBM ARTIC960 4-port T1 RJ-45 cable IBM ARTIC960 4-port E1 RJ-45 cable Note: A wrap plug is shipped with each adapter and cable.	9406-525	87H3405* 87H3404** 87H3396** 87H3408* 87H3407** 87H3399* 87H3398** 87H3402** 87H3518** 87H3515**
	D46	Token-ring 9-pin D-shell cable, 3m (10 ft.)		6339098**
	D46	Token-ring RJ-45 STP cable, 3m (10 ft.) Note: Not used with the high-speed token-ring PCI adapter		60G1063**
	D46	Standard UTP RJ-45 cable		OEM cable
	D56	EIA-232E printer/terminal serial cable	9406-525	10N6535* 12H1204**
	D57	8-Port multiport interface cable ISA async adapter	9406-525	07L9822**
	E22	Video cable (generic)		
	E23	Audio cable (generic)		
	2D00	Cable, DASD 50 pins DASD backplane		09P5895** 00P2983**
		Operator panel cable	7037-A50, 7047-185	39J4135*
		Analog monitor cable, 17"	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9406-525	30R5047**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Analog monitor cable, 15"	7037-A50, 7047-185, 9111-285, 9115-505, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9406-595, OpenPower 710, OpenPower 720, 9406-525	40K5344*
		IDE cable	7037-A50, 7047-185	39J4137**
		Controller cable	7037-A50, 7047-185	42R4142* 39J4136**
		Converter cable, VHDCI to P, mini 68 pin to 68 pin	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9406-595, OpenPower 710, OpenPower 720, 9406-525	01K6497**
		Cable (fiber), LC(M)/SC(F) 62.5 micron converter, 2 M	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9406-595, OpenPower 710, OpenPower 720, 9406-525	01K6497**
		Digital cable, 6736-HB0 and 9180 monitors	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9406-595, OpenPower 710, OpenPower 720, 9406-525	31P9266**
		Digital monitor cable	7037-A50, 7047-185, 9111-285, 9115-505, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9406-595, OpenPower 710, OpenPower 720, 9406-525	40K5345*
		Analog video cable	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 9118-575, OpenPower 710, OpenPower 720	73P3895**
		6' 15 pin to 15 pin extension cable for displays	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9406-595, OpenPower 710, OpenPower 720	07L9633* 42R4755**
		IDE cable, 2 drop, IDE controller on planar to media bays	7037-A50, 7047-185	39J4137**
		2 meter disk drive extension cable	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9406-595, OpenPower 710, OpenPower 720	10N7374* 00P2969**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Analog video cable for 17" monitor	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9131-52A, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 9118-575, OpenPower 710, OpenPower 720	31P9590**
		SCSI controller cable	7037-A50, 7047-185	42R4142* 39J4136**
		Ethernet cable	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	41V0143* 05N5292**
		Cable, AMD1	9119-595	41V0824* 12R6379**
		Cable, AMD3	9119-595	41V0827* 12R6382**
		Cable, AMD3	9119-595	41V0828* 12R6383**
		Ethernet cable, 25 ft.	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	41V0479* 16R0449**
		VHDM Cable, 10 meters	9118-575	41U0278* 16R0575**
		Cable	9119-590, 9119-595, 9406-595	41V0835* 44P3917**
		10 meter HSL cable	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	39J2551* 53P5245**
		SCSI cable	9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, OpenPower 720, 9406-525	42R4051* 39J0006**
		Modem cable	7037-A50, 9111-285, 9115-505, 9110-510, 9110-51A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9116-561, 9117-570, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9411-100, 9406-525	10N7458* 80G0597**
		36-pin operations console cable	9405-520, 9406-520, 9406-550, 9406-595, 9411-100, 9407-515, 9406-525	39J5835* 97H7557**
		SCSI cable	9133-55A, 9406-550, 9113-550, OpenPower 720	39J5847* 97P4962**
		3 meter RIO/RIOG cable	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	39J2552* 53P5243**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		6' 15 pin to 15 pin extension cable for displays	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20, 9406-525	42R4755* 07L9633**
		H.100 SCSI cable	9405-520, 9406-520, 9111-520, 9406-550, 9113-550, 9116-561, 9406-595, 7311-D10, 7311-D11, 7311-D20, 9406-525	42R4756* 08L1215**
		3.7 meter modem cable	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, OpenPower 710, OpenPower 720, 7311-D11, 7311-D20	10N7712*
		10 meter modem cable	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 9118-575, 9119-590, 9119-595, OpenPower 710, OpenPower 720, 7311-D11, 7311-D20	10N7713*
2124		1 meter SCSI cable, VHDCI to VHDCI	9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	41Y0596*
2125		3 meter SCSI cable, VHDCI to VHDCI	9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	41Y0597*
2126		5 meter SCSI cable, VHDCI to VHDCI	9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	41Y0598*
2127		10 meter SCSI cable, VHDCI to VHDCI	9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	41Y0599*
2128		20 meter SCSI cable, VHDCI to VHDCI	9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	41Y0600*
2138		.55 meter SCSI cable	9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	41Y0601*
		1.5 meter SCSI cable, VHDCI-HD68	9119-590, 9119-595, 9406-595	15R7146*
		V.35 cable for SDLC/X.25 dual port adapter	9111-285, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 9406-525	52G3379**
		3 meter (10') ARTIC960RxD Quad DTA, E1, 120 Ohm balanced, 4 port cable	9131-52A, 9111-520, 9133-55A, 9113-550, 7311-D20	87H3791**
		3 meter (10') ARTIC960RxD Quad DTA, T1, 100 Ohm, 4 port cable	9131-52A, 9133-55A, 7311-D11	87H3793**
		6 meter (20') SPCN cable (1464, 6008)	9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9406-595, 7311-D10, 7311-D11, 7311-D20, 9411-100, 9406-525	22R5219* 21F9469**
		Cable, mouse, keyboard extension	9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	39J5831* 44H8677**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Video extension cable	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	39J5821* 44H8676**
		8 position H.100 bus cable	9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 7311-D10, 7311-D11, 9406-525	03N3493**
		Analog cable	9111-285, 9131-52A, 9111-520, 9118-575, 9119-590, 9119-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20	31P7515**
		Operator panel cable	9115-505	39J3681*
		Operator panel cable	9406-520, 9406-595, 9411-100	04N6113* 97H7473**
		Digital video cable for flat panel monitors	7047-185, 9111-285, 9110-510, 9110-51A, 9131-52A, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 9118-575, 9119-590, 9119-595, OpenPower 720, 7311-D10, 7311-D11, 7311-D20	73P3896**
		High withdrawal force power cord, Japan	9405-520, 9406-520, 9406-525	25R2569**
		High withdrawal force power cord	9405-520, 9406-520, 9406-525	25R2568**
		Miscellaneous power cable	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	03N3040**
		Cable	9119-590, 9119-595, 9406-595	41V1215* 41V1100**
		SCSI cable	9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	21P7062**
		Differential SCSI Y-cable	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9406-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20, 9406-525	39J3889* 61G8324**
		Differential SCSI Y-cable	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 9406-525	43G0926**
		4.3 meter (12') power cord, 200 V, 30 A, Australia	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	41V2002* 11F0106**
		4.3 meter (14') locking power cord, 200 V	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	41V2003* 11F0113**
		2 meter (6') locking power cord, 200 V	9406-520, 9406-550, 9406-570, 9406-595, 9411-100	41V2004* 11F0114**
		Fan cable assembly	9405-520, 9406-520, 9406-550, 9406-570, 9119-595, 9411-100, 9406-525	53P2618**
		Cable clamp	7037-A50, 7047-185	10L6929**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Cable clamp	9118-575, 9119-590, 9119-595	11P4606*
		Cable tie	9119-590, 9119-595, 7311-D10, 7311-D11, 7311-D20	0524519**
		Cable bracket for I/O expansion unit	9119-590, 9119-595	11P2344*
		Cable bracket for I/O expansion unit	9118-575	12R8421*
		Cable clamp, adhesive backed	9405-520, 9406-550, 9406-570, 9406-595, 9411-100, 9407-515, 9406-525	93H4574*
		Cable clamp, 19 mm	9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9113-550, OpenPower 720, 9407-515, 9406-525	97P2852*
		15 meter (50') extension cable, ARTIC960RxD quad DTA, T1, 100 Ohm	9131-52A, 9111-520, 9133-55A, 9113-550, 7311-D20	54F0740**
		Video cable	7311-D10, 7311-D11, 7311-D20	22P7936**
		20 meter cable	7031-D24, 7031-T24	09L3307**
		Cable support	9131-52A	39J2623*
		Power cable	9133-55A	42R4380*
		3-3 DC power cable	7311-D10	09P0942**
		0.5 meter (2 ft), ultra320 SCSI cable for I/O drawer attachment	7031-D24, 7031-T24	42D9817**
		Power cable, DC, drawer (3-pin) to PDP (5-pin)	7311-D10	09P1280**
		10 meter (33 ft), ultra320 SCSI VHDCI cable	7031-D24, 7031-T24	09L3305**
		1 meter (3 ft), ultra320 SCSI VHDCI cable	7031-D24, 7031-T24	41Y0596**
		7' power cable, 200-240 V, right angle	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	39M5457*

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Control panel parts

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
247B	165	I/O control panel	5094, 9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9406-525	39J4611* 24L0962**
250C		Mini-X tower operator panel	5095, 0595, 9406-525	39J3084* 53P0330**
28D4		Control panel	9116-561, 9406-570, 9117-570	39J3272* 97P4940**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
28E5		Control panel	9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, OpenPower 720, 9407-515, 9406-525	39J3273 [†] 97P4935 ^{**}
292F		Control panel and removable media tray assembly	9110-510, OpenPower 710	42R5760 [†] 97P6777 ^{**}
		Control panel and removable media tray assembly	9115-505, 9110-51A	42R5377 [†] 39J0361 ^{**}
		Control panel and removable media tray assembly	9110-51A	39J2179 [†]
250D		Control panel	7311-D20	39J3087 [†] 53P2535 ^{**}
		Control panel assembly	9115-505, 9110-51A	42R5377 [†] 39J0361 ^{**}
		Operator panel	9110-510	03N6786 [†]
		Operator panel filler	9116-561, 9406-570, 9117-570	97P3334 [†]
		Operator panel bracket	9133-55A, 9406-550, 9113-550, OpenPower 720	39J1233 [†] 97P4612 ^{**} 97P5912 ^{**}
		Operator panel bracket	9405-520, 9406-520, 9406-525	39J1238 [†] 53P4413 ^{**}
		Operator panel filler	9116-561, 9406-570, 9117-570	39J1301 [†]
		Operator panel filler	9405-520, 9406-520, 9406-525	39J5589 [†] 97P2731 ^{**}

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Disk unit parts

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
4326		35 GB disk drive	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	39J3695 [†] 39J1468 ^{**} 39J3698 [†] 97P2990 ^{**}
4327		70 GB disk drive	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9407-515, 9406-525	39J3696 [†] 39J1469 ^{**}
4328		140 GB disk drive	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	39J3697 [†] 39J1470 ^{**} 39J3700 [†] 97P2993 ^{**}
4329		283 GB disk drive, non-burned in	9405-520, 9406-520, 9406-525, 9406-550, 9406-570, 9406-595, 9411-100	42R6676 [†]
4329		283 GB disk drive, burned in	9405-520, 9406-520, 9406-525, 9406-550, 9406-570, 9406-595, 9411-100	42R6677 [†]

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
6600		Disk unit and carrier. Remove the disk unit from the system to determine the part number of the failing component.	All	N/A
6607		4 GB disk drive	All	44L0061**
6713		9 GB disk drive	All	44L0062**
6714		Disk unit and carrier	All	44L0063**
6717		Disk unit and carrier	All	53P5970**
6718		Disk unit and carrier	All	44H4637** 53P5971**
6719		Disk unit and carrier	All	53P5972**
	440	9.1 GB ultra SCSI disk drive only		07N3675**
	441	18.2 GB ultra SCSI disk drive only		07N3174**
	442	9.1 GB ultra LVD SCSI disk drive		09L3117**
	443	18.2 GB ultra LVD SCSI disk drive		09L3118**
	446	When replacing a 300 GB U320 10K RPM SCSI disk drive/carrier in an OpenPower system, go to 446.		
	446	300 GB 10K rpm 68 pin SCSI bolt in disk drive	7037-A50, 7047-185	03N4964
	446	300 GB Ultra320 10K rpm 80 pin SCSI disk drive/carrier	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9406-595, 7311-D20, 7031-D24, 7031-T24, 9406-525	03N5270* 80P3157** 03N6335* 80P3400**
	451	When replacing a 73 GB SCSI disk drive in an OpenPower system, go to 451.		
	451, 264e, 445	73.4 GB 15K RPM ultra3 SCSI disk drive/carrier	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 720, 7311-D20, 7031-D24, 7031-T24, 9406-525	03N6345*
	451	73.4 GB 15K RPM ultra3 SCSI disk drive/carrier	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 720, 7311-D20, 7031-D24, 7031-T24, 9406-525	03N5280* 80P3163**
	453	When replacing a 146.8 GB 10K RPM SCSI disk drive/carrier in an OpenPower system, go to 453.		
	453	146.8 GB 10K RPM SCSI disk drive/carrier	9115-505, 9110-510, 9110-51A, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 9118-575, OpenPower 720	00P3837** 00P2669**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	453	146.8 GB 10K RPM SCSI disk drive/carrier	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9406-595, OpenPower 720, 9406-525	03N6330* 00P2665**
	56B	36.4 GB 15K RPM disk drive		07N6777**
	56D	When replacing a 36.4 GB 15K RPM Ultra3 SCSI disk drive/carrier in an OpenPower system go to 56D.		
	56D	36.4 GB 15K RPM Ultra3 SCSI disk drive/carrier	7311-D20, 9131-52A, 9405-520, 9406-520, 9133-55A, 9406-550, 9116-561, 9406-570, 9117-570, 9118-575, 9406-595, OpenPower 720	80P3161** 00P2697**
	57B	73.4 GB 10K RPM, 68-pin ultra LVD SCSI disk drive Note: The FRU part numbers are interchangeable. Order the FRU part number that matches the FRU part number you are replacing.		03N5255* 00P3069** 09P4882** 07N3172** 80P3153**
	57D	When replacing a 73.4 GB 10K RPM, 68-pin ultra LVD SCSI disk drive in an OpenPower system go to 57D.		
	57D	73.4 GB 10K RPM, 80-pin SCSI disk drive/carrier	9111-285, 9115-505, 9110-510, 9110-51A, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 9118-575, OpenPower 720, 7311-D20	09P3928** 09P4890**
	58B	9.1 GB 10K RPM SCSI disk drive/carrier Note: The FRU part numbers are interchangeable. Order the FRU part number that matches the FRU part number you are replacing.		09P4874** 09P3921**
	58D	18.2 GB 10K RPM SCSI disk drive/carrier Note: The FRU part numbers are interchangeable. Order the FRU part number that matches the FRU part number you are replacing.	7311-D20	00P3829** 00P3064**
	59B	When replacing a 36.4 GB 10K RPM SCSI disk drive/carrier in an OpenPower system go to 59B.		
	59B	36.4 GB 10K RPM SCSI disk drive/carrier	9117-570, OpenPower 720, 9406-525	00P3831**
	59B	36.4 GB 10K RPM SCSI disk drive/carrier	9405-520, 9406-520, 9111-520, 9406-550, 9116-561, 9406-570, 9117-570, 9406-595, OpenPower 720, 9406-525	00P3068**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	59B	36.4 GB 10K RPM SCSI disk drive/carrier Note: The FRU part numbers are interchangeable. Order the FRU part number that matches the FRU part number you are replacing.	7311-D20, 9406-525	00P3831** 00P3068**
	601	9.1 GB LVD 68-pin SCSI disk drive 9.1 GB LVD 68-pin drive/carrier (U2) 9.1 GB LVD 68-pin drive/carrier (SP)		07N3675** 09P3921** 31L8768**
	60B	18.2 GB LVD 10K RPM, 68-pin SCSI disk drive Note: The FRU part numbers are interchangeable. Order the FRU part number that matches the FRU part number you are replacing.		07N4813** 09P4429** 07N3174** 00P3061** 80P3149**
	61B	36.4 GB 10K RPM, 80-pin SCSI disk drive Note: The FRU part numbers are interchangeable. Order the FRU part number that matches the FRU part number you are replacing.		07N3177** 09P4443** 00P3067** 80P3152**
	61D	36.4 GB 10K RPM drive/carrier		00P1519**
	61E	18.2 GB 10K RPM drive/carrier		00P1511**
	621	9.1 GB LVD 80-pin drive/carrier (U2)		09P3921**
	623	18.2 GB LVD 68-pin SCSI disk drive 18.2 GB LVD 68-pin drive/carrier (U2) 18.2 GB LVD 68-pin drive/carrier (SP)		07N3174** 0P3829** 31L8770**
	624	18.2 GB LVD 80-pin drive/carrier (U2)		0P3829**
	62D	9.1 GB 10K RPM, 68-pin SCSI disk drive Note: The FRU part numbers are interchangeable. Order the FRU part number that matches the FRU part number you are replacing.		09P4868** 07N3179** 80P3148**
	62E	9.1 GB 10K RPM drive/carrier		00P1508**
	638	4.5 GB 16-bit ultra SCSI SE disk drive		22L0027**
	639	9.1 GB ultra SCSI disk drive (68-pin) Spacer tray ID cable Screw		09P4868** 08L1155** 06H9389** 11K0196** 1147429**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	63A	See 62D.		
	63C			See 60B.
	63E	36.4 GB 10K RPM, 68-pin SCSI disk drive Note: The FRU part numbers are interchangeable. Order the FRU part number that matches the FRU part number you are replacing.		07N4803** 09P4439** 07N3173** 00P3065** 80P3151**
	63F	See 61B.		
	640	9.1 GB ultra SCSI disk drive (80-pin) tray Screw		34L2233** 44H4644** 44H4266**
	643	18.2 GB ultra LVD SCSI disk drive		09L3116**
	644	36.2 GB ultra LVD SCSI disk drive		09L3395**
	64A	See 62E.		
	64B	9.1 GB LVD 80-pin drive/carrier		00P1517**
	64C	See 61E.		
	64D	18.2 GB LVD 80-pin drive/carrier		00P1520**
	64E	36.4 GB 10K RPM drive/carrier		00P1514**
	64F	See 61D.		
	650	Unknown disk drive. Note: This FFC indicates that the disk drive could not properly configure. Refer to the disk drive FRU part number.		
	66E	4.7 GB DVD-RAM drive, black bezel 4.7 GB DVD-RAM drive, white bezel		04N5967** 04N5968**
	673	18.2 GB differential SCSI disk drive		59H6925**
	679	4.5 GB SCSI disk drive		76H2697**
	681	9.1 GB ultra-SCSI 16-bit drive		07N3675**
	689	4.5 GB 16-bit ultra SCSI SE disk drive 4.5 GB 16-bit ultra SCSI SE disk drive assembly		76H2697** 93H9005**
	690	9.1 GB 16-bit ultra SCSI SE disk drive		76H2698**
	700	1.1 GB 8-bit SE disk drive assembly		74G6995**
	701	1.1 GB 16-bit SE disk drive assembly tray assembly 4 position ID cable electronics card assembly		74G7006** 06H8631** 06H7691** 27H0380**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	702	1.1 GB 16-bit DE disk drive assembly electronics card assembly		74G7009** 74G7015**
	703	2.2 GB 8-bit SE disk drive electronics card assembly		74G6996** 74G6998**
	704	2.2 GB 16-bit SE disk drive assembly 2.2 GB 16-bit SE disk drive unit tray assembly 4 position ID cable electronics card assembly		74G7007** 06H8631** 06H7691** 27H0380**
	705	2.2 GB 16-bit DE disk drive assembly electronics card assembly		74G7010** 74G7015**
	706	4.5 GB 16-bit SE disk drive 4.5 GB 16-bit SE disk drive assembly tray assembly 4 position ID cable electronics card assembly		74G7008** 74G8825** 06H8631** 06H7691** 27H0380**
	707	4.5 GB 16-bit DE disk drive assembly electronics card assembly		74G7011** 74G7015**
	722	Unknown disk drive		
	741	1.08 GB SCSI-2 disk drive (1-inch high) 8-bit tray assembly		85G2567** 06H8631**
	772	4.5 GB 16-bit SCSI F/W disk drive		76H2697**
	773	9.1 GB 16-bit SCSI F/W disk drive		76H2698**
	774	9.1 GB external SCSI DE disk drive		27H1677**
	784	2.1 GB 8-bit SCSI-2 disk drive 2.1 GB 16-bit SCSI-2 disk drive		74G6996** 74G7007**
	789	External 2.6 GB rewritable optical disk drive		50G0212**
	791	2.2 GB 16-bit SE disk drive assembly 2.2 GB 16-bit SE disk drive unit tray assembly 4 position ID cable electronics card assembly		74G7007** 06H8631** 11K0196** 27H0380**
	792	4.5 GB 16-bit SE disk drive assembly		76H2697**
	793	9.1 GB 16-bit SE disk drive assembly		76H2698**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	845	RAIDiant array SCSI 2.0 GB disk drive Note: Refer to the 7135 documentation.		
	846	RAIDiant array SCSI 1.3 GB disk drive Note: Refer to the 7135 documentation.		
	912	2.0 GB SCSI-2 DE disk drive differential frame electronics Attention: Check RETAIN® for frame electronics availability. Exchange the complete drive assembly whenever possible. Exchange the logic card only when the data on the disk must be saved.		86F0119** 86F0125**
	913	1 GB DE disk drive, half-height differential frame electronics Attention: Check RETAIN for frame electronics availability. Exchange the complete drive assembly whenever possible. Exchange the logic card only when the data on the disk must be saved.		6374682**
	917	2.0 GB DE F/W disk drive Note: If the disk drive is in a 7134 drawer, replace with FRU P/N 67G3022.		86F0767**
	918	2.0 GB 16-bit SCSI SE F/W disk drive		90F0895**
	935	1.44 MB 3.5-inch white diskette drive 1.44 MB 3.5-inch black diskette drive 1.44 MB 3.5-inch diskette drive		39M0101* 24P3889** 80P4639** 07L7814**
		670 MB SCSI disk drive logic card Note: Exchange the complete drive whenever possible. If extreme data saving measures are necessary, exchange the logic card.		53F3429** 6373521**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	952	355 MB SCSI disk drive logic card Note: Exchange the complete drive whenever possible. If extreme data saving measures are necessary, exchange the logic card.		53F3427** 6373521**
	953	320 MB SCSI disk drive logic card and Frame assembly Note: Exchange the complete drive whenever possible. Exchange the logic card only when the data on the disk must be saved.		93X0961** 93X0901**
	954	400 MB SCSI disk drive logic card and frame assembly Note: Exchange the complete drive whenever possible. Exchange the logic card only when the data on the disk must be saved.		73F9001** 73F8994**
	955	857 MB SCSI disk drive		45G9502**
	959	160MB SCSI disk drive		81F8085**
	960	1.37 GB SCSI disk drive assembly logic card Note: Logic card stocking is limited; special ordering is required. Check RETAIN for logic card availability. Exchange the complete drive assembly when possible. Exchange the logic card when the data on the disk must be saved.		52G0061** 31G9756**
	968	1 GB SCSI SE disk drive single-ended frame electronics Note: Check RETAIN for frame electronics availability. Exchange the complete drive assembly when possible. Exchange the logic card when the data on the disk must be saved.		36G6930** 55F9909**
	981	540 MB SCSI-2 single-ended disk drive		51G8237**
	984	1 GB 8-bit disk drive		36G6930**
	986	2.4 GB SCSI disk drive		36G0454**
	989	200 MB SCSI disk drive		43G1842**
	990	2.0 GB SCSI-2 SE disk drive		90F0894**
	999	Disk array subsystems Note: Refer to the 3514 or 7137 documentation		

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	C11	2.4 GB SCSI disk drive field repair assembly Note: The field repair assembly includes one disk drive, the electronics planar, and the 5-1/4 inch form factor cage. The remaining good drive is removed from the failed disk drive assembly and installed in the field repair assembly to create a complete dual-disk drive assembly. If saving data is critical, try installing the faulty drive in place of one of the two good drives in the now-complete field repair assembly. If the faulty drive operates satisfactorily, the problem was probably in the electronics planar.		36G4280**
	2547	Generic AS400 SCSI JBOD (not OS disk) disk drive		
	2640	2.5 inch IDE disk drive		
1975	2523	PCI-X dual channel ultra320 SCSI RAID adapter	9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 720	39J5107* 80P6515**
		70 GB disk drive	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	39J3699* 97P2991**
		73 GB disk drive	7037-A50, 7047-185	80P3153**
		146 GB disk drive	7037-A50, 7047-185	03N4963**
	2641	73.4 GB U3 10K rpm 68 pin bolt in SCSI disk drive		03N5255* 0P3069**
	2642	73.4 GB U3 10K rpm 80 pin SCSI disk drive	9406-525	03N5260* 00P3833** 03N6325* 00P3072**
	2642	73.4 GB U320 10K rpm 80 pin SCSI disk drive	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-525, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 720, 7311-D20, 7031-D24	03N5260* 00P3833** 03N6325* 00P3072**
	2643	73.4 GB U3 10K rpm 80 pin SCSI disk drive (For OpenPower systems)	9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 710, OpenPower 720	03N6327* 80P3406** 03N5262* 80P6320**
	2644	146.8 GB 10,000 RPM 80 pin SCSI bolt in disk drive	7037-A50, 7047-185	03N5256*
	2645	146.8 GB 10,000 RPM Ultra320 80 pin SCSI disk drive	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-525, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D20, 7031-D24, 7031-T24	03N5265* 00P3835** 03N6330* 00P2665**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	2646	When replacing a 146.8 GB 10K rpm 80 pin SCSI disk drive/carrier in an OpenPower system go to 2646.		
	2647	300GB 10K RPM Ultra320 bolt in SCSI disk drive, 1 inch	7037-A50, 7047-185	03N5257*
	2648	300GB 10K RPM Ultra320 bolt in SCSI disk drive, 1 inch	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9406-595, 7311-D20, 7031-D24, 7031-T24	03N5270* 80P3157** 03N6335* 80P3400**
	2649	When replacing a 300 GB 10K rpm SCSI disk drive/carrier in an OpenPower system go to 2649.		
	264b	36.4 GB 15K RPM Ultra3 80 pin SCSI disk drive/carrier	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-525, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 720, 7311-D20, 7031-D24, 7031-T24	03N5275* 80P3159** 03N6340* 00P2693**
	264d	36.4 GB U3 15K rpm 80 pin SCSI disk drive	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-525, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 720, 7311-D20, 7031-D24, 7031-T24	03N5277* 80P6422** 03N6342* 80P6324**
	2653	73.4 GB U3 15K rpm 80 pin SCSI disk drive	9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 710, OpenPower 720	03N6347* 80P6325** 03N5282* 80P6424**
	2654	146.8 GB U320 15K rpm 80 pin SCSI disk drive	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-525, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D20, 7031-D24, 7031-T24	03N5285* 80P3911** 03N6350
	2655	146.8 GB 15K RPM 80 pin U320 SCSI disk drive	9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 710, OpenPower 720	03N5288* 80P6426** 03N6352* 80P3412**
	2658	73.4 GB 10K rpm 80 pin SCSI disk drive		03N5762
	2659	146.8 GB 10K rpm 80 pin SCSI disk drive		03N5763
	265b	300GB 10K RPM Ultra320 SCSI disk drive, 1 inch		03N5764
		300 GB disk drive	9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 710, OpenPower 720	03N6337* 80P3410** 03N5272* 80P6322**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		300 GB disk drive, SCSI	7037-A50, 7047-185	03N5257*
		8.58 GB 10K rpm disk drive	9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	07N3164**
		73.4 GB 10 K rpm ultra3 SCSI disk drive assembly	9118-575, 9119-590, 9119-595	09P4888**
		9 GB drive	9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	07N3164**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Integrated xSeries parts

CCIN or Type	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
0446		512 MB IXS DDR memory module	2892-001, 2892-002, 4812-001, 9406-525	77P5883* 26P0989**
0447		1 GB IXS DDR memory module	2892-001, 2892-002, 4812-001, 9406-525	77P5880* 26P1159**
2689-001		Integrated xSeries adapter (IXA)	1519-100 (except xSeries models 236 and 346), 1519-200	42R4468* 39J0177**
2689-002		Integrated xSeries adapter (IXA)	1519-200 (except xSeries models 236 and 346)	42R4471* 39J0176**
2689		SPCN Y-cable	1519-100, 1519-200	39J5820* 04N2652**
2689		RS485	1519-100 (366 or System x 3850 server only)	01R1484**
2689		RS485 cable	1519-100, 1519-200. (All models except 366 or System x 3850 server)	39J5824* 21P4162**
2890-001		Integrated xSeries Server (IXS)	All	39J5821* 44H8676**
2890-002		Integrated xSeries Server (IXS)	All	04N6176**
2890-003		Integrated xSeries Server (IXS)	All	53P5440**
2892-001		Integrated xSeries Server (IXS)	All	53P6206**
2892-002		Integrated xSeries Server (IXS)	All	10N8932**
2895		128 MB IXS memory module	2890-001, 2890-002, 2890-003, 9406-525	29L0955**
2896		256 MB IXS memory module	2890-001, 2890-002, 2890-003, 9406-525	29L0956**
2897		1 GB IXS memory module 2890-001, 2890-002, and 2890-003	2890-001, 2890-002, 2890-003, 9406-525	29L0957**
4812-100		Integrated xSeries Server (IXS)	All	97P6404*
		IXS IOP card with hardware	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	39J4598* 42R5126**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Keyboard parts

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
2890-002		Keyboard, US English	9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	89P9240**
	821	Standard keyboard adapter problem Note: If the type/model and FRU information is not listed here, refer to FFC 221.		
	921	101 key keyboard		42H1296** 1392090** 1394609**
	922	102 key keyboard problem keyboard, Arabic		8131596**
	922	Keyboard, Arabic (ID 238)		93H8125**
	922	Keyboard, Belgium-French (ID 120)		08L0905**
	922	Keyboard, Belgium-Dutch		89P9243**
	922	Keyboard, Belgium-French		1391526**
	922	Keyboard, Belgium-French (ID 120)		08L0904**
	922	Keyboard, Brazilian Portuguese		64F7707**
	922	Keyboard, Brazilian Portuguese (ID 275)		93H8124**
	922	Keyboard, Bulgarian		1399583**
	922	Keyboard, Bulgarian (ID 442)		93H8128**
	922	Keyboard, Chinese/US (ID 467)		93H8155**
	922	Keyboard, Czechoslovakian		1399570**
	922	Keyboard, Czechoslovakian (ID 243)		93H8129**
	922	Keyboard, Danish		89P9273**
	922	Keyboard, Danish (ID 159)		08L0906**
	922	Keyboard, Dutch (ID 143)		08L0907**
	922	Keyboard, Dutch/Netherlands		89P9274**
	922	Keyboard, Finnish/Swedish		1391411**
	922	Keyboard, French		89P9278**
	922	Keyboard, French(ID 189)		89P8450**
	922	Keyboard, French-Canadian		82G3280**
	922	Keyboard, French-Canadian (ID 058) Keyboard, French-Canadian (ID 445)		93H8121** 93H8122**
	922	Keyboard, German (ID 129)		89P8453**
	922	Keyboard, German/Austrian		89P9254**
	922	Keyboard, Greek		1399046**
	922	Keyboard, Greek (ID 129)		93H8134**
	922	Keyboard, Hebrew		1391408**
	922	Keyboard, Hebrew (ID 212)		93H8135**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	922	Keyboard, Hungarian		1399581**
	922	Keyboard, Hungarian (ID 208)		93H8136**
	922	102 key keyboard problem Keyboard, Icelandic		89P9273**
	922	Keyboard, Icelandic (ID 197)		08L0910**
	922	Keyboard, Italian		1393395**
	922	Keyboard, Italian (ID 142)		89P8459**
	922	Keyboard, Korea (ID 413)		93H8156**
	922	Keyboard, Latin American (Spanish)		82G3292**
	922	Keyboard, Latvia (ID 234)		93H8152**
	922	Keyboard, Norwegian		89P9264**
	922	Keyboard, Norwegian (ID 155)		08L0912**
	922	Keyboard, Portuguese		89P9266**
	922	Keyboard, Polish		1399580**
	922	Keyboard, Polish (ID 214)		93H8140**
	922	Keyboard, Portuguese (ID 163)		08L0913**
	922	Keyboard, Romania		1399582**
	922	Keyboard, Romania (ID 446)		93H8142**
	922	Keyboard, Russian		1399579**
	922	Keyboard, Russian (ID 443)		89P8467**
	922	Keyboard, Serbian (ID 118)		93H8144**
	922	Keyboard, Slovak		1399571**
	922	Keyboard, Slovak (ID 245)		93H8145**
	922	Keyboard, Spanish		89P9272**
	922	Keyboard, Spanish (ID 171) Keyboard, Spanish (ID 172)		89P8462** 89P8471**
	922	Keyboard, Sweden/Finland (ID 153)		08L0915**
	922	Keyboard, Swiss-French		1395881**
	922	Keyboard, Swiss French/German (ID 150)		08L0916**
	922	Keyboard, Swiss-German		1395882**
	922	Keyboard, Thailand (ID 191)		93H8157**
	922	Keyboard, Turkish (ID 179)		1393286**
	922	Keyboard, Turkish (ID 179)		93H8149**
	922	Keyboard, Turkish (ID 440)		8125409**
	922	Keyboard, Turkish (ID 440)		93H8150**
	922	Keyboard, U.K. English		89P9278**
	922	Keyboard, Turkish (ID 166)		89P8477**
	922	Keyboard, US English ISO9995 (ID 103P)		89P8478**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	922	Keyboard, U.S. OEM		06H3048**
	922	Keyboard, 106 Japan (ID 194)		89P8460**
	923	106 keys International keyboard problem keyboard, Chinese keyboard, Japanese-Kanji Japanese, Enhanced keyboard, Korean keyboard, Taiwanese		1392090** 79F0167** 66G0507** 8134943** 43G2457**
	930	Lighted program function keyboard (LPFK), 6094 model 20 cable, serial attachment, power		39F8226** 39F8302**
	B31	Unknown keyboard type		
		Keyboard, English	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6956* 24P0440**
		Keyboard, French (id 189)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6957* 24P0450**
		Keyboard, French (id 142)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6958* 24P0458**
		Keyboard, German	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6959* 24P0453**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Keyboard, UK English (id 166)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6960* 24P0476**
		Keyboard, Spanish (id 172)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6961*
		Keyboard, Japanese (id 184)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6962*
		Keyboard, Brazilian Portuguese (id 275)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6963* 24P0444**
		Keyboard, Canadian French (id 58)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6968* 24P0452**
		Keyboard, Belgium Dutch (id 120)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6969* 24P0443**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Keyboard, Swedish Finnish (id 153)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6970* 24P0471**
		Keyboard, Danish (id 159)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6971* 24P0448**
		Keyboard, Bulgarian (id 442)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6972* 24P0445**
		Keyboard, Swiss French German (id 150)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6973* 24P0472**
		Keyboard, Norwegian (id 155)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6974* 24P0462**
		Keyboard, Portuguese (id 163)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6976* 24P0464**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Keyboard, Greek (id 319)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6977* 24P0454**
		Keyboard, Hebrew (id 312)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6978* 24P0455**
		Keyboard, Hungarian (id 208)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6964*
		Keyboard, Polish (id 214)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6979* 24P0463**
		Keyboard, Slovakian (id 245)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6980* 24P0469**
		Keyboard, Czechoslovakian (id 245)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6981* 24P0447**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Keyboard, Turkish (id 179)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6982* 24P0475**
		Keyboard, Spanish (id 171)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6983* 24P0461**
		Keyboard, Arabic (id 238)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6984* 24P0441**
		Keyboard, Korean (id 413)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6965*
		Keyboard, Chinese (id 467)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6966*
		Keyboard, French Canadian (id 445)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6967*

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Keyboard, Thailand (id 191)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6985*
		Keyboard, Russian (id 443)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6986* 24P0466**
		Keyboard, Yugoslavian Latin (id 105)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6987* 24P0478**
		Keyboard, English (EMEA) (id 103P)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9406-525	10N6988* 24P0477**
		Keyboard, Dutch	9111-285, 9115-505, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D11, 9406-525	10N6975* 24P0449**
		Keyboard	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	40K9430* 89P8400**
		Keyboard	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1205*
		Keyboard, French	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 9118-575, 9119-595, 9407-515, 9406-525	32N1206*
		Keyboard, Italy	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1207*

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Keyboard, Germany and Austria	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 9118-575, 9119-590, 9119-595, 9407-515, 9406-525	32N1208*
		Keyboard, UK English	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 9118-575, 9119-590, 9119-595, 9407-515, 9406-525	32N1209*
		Keyboard, Spanish	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1210*
		Keyboard, Japan	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 9118-575, 9119-590, 9119-595, 9407-515, 9406-525	32N1211*
		Keyboard, Brazil	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 9118-575, 9119-590, 9119-595, 9407-515, 9406-525	32N1212*
		Keyboard, Hungry	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 9118-575, 9119-590, 9119-595, 9407-515, 9406-525	32N1213*
		Keyboard, Korea	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1214*
		Keyboard, China	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1215*
		Keyboard, French Canadian	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1216*
		Keyboard, French Canadian	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1217*
		Keyboard, Belgium and UK	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1218*
		Keyboard, Sweden and Finland	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1219*

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Keyboard, Danish	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1220*
		Keyboard, Bulgaria	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1221*
		Keyboard, Swiss, French, and German	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1222*
		Keyboard, Norwegian	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1223*
		Keyboard, Hebrew	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1227*
		Keyboard, Poland	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1228*
		Keyboard, Slovakian	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20 , 9407-515, 9406-525	32N1229*
		Keyboard, Czechoslovakia	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1230*
		Keyboard, Turkey	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1231*
		Keyboard, Latin Spanish	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20 , 9407-515, 9406-525	32N1232*
		Keyboard, Arabic	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1233*
		Keyboard, Thailand	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1234*
		Keyboard, Russia	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1235*
		Keyboard, Slovakian	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1236*
		Keyboard, English Europe	OpenPower 710, OpenPower 720, 7311-D11, 7311-D20, 9407-515, 9406-525	32N1237*

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Memory parts

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
303E		2-4 GB DDR1 CUoD memory card	9406-595	12R9410 [†] 12R6719 ^{**}
303F		4-8 GB DDR1 CUoD memory card	9119-590, 9119-595, 9406-595	12R9413 [†] 12R6721 ^{**}
314A		4 GB DDR2 memory DIMM, 400 MHz	9406-570, 9117-570	12R8467 [†]
316D		32 GB memory card	9119-590, 9119-595, 9406-595	41U0088 [†]
		0/8 GB DDR2 CUoD memory card	9119-595, 9406-595	41V1956 [†]
		0/16 GB DDR2 CUoD memory card	9119-595, 9406-595	41V1957 [†]
3043		512 MB DDR1 memory DIMM	9406-570	53P1611 ^{**}
3044		1 GB DDR1 memory DIMM	9406-570	53P1632 ^{**}
3046		2 GB DDR1 memory DIMM	9406-570	53P1639 ^{**}
304E		16 GB DDR1 CUoD memory card	9406-595	12R9416 [†] 12R6723 ^{**}
3093		512 MB DDR1 memory DIMM	9406-520	53P1613 ^{**}
3094		1 GB DDR1 memory DIMM	9406-520	53P1634 ^{**}
3096		2 GB DDR1 memory DIMM	9406-520	53P1641 ^{**}
309B		256 MB DDR1 memory DIMM, 266 MHz	9110-510, 9405-520, 9406-520, 9111-520, 9406-550, 9113-550, 9118-575	12R9283 [†] 53P3222 ^{**}
309D		512 MB DDR1 memory DIMM, 266 MHz	9406-570, 9117-570, 9118-575	12R9240 [†] 53P3226 ^{**}
309E		1 GB DDR1 memory DIMM, 266 MHz	9406-570, 9117-570, 9118-575	12R8616 [†] 53P3228 ^{**}
309F		1 GB DDR1 memory DIMM, 266 MHz	9406-570	53P3230 ^{**}
30AA		2 GB DDR1 memory DIMM, 266 MHz	9406-570, 9117-570, 9118-575	12R9259 [†] 53P3232 ^{**}
30AC		4 GB DDR1 memory DIMM, 266 MHz	9110-510, 9405-520, 9406-520, 9111-520, 9406-550, 9113-550	12R9276 [†] 16R0711 ^{**}
30B3		4 GB DDR1 memory DIMM, 266 MHz	9406-570, 9117-570, 9118-575	12R9278 [†] 44P3960 ^{**}
30D2		512 MB DDR1 memory DIMM, 266 MHz	9110-510, 9405-520, 9406-520, 9111-520, 9406-550, 9113-550	12R9238 [†] 00P5767 ^{**}
30D3		1 GB DDR1 memory DIMM, 266 MHz	9110-510, 9405-520, 9406-520, 9111-520, 9406-550, 9113-550	12R8614 [†] 00P5769 ^{**}
30D5		2 GB DDR1 memory DIMM, 266 MHz	9110-510, 9405-520, 9406-520, 9111-520, 9406-550, 9113-550	12R9257 [†] 00P5773 ^{**}
30DC		4 GB DDR2 memory DIMM, 533 MHz	9119-590, 9119-595	12R8018 [†] 12R6774 ^{**}
30DE		1-2 GB DDR1 CUoD memory DIMM, 266 MHz	9406-570, 9117-570, 9118-575	12R9253 [†] 16R0713 ^{**}
30F0		512 MB DDR2 memory DIMM, 533 MHz	9406-570, 9117-570, 9118-575	12R8540 [†] 16R1521 ^{**}

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
30F2		1 GB DDR2 memory DIMM, 533 MHz	9406-570, 9117-570, 9118-575	12R8544 [†] 16R0223 ^{**}
30F3		2 GB DDR2 memory DIMM, 533 MHz	9406-570, 9117-570, 9118-575	16R1530 [†]
30F7		8 GB DDR1 memory DIMM, 200 MHz	9406-570, 9117-570	12R9269 [†] 16R1221 ^{**}
30F9		32 GB DDR1 memory card	9119-590, 9119-595, 9406-595	41V1849 [†] 12R8452 ^{**}
30FB		512 MB DDR1 memory DIMM, 266 MHz	OpenPower 710, OpenPower 720	12R9236 [†] 12R6971 ^{**}
30FC		1 GB DDR1 memory DIMM, 266 MHz	OpenPower 710, OpenPower 720	15R6744 [†] 12R6973 ^{**}
30FD		2 GB DDR1 memory DIMM, 266 MHz	OpenPower 710, OpenPower 720	12R9255 [†] 12R6975 ^{**}
30FE		4 GB DDR1 memory DIMM, 266 MHz	OpenPower 710, OpenPower 720	12R9274 [†] 12R6977 ^{**}
310D		256 MB DDR1 memory DIMM, 266 MHz	OpenPower 710, OpenPower 720	12R9281 [†] 12R6967 ^{**}
310E		4 GB DDR1 memory DIMM, 200 MHz	9406-570, 9117-570	12R9264 [†] 12R7631 ^{**}
310F		2-4 GB DDR1 CUoD memory DIMM, 200 MHz	9406-570, 9117-570	12R9262 [†] 12R7634 ^{**}
312A		512 MB DDR2 memory DIMM, 533 MHz	9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561	12R8251 [†]
312B		1 GB DDR2 memory DIMM, 533 MHz	9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561	12R8255 [†]
312E		4 GB DDR2 memory DIMM, 533 MHz	9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A	12R8247 [†]
312F		4 GB DDR2 memory DIMM, 533 MHz	9406-570, 9117-570	12R8994 [†]
312D		2 GB DDR2 memory DIMM, 533 MHz	9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561	12R8239 [†]
313A		1 GB DDR2 memory DIMM, 533 MHz	9405-520, 9406-520, 9406-550, 9407-515, 9406-525	12R8542 [†]
313D		2 GB DDR2 memory DIMM, 533 MHz	9405-520, 9406-520, 9406-550, 9406-525	12R8824 [†]
313E		4 GB DDR2 memory DIMM, 276 pin, 533 MHz SDRAM	9405-520, 9406-520, 9406-525, 9406-550	12R9616 [†]
314C		8 GB DDR2 memory DIMM, 400 MHz	9406-570, 9117-570	12R8468 [†]
314E		2-4 GB DDR2 CUoD memory DIMM, 533 MHz	9406-570, 9117-570	12R9574 [†]
316A		0-4 GB DDR2 CUoD memory, 533 MHz DRAM	9119-590, 9119-595, 9406-595	41V2093 [†]
316B		0-8 GB DDR2 CUoD memory, 533 MHz DRAM	9119-590, 9119-595, 9406-595	41V2095 [†]

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
316C		0-16 GB DDR2 CUoD memory, 533 MHz DRAM	9119-590, 9119-595, 9406-595	41V2097*
316F		1-2 GB DDR2 CUoD memory DIMM, 533 MHz	9406-570, 9117-570	41V0128*
	214	Memory control unit problem (system board, CPU card)	515, 520, 525 550, 570	
	297	Texture memory module for the GXT800P graphics adapter		93H6055**
	298	Base memory module for the GXT800P graphics adapter		93H6057**
	2C5	32 MB memory module problem		
	2C6	Memory module problem	515, 520, 525 550, 570	
	2C7	Base memory card problem		
	2CC	1 GB memory module		09P0335**
	2CD	256 MB memory module 256 MB memory module		07L9030** 09P0550**
	2CE	512 MB memory module		09P0491**
	302	Memory 256 MB card	550	
	303	512 MB memory card	550	
	305	2 GB memory card	550	
	30A	4 GB memory card Note: 23Lxxxx and 04Nxxxx memory cards cannot be mixed. Replace faulty FRUs with FRUs that have the same part number.		23L7595** 04N5011
	30B	8 GB memory card		04N5531**
	B77	Coprocessor 1 MB memory module		53F2603**
	C45	12M VRAM memory module		65G4889**
	C46	16M VRAM memory module		65G4890**
	C47	16M DRAM memory module		65G4891**
	C94	IBM ARTIC960 4 MB memory module		
	D67	8 MB, ECC, 50 nsec memory module		85F7463**
	D68	16 MB, ECC, 50 nsec memory module		
	D69	32 MB, ECC, 50 nsec memory module		
	D70	64 MB, ECC, 50 nsec memory module		
	D71	8 MB, ECC, 60 nsec memory module		42H2771**
	D72	16 MB, ECC, 60 nsec memory module		42H2772**
	D73	32 MB, ECC, 60 nsec memory module		42H2773**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	D74	64 MB, ECC, 60 nsec memory module		42H2774**
	D74	128 MB, ECC, 60 nsec memory module		93H6823**
	D74	128 MB, ECC, 60 nsec memory module		93H6822**
	D74	128 MB, ECC memory module 256 MB, ECC memory module		19L1809** 29L3302**
	D75	8 MB, ECC, 70 nsec memory module		65G4615**
	D76	16 MB, ECC, 70 nsec memory module		
	D77	32 MB, ECC, 70 nsec memory module		
	D78	64 MB, ECC, 70 nsec memory module		39H9837**
	D83	8 MB, parity, 50 nsec memory module		
	D84	16 MB, parity, 50 nsec memory module		
	D85	32 MB, parity, 50 nsec memory module		
	D86	64 MB, parity, 50 nsec memory module		
	D87	8 MB, parity, 60 nsec memory module		
	D88	16 MB, parity, 60 nsec memory module		
	D89	32 MB, parity, 60 nsec memory module		
	D90	64 MB, parity, 60 nsec memory module		
	D91	8 MB, parity, 70 nsec memory module		
	D92	16 MB, parity, 70 nsec memory module		
	D93	32 MB, parity, 70 nsec memory module		65G4617**
	D94	64 MB, ECC, 70 nsec memory module		39H9837**
	E11	128 MB, ECC, 50 nsec memory module		
	E12	128 MB, ECC, 60 nsec memory module		93H6821**
	E12	128 MB, ECC, 60 nsec memory module		93H6823**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	E12	128 MB, ECC, 60 nsec memory module		93H6822**
	E12	128 MB, ECC, 60 nsec memory module		93H4702**
	E13	128 MB, ECC, 70 nsec memory module		
	E14	128 MB, parity, 50 nsec memory module		
	E15	128 MB, parity, 60 nsec memory module		
	E16	128 MB, parity, 70 nsec memory module		
	E17	Memory 16 MB memory module		19H0288**
	E18	Memory 64 MB memory module		08L0160**
	E1A	4 GB memory card		23L7595** 04N5011**
		128 MB SSA adapter memory DIMM	9116-561, 9406-570, 9406-595	09L5585**
		8 MB DDR2 memory DIMM, IBM ARTIC960Hx 4-Port Multiprotocol PCI Adapter	Adapter memory, 9406-525	87H3621**
		256 MB memory DIMM, PC2700, 333 MHz, DDR SDRAM	7037-A50, 7047-185	41K0024* 73P2270**
		512 MBDDR memory DIMM	9405-520, 9406-520, 9406-525	52P8746**
		512 MB memory DIMM, PC2700, 333 MHz, DDR SDRAM	7037-A50, 7047-185	41K0022* 73P2277**
		1 GB memory DIMM, 333 MHz, DDR SDRAM	7037-A50, 7047-185	41K0023* 73P2278**
		2 GB memory DIMM, PC2700, 333 MHz, DDR SDRAM	7037-A50, 7047-185	25R8409**
		0-4 GB DDR2 memory DIMM, CUoD, 533 MHz	9119-590, 9119-595	41V1955*
313B		1 GB DDR2 memory DIMM, 533 MHz	9405-520, 9406-520, 9406-550, 9407-515, 9406-525	12R8546*
30F5		4 GB DDR2 memory DIMM	9118-575	16R1577*
313E		4 GB DDR2 memory DIMM, 533 MHz SDRAM	9405-520, 9406-520, 9406-525	12R9616*

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Miscellaneous

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
271E		2 Link switch network interface card	9118-575	12R9228* 12R9017**
4962		10/100 Mbps Ethernet PCI adapter II	9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 720, 7311-D10, 7311-D11, 7311-D20, 9406-525	09P5023**
	132	The program that just loaded may be damaged.		N/A
	159	Tablet puck problem tablet cursor, models 21, 22		6247455**
	159	Tablet cursor, 4-button, 6093 models 11, 12		74F3131**
	159	Tablet cursor, 6-button, 6093 models 11, 12		74F3132**
	169	Operator panel logic problem Note: If the type/model and FRU information is not listed here, refer to FFC 221.		
	188	Tablet stylus, models 21, 22 Tablet stylus, 6093 models 11, 12		6247454** 08L0219**
	201	Content moved to FFC 190.		
	203	Content moved to FFC 152.		
	240	Token-ring network problem		
	241	Ethernet network problem		
	683	2105 - all models		
	815	Note: If the type/model and FRU information is not listed here, refer to FFC 221.	9076/POWER3 SMP High Node	
	816	Operator panel logic problem Note: If the type/model and FRU information is not listed here, refer to FFC 221.		
	824	Standard tablet adapter problem Note: For type/model and FRU information, if not listed here, refer to FFC 221.		
	837	Remote async node, 16-port EIA-232 enhanced remote async node, 16-port EIA-232 rack mounted node, 16-port EIA-232 power supply, remote async node	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-525, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11	93H6549** 09P4096** 80P3869**
	902	Vendor display		
	903	Vendor async device		

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	904	Vendor parallel device		
	905	Other vendor device		
	925	3-button mouse		93H9113** 76H5084**
	926	Tablet, 5083 model 21 Tablet, 6093 model 11		6247450** 74F3130**
	927	Tablet, 5083 model 22 Tablet, 6093 model 12 Tablet, 6093 model 21		6247452** 74F3140** 08L0219**
	950	Unknown SCSI device is missing.		
	962	Use device documentation.		
	963	Use device documentation.		
	980	Use device documentation.		
	982	Use device documentation.		
	983	Use device documentation.		
	B08	Ethernet 10 base twisted-pair transceiver		02G7431**
	B09	Ethernet/ISO 8802.3 transceiver (formerly IEEE 802.3)		02G7437**
	D06	64 Port to 128 port converter kit (four to a pack) Note: Converter part number is 88G3651		88G3650**
	D50	Content moved to FFC 190.		
	D97	Operator panel/speaker assembly		93H7439**
	E24	Resistor assembly		94H0623**
	Exx	(xx represents any character) Refer to the Firmware Checkpoint Three-Digit Error Code section of the service manual.		
	Fxx	(xx represents any character) Refer to the Firmware Checkpoint Three-Digit Error Code section of the service manual.		
	2D00	SES/SAF-TE LED Problem Note: If type/model and FRU information is not listed here, refer to FFC 199.		
	212	Cache problem Note: For type/model and FRU information refer to FFC 210.		
	217	System ROS/EEPROM problem (CPU card, system board)	515, 520, 525 550, 570	
	221	System I/O control logic problem	515, 520, 525 550, 570	

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	226	System status logic problem Note: If the type/model and FRU information is not listed here, refer to FFC 221.		
	261	RS/232 interposer		10N7453* 1749352**
	279	PTC resistor has been tripped Note: Refer to SCSI-2 Single-Ended adapter PTC Failure Isolation Procedure in SCSI service hints.		
	292	Host - PCI bridge problem (I/O planar, CPU card, system board)	515, 520, 525 550, 570	
	293	PCI - PCI bridge problem Note: If the type/model and FRU information is not listed here, refer to FFC 221.		
	294	MPIC interrupt controller problem Note: If the type/model and FRU information is not listed here, refer to FFC 221.		
	295	PCI - ISA bridge problem Note: If the type/model and FRU information is not listed here, refer to FFC 221.		
	296	PCI device or adapter problem The FRU can only be identified by it's location code reported by diagnostics.		
	2D0	ISA adapter or integrated device		
	2D4	System/SP interface logic problem (I/O planar, system board)	515, 520, 525 550, 570	
	2D5	SP Primary I/O bus problem Service processor card (I/O planar, system board)	515, 520, 525 550, 570	
	2D7	System board	515, 520, 525 550, 570	
	2E3	System port controller problem service processor card	515, 520, 525 550, 570	
	2E4	JTAG/COP controller problem service processor card	515, 520, 525 550, 570	
	2E6	PCI Differential ultra SCSI adapter (4-L)		40H6595**
	2E7	Generic PCI SCSI adapter		

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	444	2-Port multiprotocol PCI adapter (ASIC)	9111-285, 9110-510, 9110-51A, 9131-52A, 9405-520, 9133-55A, 9406-550, 9406-570, 9406-595, 7311-D10, 7311-D11, 7311-D20	00P5920**
	636	TRUBOWAYS 622 Mbps PCI MMF ATM adapter	9116-561, 9406-570, 9406-595, 7311-D10, 7311-D20	53P1942**
	646	High-speed token-ring PCI adapter	9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-525, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	09P4146**
	657	GXT2000P 3D graphics adapter PCI		07L7495**
	662	System board	515, 520, 525 550, 570	
	663	IBM ARTIC960RxD PCI adapter (base card) IBM ARTIC960RxF adapter IBM ARTIC960 Quad T1/E1 adapter (daughter card)	9131-52A, 9111-520, 9133-55A, 9113-550	87H3734** 47L8851** 11K0790**
	669	PCI Gigabit Ethernet adapter		09P2098**
	66A	Keyboard/mouse USB PCI attachment card	9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	09P2470**
	66C	10/100/1000 base-T Ethernet PCI adapter	9406-520, 9406-525, 9406-550, 9406-570, 9406-595, 7014-T00	00P1690**
	66D	PCI 4-channel ultra3 SCSI RAID adapter (base card only)	9406-520, 9406-525, 9116-561, 9406-570, 9117-570, 7311-D10, 7311-D20	03N7030**
	674	ESCON channel PCI adapter assembly IBM ARTIC960Rx PCI base adapter	7311-D10	31L7567** 39H8084**
	675	IBM ARTIC960Hx PCI base adapter	7037-A50, 7047-185, 9110-510, 9110-51A, 9405-520, 9406-520, 9111-520, 9406-525, 9406-550, 9113-550, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	87H3427**
	677	PCI 32-Bit Fibre Channel adapter		09P1173**
	67E	When replacing a GXT 135P PCI graphics adapter in an OpenPower system go to 67E.		

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	67E	GXT135P PCI graphics adapter	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 720	03N5853* 00P5758**
	686	8-port asynchronous EIA-232/RS-422 adapter	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-525, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	93H6541**
	687	128-port asynchronous controller	9111-285, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-525, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11	93H6545**
	68E	POWER™ GXT6000P graphics adapter		00P2368**
	693	Eicon ISDN DIVA PRO 2.0 PCI S/T adapter for PowerPC® System		93H5839**
	697	TURBOWAYS® 155 PCI MMF ATM adapter (1 MB)		21H3890**
	698	TURBOWAYS 155 PCI UTP ATM adapter (1 MB)		21H7977**
	69B	64-bit/66 MHz PCI ATM MMF adapter	9116-561, 9406-570, 9406-595, 7311-D10, 7311-D11, 7311-D20	53P1154**
	69D	64-bit/66 MHz PCI ATM 155 UTP adapter	9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11	21P4112**
	6CC	4.5 GB SSA drive (DCHC/DGHC) in a blue-handled carrier, 9.1 GB 1.6-inch SSA drive (DCHC) in a blue-handled carrier, 9.1 GB 1.0-inch SSA drive (DGHC) in a blue-handled carrier		09L4253** 09L4258** 09L4258**
	711	Unknown adapter		
	713	IBM ARTIC960Hx PCI base adapter	7037-A50, 7047-185, 9110-510, 9110-51A, 9405-520, 9406-520, 9111-520, 9406-525, 9406-550, 9113-550, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	87H3427**
	721	Unknown SCSI device		
	723	Unknown CD-ROM drive		
	725	Display, 17" black, NH		96G3020**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	725	Display, 17", NH	9116-561, 9117-570	22P6372**
	726	Unknown input device		
	727	Unknown async device		
	728	Unknown parallel device		
	730	Unknown diskette drive		
	746	PCI SCSI SE adapter problem SCSI-2 Fast/Wide PCI adapter		93H8406**
	747	SCSI-2 differential fast/wide PCI adapter		93H8407**
	74A	Integrated SCSI-2 F/W SE problem system board, integrated SCSI		93H4808**
	763	SP switch MX adapter wrap plug terminator		12K0551** 46H9688** 77G0818**
	764	SP system attachment adapter wrap plug terminator		00P3126** 46H9688** 77G0818**
	776	PCI token-ring adapter		94H1038**
	778	POWER GXT3000P 3D graphics adapter PCI		41L5754**
	785	8-port ISA Async EIA-232/RS-422 adapter	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-525, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	93H6541**
	786	GXT250P high performance graphics adapter		93H6264**
	786	GXT255P high performance graphics adapter		93H6267**
	787	GXT500P graphics adapter		94H0028**
	788	Ultimedia® Video Capture adapter		07L9009**
	78B	POWER GXT4000P graphics adapter		00P2429**
	78D	GXT300P 2D graphics adapter		03N4169**
	790	Multi-bus integrated Ethernet adapter problem Note: If the type/model and FRU information is not listed here, refer to FFC 221.		

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	799	2-port multiprotocol PCI adapter 2-port multiprotocol PCI wrap plug	7311-D10, 7311-D11	93H6086** 93H5270**
	7C0	System board	515, 520, 525 550, 570	
	807	SCSI device enclosure Note: If the resource description on the screen displays: <ul style="list-style-type: none"> • ses or SCSI Enclosure Services Device, use FFC 199. • safte or SCSI Accessed Fault-Tolerant Enclosure Device, use FFC 2580. 		
	80c	SSA adapter problem refer to the <i>SSA adapters: User's Guide and Maintenance Information</i> .		
	812	Common standard adapter logic problem Note: For type/model and FRU information refer to FFC 227.		
	7C0	CPU/System Interface System board		
	817	System board	515, 520, 525 550, 570	
	823	Standard mouse adapter problem Note: If the type/model and FRU information is not listed here, refer to FFC 221.		
	826	System port 1 adapter problem Note: If the type/model and FRU information is not listed here, refer to FFC 221.		
	827	Built-in parallel port adapter problem Note: If the type/model and FRU information is not listed here, refer to FFC 221.		
	828	Standard diskette adapter problem Note: If the type/model and FRU information is not listed here, refer to FFC 221.		
	82C	S15 graphics PCI adapter		12H0375**
	831	System port 2 adapter problem Note: If the type/model and FRU information is not listed here, refer to FFC 221.		
	836	128-port async controller		73H3384**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	840	PCI single-ended ultra SCSI adapter Note: If you receive this FFC but are working with integrated ultra SCSI, see FFC 84A.		93H3809**
	844	RAIDiant array SCSI subsystem controller Note: Refer to the 7135 documentation.		
	84A	I/O board	515, 520, 525 550, 570	
	868	Integrated SCSI I/O controller problem Note: If the type/model and FRU information is not listed here, refer to FFC 221.		
	887	Integrated Ethernet adapter problem, system board, Integrated Ethernet adapter	515, 520, 525 550, 570	
	891	Vendor SCSI adapter		
	892	Vendor display adapter		
	893	Vendor LAN adapter		
	894	Vendor async Communications adapter		
	899	Atape		
	901	Vendor SCSI device		
	929	Dials, 6094 model 10 cable, serial attachment, power		39F8227** 39F8302**
	938	Serial HIPPI PCI adapter Notes: 1. Use the number printed above the bar code to order this part. 2. The FRU part number of the wrap plug used with this adapter is 21H3547.		
	946	Standard system port 3 adapter problem (service processor card, primary I/O book, NIO planar, system board)	570	
	956	355/670 MB logic card		6373521**
	974	CD-ROM drive (Type A or Type B bezel)		88G3929**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	B10	System board PTC (thermal fuse) Note: If a thermal fuse has opened, it should reset within ten minutes after turning the power off. If the thermal fuse does not reset, a faulty device may be drawing excessive power through the fuse.		
	B3A	Unidentifiable backplane tied to a SCSI RAID adapter		
	B71	8-Port EIA-232-D multiport, model 2 interface card		53F2612**
	B72	8-Port EIA-422-A multiport, model 2 interface card		53F2615**
	B73	6-Port V.35 multiport, model 2 interface card		72F0164**
	B74	6-Port V.21 multiport, model 2 interface card		72F0176**
	B88	Generic SCSI I/O controller Notes: 1. If the failing FRU for this FFC is PCI(x), where x is the PCI bus number, 0, 1, ..., refer to FFC 221. 2. Use the location code to identify the failing FRU. Determine if the failing FRU is integrated on the system board. If the failing FRU is integrated use FFC 221. If the failing FRU is not integrated replace the FRU identified by its description that is shown with the location code for SCSI and SCSI-2 adapter. Choose the FFC for the appropriate SCSI I/O controller. 3. Check the SCSI controller fuse or PTC resistor before exchanging the system board. Refer to <i>SCSI-2 Single-Ended Adapter PTC Failure Isolation Procedure</i> in SCSI service hints. 4. Check that the SCSI disable jumper is in the enabled position. 5. Check the FRU number of the installed external terminator: Low density - 51G7736 High density - 51G7737		
	C33	GPSS card		73H4034**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	C34	RSS card (without memory sockets)		11H8490**
	C35	VOO card		65G4887**
	C48	RSS/GPSS crossover card		65G4893**
	C95	IBM ARTIC960 4-port selectable interface board	7037-A50, 7047-185, 9110-510, 9110-51A, 9405-520, 9406-520, 9111-520, 9406-525, 9406-550, 9113-550, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	87H3413**
IBM ARTIC960 4-port T1/E1 interface card		87H3428**		
IBM ARTIC960Hx DSP interface card		87H3701**		
IBM ARTIC960 quad T1/E1 interface card		11K0790**		
IBM ARITC960 PCI adapter interface board		51H8702		
	C97	IBM ARTIC960 4-port T1/E1 interface card wrap plug		87H3502**
IBM ARTIC960 4-port selectable interface board wrap plug			87H3311**	
ESCON wrap plug Note: A wrap plug is shipped with each adapter and cable.			5605670**	
	D01	Generic L2 cache problem	515, 520, 525 550, 570	
	D59	TP PCI Ethernet adapter		93H7766**
	D60	T2 PCI Ethernet adapter		93H1902**
	D60	TP PCI Ethernet adapter		93H7766**
	D66	RSS card (with memory sockets)	7250	11H4436**
	D95	GXT550P graphics adapter		41L5958**
	D96	GXT255P high performance PCI graphics adapter		93H6267**
	E10	Riser card		73H4532**
	E10	Riser card		73H3712**
	E10	Riser card		23L7731**
	E10		Refer to FFC 227	
	E19	Power supply sensor failed I/O planar	515, 520, 525 550, 570	
	E26	Power distribution card		93H9551**
	E26	Power distribution card		08L0388**
	E29	32 MB cache (located on the LVD SCSI RAID adapter) (includes battery)		09L2105**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	E2A	128 MB cache, U.S. (includes battery) 128 MB cache, Japan (includes battery)	9406-520, 9406-525, 9116-561, 9406-570, 9117-570, 7311-D10, 7311-D11	03N7031** 19K0561**
	2502	PCI-X266 3GB SAS adapter		42R6939
	2520	Dual-channel ultra3 SCSI PCI adapter	9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D20	09P2544**
	2522	When replacing a PCI-X dual channel U320 SCSI adapter in an OpenPower system go to 2522.		
	2522	PCI-X dual channel U320 SCSI adapter Note: Use the location code to identify the failing FRU. Determine if the failing FRU is integrated on the system board. If the failing FRU is integrated use FFC 221. If the failing FRU is not integrated replace the FRU identified here.	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-525, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 7311-D20, 9411-100	97P6513**
	2523	When replacing a PCI-X dual channel U320 SCSI RAID adapter in an OpenPower system go to 2523.		
	2523	PCI-X dual channel U320 SCSI RAID adapter or enablement card. Notes: 1. Use the location code to identify if the failing FRU is a RAID enablement card plugged into a special slot on the I/O planar or if it is a PCI-X adapter. If the failing FRU is a PCI-X adapter, replace the FRU identified here. If the failing FRU is a RAID enablement card use FFC 2525. 2. If the problem persists after replacing the RAID enablement card, use FFC 2522 to replace the integrated SCSI adapter.	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-525, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20, 9411-100	39J5105* 97P6516**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	2524	Missing options resolution for integrated PCI-X dual channel U320 SCSI adapter. Note: Use the location code to identify the failing FRU. Determine if the failing FRU is integrated on the system board. If the failing FRU is integrated use FFC 221. If the failing FRU is not integrated replace the FRU identified below. PCI-X dual channel U320 SCSI adapter (FRU # 97P6513)		
	2525	Missing options resolution for integrated PCI-X dual channel U320 SCSI RAID enablement card.		80P2868
	2527	Quad channel ultra320 SCSI RAID adapter		39J5581* 42R5124**
	2528	PCI-X dual channel ultra320 SCSI adapter	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9407-515, 9406-525, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20, 9411-100	42R4860* 39J4996**
	2529	When replacing a PCI-X dual channel ultra320 SCSI RAID adapter in an OpenPower system, go to 2529.		
	2529	PCI-X dual channel ultra320 SCSI RAID adapter (For OpenPower systems)	9116-561, 9406-570, 9117-570	39J5652* 39J3538**
	252B	PCI-X DDR dual channel ultra320 SCSI adapter (2-core) PCI-X DDR dual channel ultra320 SCSI adapter (4-core)		39M3417 39M3419
	252D	PCI-X DDR dual channel ultra320 SCSI adapter	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9407-515, 9406-525, 9133-55A, 9406-550, 9113-550, 9116-561, 9117-570, 9118-575, 9119-590, 9119-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20, 9411-100	42R4860* 39J4996**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	252E	PCI-X DDR Auxiliary Cache Adapter		
	2530	When replacing a 10/100 Mbps Ethernet PCI adapter II in an OpenPower system go to 2530.		
	2530	10/100 Mbps Ethernet PCI adapter II	9111-285, 9110-510, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-525, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 720, 7311-D10, 7311-D11, 7311-D20	09P5023**
	2533	When replacing a 10 Gigabit-SR Ethernet PCI-X 2.0 DDR adapter in an OpenPower system go to 2533		
573A	2533	10 Gigabit-SR Ethernet PCI-X 2.0 DDR adapter		10N8264
	2534	When replacing a 10 Gigabit-LR Ethernet PCI-X 2.0 DDR adapter in an OpenPower system go to 2534		
	2534	10 Gigabit-LR Ethernet PCI-X 2.0 DDR adapter	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20, 9411-100	10N8263
		When replacing a 10/100/1000 base-TX Ethernet PCI-X adapter in an OpenPower system go to 2535.		
	2535	4-port 10/100/1000 base-TX Ethernet PCI-X adapter	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-525, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20	03N5444* 03N5446**
	254E	Fibre Channel expansion card		26R0837**
	2550	POWER GXT4500P graphics adapter	7047-185, 9111-285, 9133-55A	80P7124* 00P4476**
	2551	POWER GXT6500P graphics adapter	7047-185, 9111-285, 9133-55A	80P7117* 00P4473**
	2562	Keyboard/mouse USB PCI attachment card	9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	09P2470**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	2564	When replacing an (OHCI) USB 2.0 PCI adapter in an OpenPower system go to 2564.		
	2564	Keyboard/mouse USB PCI attachment card	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-525, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20	80P2994**
	2565	When replacing an (EHCI) USB 2.0 PCI adapter in an OpenPower system go to 2565.		
	2566	When replacing a USB 3.5 inch micro diskette drive in an OpenPower system go to 2566.		
	2566	USB 3.5 inch micro diskette drive	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20, 9406-525	03N4962* 33P3339**
	2568	Generic USB CD-ROM		
	2570	IBM cryptographic accelerator PCI adapter	9405-520, 9406-520, 9406-525, 9406-570, 9406-595, 7311-D10, 7311-D20, 9411-100	11P1856**
	2580	SCSI accessed fault-tolerant enclosure (SAF-TE) device		21P7165**
	2581	When replacing a 1 GB PCI-X iSCSI TOE Ethernet adapter (copper) in an OpenPower system go to 2581.		
573B	2581	1 GB iSCSI TOE PCI-X adapter (copper connector).	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20, 9407-515, 9406-525	03N6056*
	2583	When replacing a 1 GB PCI-X iSCSI TOE Ethernet adapter (copper) in an OpenPower system go to 2583.		
	2583	1 GB iSCSI TOE PCI-X adapter (JS daughter card) (copper connector)		32R1926* 26K6490**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	2590	48x IDE CDROM drive black bezel		80P2951**
	2591	IDE 16/48X DVD-ROM black bezel	9119-590, 9119-595	53P2735**
	2592	Slimline IDE 8X/24X DVD-ROM	9111-520	39J3522**
	2594	When replacing an IDE DVD-RAM in an OpenPower system go to 2594.		
	2595	When replacing an IDE DVD-ROM in an OpenPower system go to 2595.		
	25A0	System board	520, 550, 570	
	25B9	When replacing a 1 GB PCI-X iSCSI TOE Ethernet adapter (Fiber) in an OpenPower system go to 25B9.		
573C	25B9	1 GB PCI-X iSCSI TOE Ethernet adapter (fiber)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20, 9407-515, 9406-525	03N6058* 30R5519**
	25B9	Wrap plug	9407-515, 9406-525	12R9314* 11P3847**
	25C0	When replacing an IBM Gigabit-SX Ethernet PCI-X adapter in an OpenPower system go to 25C0.		
	25C0	IBM Gigabit-SX Ethernet PCI-X adapter		03N6981* 00P4499**
	25C1	When replacing IBM 10/100/1000 base-TX PCI-X adapter in an OpenPower system go to 25C1.		
	25C1	IBM 10/100/1000 base-TX PCI-X adapter		03N6524* 00P6130**
	25C2	When replacing IBM dual-port Gigabit SX Ethernet PCI-X adapter in an OpenPower system go to 25C2.		
	25C2	IBM dual-port Gigabit SX Ethernet PCI-X adapter		03N6973* 00P6132**
	25C3	When replacing IBM 10/100/1000 base-TX dual-port PCI-X adapter in an OpenPower system go to 25C3.		
	25C3	IBM 10/100/1000 base-TX dual-port PCI-X adapter	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9407-515, 9406-525, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 720, 7311-D10, 7311-D11, 7311-D20, 9411-100	03N5297* 00P6131**
	25C4	Broadcom dual-port Gpbs Ethernet PCI-X adapter		25R8356**
	25C4	Broadcom dual-port Gpbs Ethernet PCI-X daughter card		13N2306**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	25D0	PCI audio adapter	7037-A50, 7047-185, 9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-525	10N7732* 80P2598**
	25F8	When replacing a 1 GB PCI-X iSCSI TOE Ethernet adapter (copper) in an OpenPower system go to 25F8.		
	2600	PCI 64-Bit Fibre Channel adapter	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9406-525, 9133-55A, 9406-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D20, 9411-100	80P6416**
	2601	When replacing a PCI 64-Bit Fibre Channel adapter in an OpenPower system go to 2601.		
	2601	PCI 64-Bit Fibre Channel adapter	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20, 9406-525	03N7069* 03N6441**
	2602	When replacing a PCI 64-Bit 4 GB Fibre Channel adapter in an OpenPower system go to 2602.		
	2602	PCI 64-Bit 4 GB fibre channel adapter	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-525, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20	03N5029* 03N5020**
	2603	1 or 2 Port 4 GB PCI express fibre channel adapter		
	2621	PCI-X Dual-port 4x HCA		26K7434**
	2631	Integrated IDE controller		
	2D02	Generic USB reference to controller/adapter		
		Divider	9115-505, 9133-55A, 9406-550, 9113-550	97P5894**
		Light pipe	9115-505, 9133-55A, 9406-550, 9113-550	97P4367**
		Chassis	9115-505, 9133-55A, 9406-550, 9113-550, OpenPower 720	97P4363**
		DVD ROM	9115-505, 9110-51A	39J0552**
		PCI adapter	9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 720	80P6513**
		PCI adapter	9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 710, OpenPower 720	80P6508**
		DIMM cover	9406-570, 9117-570	97P6896*

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Adapter	7037-A50	52P8456
		Adapter assembly	7037-A50	52P8480
		IDE cable	7037-A50	36R2522
		SCSI cable	7037-A50	36R2524
		GXT adapter with digital port	7037-A50, 7047-185, 9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561	03N5855* 80P6411**
		Ethernet adapter, copper	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 710, OpenPower 720	30R5219*
		10 GB ethernet PCI-X adapter (short)	9111-285, 9115-505, 9110-510, 9110-51A, 9111-520, 9113-550, 9116-561, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20, 9406-525	16R0599*
		Ethernet adapter, dual port, fiber	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 710, OpenPower 720	03N6058* 30R5519**
		Air baffle	7037-A50, 7047-185	42R4150**
		Baffle	7037-A50, 7047-185	53P2654**
		PCI adapter, 4 GBS, short, 2 port	7037-A50, 7047-185	03N5029* 03N5020**
		PCI adapter, 2 GBS, short, 2 port	7037-A50, 7047-185	03N7067* 03N6439**
		Ethernet adapter (fiber), short	7037-A50, 7047-185, 9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 710, OpenPower 720	03N6982* 80P6444**
		Ethernet adapter, 10/100/1000, short, 4 port	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 710, OpenPower 720	03N5444* 03N5446**
		Ethernet adapter (UTP), short	7037-A50, 7047-185, 9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 710, OpenPower 720	03N6525* 80P6445**
		Ethernet adapter (UTP), short, dual port	7037-A50, 7047-185, 9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 710, OpenPower 720	03N5298* 80P6450**
		Ethernet adapter (fiber), short, dual port	7037-A50, 7047-185, 9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 710, OpenPower 720	03N6974* 80P6451**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		PCI adapter, 4 GB, short, 1 port	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 710, OpenPower 720	03N5014* 03N5005**
		Ethernet adapter (fiber), short	7037-A50 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9407-515, 9406-525	03N6981* 00P4499**
		Ethernet adapter (UTP), short	7037-A50 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 9407-515, 9406-525	03N6524* 00P6130**
		Audio card	7037-A50, 7047-185, 9111-285, 9131-52A, 9405-520, 9406-520, 9111-520	10N7732* 80P2598**
		USB mouse	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, OpenPower 710, OpenPower 720	03N6669* 09N5532**
		Mounting rails	9116-561, 9406-570, 9117-570	23R0409
		Blower bezel	9110-510, OpenPower 710	97P6539*
		Easy access bezel	9405-520, 9406-520, 9406-550	39J5332*
		Front cover	9133-55A, 9406-550	39J1224* 97P4609**
		Front cover	9406-570	39J4288*
		Bracket support rail	9406-570, 9118-575, 9119-590, 9119-595, 9411-100, 5786	07H5247*
		Blower filler	9406-570, 9411-100, 5786, 5787	12R7450**
		Power filler	7031-D24, 7031-T24, 9406-570, 9411-100, 5786, 5787	12R7454*
		SCSI filler	9406-570, 7031-D24, 7031-T24, 9411-100, 5786, 5787	12R7457*
		Bezel filler	5786, 5787, 9111-285, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9406-595, OpenPower 710, OpenPower 720, 7311-D20, 7031-D24, 7031-T24, 9411-100	97P4179* 53P6213**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		GXT6500P PCI, long, 64 bit graphics adapter	7047-185, 9111-285, 9133-55A	80P7117* 00P4473**
		Tape controller	9115-505	03N7068* 03N6440**
		Tape controller	9115-505	03N7068* 03N6440**
		Ethernet adapter card	9115-505	03N6526* 03N4700**
		Ethernet adapter card, dual port	9115-505	03N5531* 03N4701**
		J-bracket	9118-575, 9119-590, 9119-595	41V1063* 05N6585**
		Latch bracket	9118-575, 9119-590, 9119-595, 9406-595	41V1065* 11P1093**
		Marriage bolt	9119-590, 9119-595	41V1066* 11P1094**
		Latch bracket	9118-575, 9119-590, 9119-595, 9406-595	41V1067* 11P1097**
		Cassette filler	9118-575, 9119-590, 9119-595, 7311-D10	80P6749* 80P5354**
		Processor filler	9116-561, 9406-570, 9117-570	39J0854* 97P3289**
		Processor filler	9116-561, 9406-570, 9117-570	39J1338* 97P4725**
		Wrap plug	9405-520, 9406-520, 9406-570, 9406-595, 9411-100	12R9312* 05N6767**
		Support bracket	9406-595	12R7291* 11P3744**
		Support bracket	9119-590, 9119-595	44P1551* 11P4173**
		Support bracket	9118-575, 9119-590, 9119-595	44P1553* 11P4175**
		Wrap plug	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 720, 7311-D10, 7311-D11, 7311-D20	12R9315* 12R6249**
		9' power cord, 200-240 V, 10A, IEC320/C13, PT#18	7031-D24, 7031-T24	39M5123* 13F9979**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Power cord 2.7 m (9 ft.)	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20, 7031-D24, 7031-T24	39M5102 [*] 13F9940 ^{**}
		I/O DCA BCS	9118-575, 9119-590, 9119-595, 5791, 5794	41V0943 [*] 16R1062 ^{**}
		Bracket, cable retainer	9118-575, 9119-590, 9119-595	41V1799 [*] 44P1110 ^{**}
		Bracket, cable retainer	9118-575, 9119-590, 9119-595	41V1800 [*] 44P1111 ^{**}
		Bracket, cable retainer	9118-575, 9119-590, 9119-595	12R9501 [*] 44P1112 ^{**}
		2.7 meter (9') power cord, 250 V	7311-D10, 7311-D11, 7311-D20	39M5095 [*] 1838574 ^{**}
		Cable bracket	9119-590, 9119-595	41V1803 [*] 44P1550 ^{**}
		Cable bracket	9118-575, 9119-590, 9119-595	41V1802 [*] 44P1552 ^{**}
		Clamp	9119-595	41V1887 [*] 44P2815 ^{**}
		Power board/stiffener assembly	9405-520, 9406-520, 9406-550, 9406-570, 9406-595	39J3082 [*] 21P3793 ^{**}
		SCSI signal cable	9111-285, 9115-505, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, OpenPower 720	39J4140 [*] 39J2634 ^{**}
		Expansion card	9116-561, 9117-570	39J3781 [*] 39J2069 ^{**}
		Expansion Card D1812 IOA	9131-52A	39J3927 [*] 39J2444 ^{**}
		Light path assembly	7037-A50, 7047-185	39J5654 [*] 39J4604 ^{**}
		PCI-X adapter	7037-A50, 7047-185, 9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 710, OpenPower 720	42R4860 [*] 39J4996 ^{**}
		Rack kit	7037-A50	42R5348 [*] 39J5144 ^{**}
		InfiniBand host channel adapter	9118-575	41V1036 [*] 41V0583 ^{**}
		Front door cover	9406-570, 9406-595, 9411-100	42R4039 [*] 21P4610 ^{**}
		5.25" bezel	7037-A50	39J4112 [*]

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Bezel	9115-505	39J1399*
		Wrap plug	9111-285, 9405-520, 9406-520, 9406-550, 9406-595, 7311-D10, 7311-D11, 7311-D20	42R4761* 6298964**
		Handle	9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, OpenPower 720, 7031-D24, 7031-T24	12R8511* 90H9196**
		1-way screw	7037-A50, 9111-285, 9111-520	42R4624* 93H9086**
		Double-wide blind swap cassette	9405-520, 9406-520, 9406-550, 9116-561, 9117-570, 9406-595, 9411-100	21P8333* 97P6483**
		GX Dual-port 4x HCA	9133-55A, 9113-550, OpenPower 720	03N6662* 03N6028**
		Earthquake kit	9405-520, 9406-520, 9406-550, 9406-570, 9406-595	41V0487* 31L8301**
		Modem tray shelf	9406-520, 9406-550, 9406-570, 9406-595, 9411-100	10N7683* 80P3263**
		Fan assembly	9118-575, 9119-590, 9119-595, 9406-595	12R9323* 44P3865**
		Rack rail kit	9116-561, 9117-570	39J5189* 97P4735**
		Mechanical assembly CUOD A-char	9119-590, 9119-595, 9406-595	60H2325* 12R8639**
		Slide kit	9115-505	42R3850*
		160-320 GB cartridge tape	7037-A50, 9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9119-595, OpenPower 720	24R2138**
		25 GB 1/4" cartridge tape	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, OpenPower 720, 9411-100	35L0844**
		8 MM 60-150 GB cartridge tape	9110-510, 9405-520, 9406-520, 9111-520, 9406-550	35L1409**
		1.8 meter I/O Tower	9119-590, 9119-595	39J4611* 24L0962**
		Foam bracket	9118-575, 9119-590, 9119-595	16R1152*
		Foam pad	9119-590, 9119-595	11P4104*
		Foam pad	9119-590, 9119-595	11P4105*
		Foam plate	9118-575, 9119-590, 9119-595	11P3827*
		Handle	9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, OpenPower 720	39J1154* 24L2643**
		Handle bracket	7031-D24, 7031-T24	12R8510*
		Heat sink	9119-595	12R8531* 16R0410**
		Heat sink	9119-595	12R8532* 16R0411**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Interposer	7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 9118-575, 9119-590, 9119-595, OpenPower 710, OpenPower 720	42R4889* 58F2861**
		Interposer 4=1	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9133-55A, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11	43G0935* 51G8610**
		Label	9406-520, 9406-550, 9406-570, 9406-595, 9411-100	21P6691*
		Mechanical tool	9119-595	44P3402**
		Modem	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	05F2005**
		Modem	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	05F2051**
		Modem, Germany	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	89G3093**
		Modem, Belgium	9405-520, 9406-520, 9406-550, 9406-570, 9119-595, 9411-100	04K9177**
		Modem, France	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	04K9175**
		Modem, Netherlands	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	04K9185**
		Modem, United Kingdom	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	04K9169**
		Node baffle	9119-590, 9119-595, 9406-595	12R6632**
		Node cover	9118-575	7336484*
		Node kit	9119-590, 9119-595, 9406-595	41V0809**
		Node VPD	9119-595, 9406-595	03N5076* 80P4973**
		Plate	9118-575, 9119-590, 9119-595	12K0565*
		Plate	9111-285, 9131-52A, 9405-520, 9406-520, 9111-520	39J2475* 97P3847**
		Plug 232	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	10N6539*
		Secure kit	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	41V0489* 05N4700**
		Tailgate	9119-590, 9119-595	12R8313*
		Tailgate	9118-575	12R9733* 12R6708**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Tailgate	9119-590, 9119-595	44P4026* 44P0144**
		Test cartridge	7037-A50, 7047-185, 9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9406-570, 9119-590, 9119-595, 9406-595, OpenPower 720, 9411-100	24R2135**
		Test cartridge	7037-A50, 7047-185, 9111-285, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9133-55A, 9406-550, OpenPower 710	59H4457**
		Test cartridge	7037-A50, 7047-185, 9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9119-590, 9119-595, OpenPower 720	24R0395*
		8 MM test cartridge	9405-520, 9406-520, 9111-520, 9406-550, OpenPower 720	59H2677**
		Tip plate	9131-52A, 9405-520, 9406-520, 9111-520	39J0798*
		Tip plate	9133-55A, 9406-550	39J1235*
		Tip plate	9406-520, 9406-570, 9406-595	41V0584* 31L8305**
		Tip plate	9405-520, 9406-520, 9113-550, 9406-570, 9406-595	41V0586* 44P1850**
		Tool insertion	9118-575	44P0549**
		Toolbox kit	9119-590, 9119-595	12R9342*
		Trim, left	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	97P6849*
		Trim, right	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	97P6852*
		Wrap, 15 pin	9131-52A, 9111-520, 9133-55A, 9113-550, 7311-D20	34F0876**
		Wrap connector	9111-285, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	33F8985**
		Wrap plug	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	6165899**
		Wrap plug	9405-520, 9406-520, 9406-550, 9406-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 720	42R5143* 6298965**
		Wrap plug	7037-A50, 7047-185, 9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561	03N6070* 00G2380**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Wrap plug	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	43G0928*
		Wrap plug	9111-285, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	73H2508**
		Wrap plug	7037-A50, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	87H3442**
		Wrap plug	9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 7311-D10, 7311-D20	87H3588**
		Wrap plug	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9131-52A, 9111-520, 9133-55A, 9113-550, OpenPower 710, OpenPower 720	93H4345*
		Wrap plug	9111-285, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	40F9904**
		10 GB ethernet PCI adapter, short, 64 bit	9111-285, 9115-505, 9110-510, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	80P5758**
		Acoustic front/cover door for 1.8 meter rack	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	41V0103* 12R8349**
		Rack rail kit	9115-505	42R3849*
		Spacemouse 3D Inchplus XT motion controller	7047-185	09P3790**
		128 MB DRAM option card	9116-561, 9406-570, 9406-595, 7311-D10, 7311-D11, 7311-D20	34L5388**
		System drawer enclosure with bezel	9116-561, 9406-570, 9117-570	39J0414*
		B & C tool	9118-575, 9119-590, 9119-595	44P2629
		I/O filler	9119-590, 9119-595, 9406-595	41V0605* 12R7678**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		I/O gate	9406-520, 9406-570, 9406-595, 9411-100	31L7731**
		Left bracket	9405-520, 9406-520, 9406-570, 9406-595, 7031-D24, 9411-100	12R6121*
		Right bracket	9405-520, 9406-520, 9406-570, 9406-595, 7031-D24, 9411-100	12R6122*
		Mounting hardware	9405-520, 9406-520, 9406-570, 9406-595, 9411-100	09P1418**
		Retainer bracket	9119-590, 9119-595	44P0513* 44P1154**
		Right extender	9118-575, 9119-590, 9119-595	12R7805*
		Left extender	9118-575, 9119-590, 9119-595	12R7806*
		3D input device (spaceball)	9111-285, 9133-55A	10N7696* 00P2119**
		Quad digital trunk telephony PCI blind swap adapter	9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 7311-D10, 7311-D20	00P3119*
		Fibre adapter	9118-575	03N4420**
		SpaceBall 3D Input Device (USB)	7047-185, 9111-285, 9133-55A	03N6480*
		SpaceMouse Plus 3D Input Device (USB)	7047-185, 9111-285, 9133-55A,	03N6483*
		4 channel ultra3 SCSI RAID PCI adapter	7311-D10,	03N7030**
		Spacemouse	9111-285, 9133-55A,	10N7697* 09P3789**
		Universal 4 port 10/100 ethernet adapter	9116-561, 9406-570, 9406-595, 7311-D10, 7311-D11, 5790, 7311-D20	80P3553**
		Rack beacon	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	53P1778**
		Rack bezel	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 7031-D24	41U0264**
		X25 PCI adapter	9111-285, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	00P5920**
		Side cover	9118-575, 9119-590, 9119-595	12R8702* 12R6704**
		Side cover	9131-52A, 9405-520, 9406-520	39J3672* 97P3747**
		Slim doors	9406-595	12R8249**
		SMP latch	9116-561, 9117-570	39J2440*
		SMP latch	9116-561, 9406-570, 9117-570	42R4102* 97P3279**
		Spanner tool	9119-590, 9119-595, 9406-595	39J3005*
		Service shelf tool kit	9119-590, 9119-595, 9406-595	39J3008**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Support bar	9118-575, 9119-590, 9119-595	44P2321*
		Top cover	9111-285, 9131-52A	39J1204*
		Top handle	7037-A50, 7047-185	39J5145**
		Top hinge	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	39J4359* 24L1055**
		Modem, Aus	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	04K9214**
		Modem, Belgium	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	04K9234**
		Modem, Denmark	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	04K9216**
		Modem, Italy	9405-520, 9406-520, 9406-570, 9406-595, 9411-100	04K9202**
		Modem, Netherlands	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	04K9208**
		Modem, Norway	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	04K9224**
		Modem, Sweden	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	04K9210**
		Air baffle	9116-561, 9117-570	39J1131* 39J0216**
		Air feeder	9118-575, 9119-590, 9119-595	12R9301*
		Air flow bracket	9118-575, 9119-590, 9119-595, 9406-595	31L8613*
		Modem, German	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	53F6082**
		Back door	9118-575, 9406-595	41U0400* 44P4680**
		Bezel	9118-575, 9406-595	23R5633*
		Baffle	9118-575, 9119-590, 9119-595	44P2462*
		Baffle	9118-575	44P2994* 44P2463**
		Battery kit	9406-520, 9406-550, 9406-570, 9406-595, 9411-100	85G6440**
		Bottom filler	9119-595	12R9344*
		Bracket	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 7311-D10, 7311-D11, 9411-100	00P2402**
		Bracket	9119-590, 9119-595	07H6823*
		Bracket	9119-590, 9119-595	07H6824*
		Bracket	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 7311-D10, 7311-D11, 9411-100	09P4911**
		Bracket	9118-575, 9119-590, 9119-595	12K0566*
		Bracket	9118-575, 9119-590, 9119-595	12K0864*

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Bracket	9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9113-550, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 720, 7311-D10, 7311-D11, 7311-D20	12R6965*
		Bracket	9111-285, 9131-52A, 9405-520, 9406-520, 9111-520	39J2474* 97P3846**
		Bracket	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	39J3287* 53P0639**
		Bracket	9119-590, 9119-595, 9406-595	41U0258*
		Bracket	9118-575, 9119-590, 9119-595, 7311-D10	41V0606*
		Bracket	9118-575, 9119-590, 9119-595	44P2801*
		Bracket	9405-520, 9406-520, 9406-570, 9406-595	60G1994**
		Bracket assembly	9119-590, 9119-595	11P1262*
		Bracket airbaffle	9118-575, 9119-590, 9119-595	15R6721* 11P2900**
		Blind swap mechanism bracket	9118-575, 9119-590, 9119-595	12R6966*
		Caster, fixed	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	05N4915**
		Caster, swivel	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	05N4916**
		Catch assembly	9116-561, 9406-570, 9117-570	42R4102* 97P3279**
		Right bracket	9119-595	12R6462*
		Corner bracket	9118-575, 9119-595	44P2450**
		Cover assembly	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	53P2755*
		Cover kit	9118-575, 9119-590, 9119-595	16R1508* 12R6858**
		Cover kit	9118-575, 9119-590, 9119-595	41V1676*
		Cover kit	9118-575, 9119-590, 9119-595	41V1678* 12R8663**
		Cover kit	9118-575, 9119-590, 9119-595	41V1680*
		Card divider	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	44L0041**
		Heat exchanger	9118-575, 9119-590, 9119-595	12R8664*
		Acoustic and rear door kit	9406-595	41V1681*
		42U frame	9119-590, 9119-595	44P2809**
		Remote asynchronous node (rack).	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, 7311-D10, 7311-D11, 7311-D20	09P4096**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Door assembly	9405-520, 9406-520, 9406-570, 9406-595, 9411-100	41V0416* 32P1029**
		Door with hinge	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	00P1820**
		Door trim kit	9406-520, 9406-550, 9406-570, 9406-595, 9411-100	97P6858**
		Filler plate	9119-590, 9119-595	07H6826**
		Filler	9133-55A, 9406-550, 9406-570, 9117-570	21P8267*
		Filler	9116-561, 9406-570, 9117-570	97P3318*
		Filler	9116-561, 9406-570, 9117-570	97P3340**
		Filler	9117-570	97P6688**
		Filler plate	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 7311-D10, 7311-D11, 9411-100	09P4912**
		Front door	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	21P4730**
		Front cover	9111-285	39J1215*
		Front door	9118-575, 9406-595	41U0402* 12R7217**
		Front door	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	45P1459*
		Front latch	9118-575, 9119-590, 9119-595	41V2355* 11P1096**
		Service processor card filler	9116-561, 9406-570, 9117-570	39J1513*
		Service processor card filler	9111-285, 9131-52A, 9405-520, 9406-520	39J2159*
		Grand bracket	9110-510, 9110-51A, OpenPower 710	39J5073*
		Guide assembly	9405-520, 9406-520	39J5308* 97P2805**
		Guide bracket	9116-561, 9406-570, 9117-570	21P8383*
		Guide end	9119-595	16R0476*
		Guide, lower	9119-595	16R0475*
		Guide, upper	9119-595	16R0474*
		Hinge	9118-575	11P4361*
		Hinge assembly	9405-520, 9406-520, 9406-570, 9406-595, 9411-100	41V0080* 31L7533**
		Hinge cover	9406-570, 9117-570	39J2040* 97P6511**
		Left bracket	9118-575, 9119-590, 9119-595	44P0515*
		Latch bracket	9118-575, 9119-590, 9119-595	44P2459*
		Latch kit	9405-520, 9406-520, 9406-550, 9406-570, 9406-595	44P3540*
		Left cover	9133-55A, 9406-550, 9113-550, OpenPower 720	39J1223* 97P4608**
		Lift plate	9118-575	11P4369**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Light pipe	9405-520, 9406-520	97P6368*
		Front tower bezel	9405-520, 9406-520	97P6862*
		Argo card FRU kit	9119-590, 9119-595	97P6764* 97P6076** 97P2375**
		Depth reduction	9118-575	12R7800*
		Deskside bottom	7037-A50, 7047-185	39J3605**
		Door	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	41V0105* 12R8351**
		DASD filler	9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9406-550	97P6770*
		Dummy plate	9119-590, 9119-595	12K0564*
		DVD RAM	9119-590, 9119-595	39J2144* 97P5716**
		EMC skirt kit	9119-590, 9119-595	12R9244* 12R7326**
		EMC shield	7037-A50, 7047-185	42R4153**
		10 GB ethernet, fiber, DDR2, PCIX, long, 3 V	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20, 9411-100	03N4588*
		10 GB ethernet, fiber, DDR2, PCIX, short, 3.3 V	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20, 9411-100	03N4590*
		Expansion card	9406-570, 9117-570	42R6849**
		8" top extender	9118-575, 9119-590, 9119-595	12R6703*
		8" external support bracket	9118-575, 9119-590, 9119-595	12R6709*
		SMP flexible cable assembly	9116-561	39J3712*
		Full length airflow filler	5094, 9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	46G3556**
		Generation 3 blind swap filler	9405-520, 9406-520, 9406-550, 9116-561, 9406-570, 9117-570, 9406-595, 7311-D11, 9411-100	39J0260*
		GX adapter	9133-55A, 9406-550, 9113-550, OpenPower 720	39J2706*
		Door	9405-520, 9406-520, 9406-550	39J5114*
		Ladder	9118-575, 9119-590, 9119-595	46G5947**
		Ultra SCSI controller PCI IOA	9406-520	04N2310**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Media kit	9119-590, 9119-595	8191149**
		Mounting rail	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 7031-D24, 9411-100	39J2051 [†]
		Mounting bracket	9119-595	44P4826*
		Long PCI divider	9111-285, 9131-52A	53P4327*
		PCI drawer	9406-570, 9406-595, 9411-100	21P5643*
		System processor filler	9116-561	39J0804**
		Rack cover	OpenPower 720	97P6454**
		Rack kit	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	39J3099**
		Rack kit	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	39J3100**
		Rail hardware	9405-520, 9406-520	39J5305 [†] 97P2959**
		Rear cover	9118-575, 9119-590, 9119-595	41U0397* 44P2324**
		Rear flange	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 7031-D24, 9411-100	12R8512*
		Retaining clip	9405-520, 9406-520, 9406-550, 9406-570, 9117-570, 9406-595, 9411-100	97P5383*
		Battery retainer, inner	9118-575, 9119-590, 9119-595	11P3745*
		Battery retainer, outer	9118-575, 9119-590, 9119-595	11P3746*
		RIO G cable bracket	9131-52A, 9405-520, 9406-520, 9111-520	39J2471 [†] 53P5613**
		RIO G bracket	9133-55A, 9406-550	39J1220 [†]
		RIO G bracket	9405-520, 9406-520	39J2158 [†]
		Rack cover	9405-520, 9406-520, 9406-550	39J5327 [†]
		Marriage hardware kit	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	41V0484* 31L8302**
		R/M filler assembly	9116-561, 9406-570, 9117-570	39J2223 [†]
		Spaceball 4000	7047-185	33L3251**
		Passthru card 2nd DASD backplane connector to external port	9111-285, 9131-52A, 9405-520, 9406-520, 9111-520	03N5875* 80P6429**
		PCI serial HIPPI adapter	9406-570, 9406-595, 7311-D10, 7311-D11, 7311-D20	00P3650**
		Tray assembly with board	9110-510, 9110-51A, OpenPower 710	39J5047 [†]
		Differential SCSI adapter	9111-285, 9131-52A, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 9118-575, 9119-590, 9119-595, 7311-D10, 7311-D11, 7311-D20	11K0671**
		Soft tie puck	9119-590, 9119-595	31L7174 [†]
		Adapter	7047-185	25R9043* 09N3435**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		4 GB 1/4" cartridge tape	9406-520, 9406-550, 9406-595, 9411-100	21H7019**
		Rack mounted drawer rail kit	9115-505	39J0948*
		Cleaning cartridge, 5 pack, for 36 GB 4 mm tape unit	7037-A50, 7047-185, 9111-285, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9133-55A, 9406-550, OpenPower 710	21F8763**
		Cable for modem, German	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	1332008**
		Baffle assembly	9406-570	39J1131* 39J0216**
		Bus extension for dual WAN/modem PCI adapter	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	87G4230**
		Bus bar	9405-520, 9406-520, 9406-550, 9406-570, 9406-595	40H0454*
		Bus bar ground	9405-520, 9406-520, 9406-550, 9406-570, 9406-595	40H0453*
		Disk unit filler	7037-A50, 7047-185	42R4098*
		SCSI-to-IDE interface bridge adapter card jumper	9119-590, 9119-595	8193233*
		LTO ultrium 200 GB data cartridge	7037-A50, 7047-185, 9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9119-590, OpenPower 720	08L9870*
		Disk controller	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	42R6011*
		PCI expansion tower	5094, 9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	39J4304* 24L0761**
		Front bezel	7031-D24	41U0300**
		Operator panel mtg bracket	9131-52A	39J1375*
		Tip plate	9131-52A	39J1385*
		Mechanical assembly	7311-D10	09P3118**
		Left side cover	9131-52A	39J1366*
		Bracket	7311-D10, 7311-D11	09P2853**
		Cover bottom	7037-A50	13N2459**
		Front cover	7311-D20	39J4661* 53P2020**
		PCI cover	7311-D20	39J1177* 53P0268**
		Goliad snap together cassette assembly	7311-D10, 7311-D11	44P3321**
		Bracket	7311-D20	00P4885**
		Front cover	7311-D20	53P1355**
		Left mount	9110-51A, OpenPower 710	40K6434*
		V.35 wrap	7311-D10, 7311-D11, 7311-D20	71F0163**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Fiber-Distributed Data Interface (FDDI) adapter	7311-D10, 7311-D20	73H3401**
		Fill plate	9119-590, 9119-595	07H6827**
		Top right cover	9131-52A	39J1372*
		Top cover	9405-520, 9406-520, 9406-550	97P2384**
		Hot plug kit	7311-D10, 7311-D11, 7311-D20	44P0322**
		BSM cassette	7311-D10	44P4455**
		Door trim kit	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100	97P6859*
		Tower handle	7037-A50	33J4143**
		Bezel tower	7031-T24	41U0267**
		Right rail	7311-D10	21P7876**
		Wrap plug	7311-D10, 7311-D11, 7311-D20	04H7648**
		Bracket	7311-D10	00P2753**
		Screw	9110-51A	27F4212**
		Blind swap assembly	7311-D10	97P6654**
		Ultra2 SCSI con	9110-51A	07L7411*
		32 MB fast-write cache option card	7311-D10, 7311-D11, 7311-D20	44L0305**
		Bracket	7311-D10, 7311-D20	44P3912* 44P2650**
		Blind swap guide, upper	7311-D10, 7311-D11	00P2750**
		SP switch-to-PCI-X attachment adapter	7311-D10, 7311-D20	44P4021**
		Door assembly	9133-55A	39J3620*
		Rack bezel	7037-A50	53P3176**
		Bracket	7311-D10, 7311-D11	09P2753**
		QMC blower	9110-510, 9110-51A, OpenPower 710	39J5281**
		Drawer cover	9131-52A, 9133-55A	39J3622*
		Drawer assembly	7311-D10	09P4746**
		Front bezel	9110-51A	39J3381**
		Air baffle	9110-51A	39J1882*
		Bezel, tower	7031-T24	41U0266**
		Chassis kit	9110-51A	42R4840*
		750 W power supply guard	7037-A50	42R4101*
		Left rail assembly	7311-D10	21P7875**
		Cover assembly	7311-D10	00P2788**
		Filler, 10 Gbps, Ethernet IOA (long)	7311-D10, 7311-D11, 7311-D20	80P2341**
		Right mount	9110-51A, OpenPower 710	40K6435*
		Air duct	9110-510, 9110-51A	42R4001*

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		PCI divider	9131-52A	53P4325*
		Front spring for 36.4 GB 10K RPM ultra320 SCSI disk drive assembly	7311-D20	05J7982*
		Guide, PCI cartridge	7311-D10, 7311-D11	09P3128**
		Long-wave serial HIPPI PCI adapter	7311-D20	00P3659**
		Bracket, disk drive unit	9110-510, 9110-51A	39J1879*
		Elastic stop nut, M3	7031-D24, 7031-T24	1622415**
		FDDI-LP single attach station PCI adapter	7311-D10, 7311-D20	73H3405**
		Screw lock for 1.9 GHz processor card, 1-core	9110-51A	62X0388**
		Cover kit	7031-T24	41U0302**
		Rear cover	9131-52A	39J1380*
		Bracket, bulkhead	7311-D10, 7311-D11	00P2752**
		Cable bracket	9131-52A	39J1006* 97P6954**
		Half-drawer mechanical assembly	7311-D10	00P2751**
		Dual channel ultra320 SCSI blind swap PCI adapter	7311-D10	97P6653**
		Chassis assembly	9115-505	42R5160*

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Non-storage IOA and IOP parts

CCIN or Type	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
2058		PCI cryptographic coprocessor	All	11P3106**
2723		Ethernet IOA	All	23L4193**
2742		2-line communications IOA	All	39J2298* 21P5267**
2743		Ethernet 1 Gb/sec IOA	All	09P2098**
2744		Token ring 100 Mb/sec IOA	All	23L4288**
2745		Multiline communications IOA	All	21H5489**
2746		Twinaxial IOA	All	39J3707* 21H5497**
2750		ISDN communications IOA	All	97H7674**
2751		ISDN communications IOA	All	97H7675**
2760		Ethernet 1 Gigabit/sec IOA	All	00P1690**

CCIN or Type	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
2761		Integrated modem IOA 1. United States 2. Europe 3. Germany 4. Australia 5. Spain 6. Czechoslovakia	All	1. 97H7678** 2. 97H7679** 3. 97H7680** 4. 97H7681** 5. 97H7682** 6. 97H7683**
2771		V.90 WAN IOA 1. <i>Allexcept</i> Australia, New Zealand 2. Australia, New Zealand	All	1. 21P4151** 2. 21P4157**
2772		Two-port V.90 socket modem IOA 1. AllEXCEPT Australia, New Zealand 2. Australia, New Zealand	All	1. 04N4537** 2. 04N4539**
2793		V.92 communications IOA 1. AllEXCEPT Australia, New Zealand 2. Australia, New Zealand	All	1. 39J2282* 21P5289** 2. 39J2286* 21P5295**
2805		4-port V.92 communications IOA 1. AllEXCEPT Australia, New Zealand 2. Australia, New Zealand	All	1. 39J2290* 97P5638** 2. 39J2294* 97P5641**
2838		100 Mbps Ethernet IOA	All	21H5460**
2842		Combined function IOP - 32 MB	All	04N5090**
2843		Combined function IOP - 64 MB	All	39J3247**
2844		Combined function IOP - 64 MB	All	39J1719* 39J3242**
2849		10/100 Mbps Ethernet IOA	All	53P0057**
1. 4758-001 2. 4758-001		1. PCI cryptographic coprocessor 2. PCI cryptographic coprocessor battery kit	1. All 2. All	1. 10J0410** 2. 09J8199**
1. 4758-023 2. 4758-023		1. PCI cryptographic coprocessor 2. PCI cryptographic coprocessor battery kit	1. All 2. All	1. 41U0063** 2. 09J8199** (need to order 2 kits)
1. 4764-001 2. 4764-001		1. PCI cryptographic coprocessor 2. PCI cryptographic coprocessor battery kit	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	1. 41U0442* 12R6540** 2. 41V1061* 12R6714**

CCIN or Type	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
5700		Ethernet 1 GB/sec IOA	All	03N6981* 00P4499**
5701		Ethernet 1 GB/sec IOA	All	03N6524* 00P6130**
5706		1Gbps Ethernet-TX IOA (UTP)	All	03N5297* 00P6131**
5707		Ethernet 1 GB/sec IOA	All	03N6973* 00P6132**
		2 port asynchronous EIA-232 PCI IOA	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-595, OpenPower 710, OpenPower 720, 7311-D10, 7311-D11, 7311-D20, 9406-525	80P4353**
		Netfinity IOA	9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	04N7104**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Power parts

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	166	Fan assembly or blower	9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9407-515, 9406-525	39J2473* 97P3153**
	166	Blower	9406-570, 7031-D24, 7031-T24, 9411-100, 5786, 5787	41V0641*
		228 W power supply	7311-D10, 9406-525	22R3958* 22R5494**
	166	Drawer fan	7311-D11	
	166	Drawer fan	7311-D20 , 9406-525	39J1176* 53P0262**
		AC input/battery charger	5074 or 5079 (single line cord), 9074, 9079, 9406-525	97H7316**
		AC module	5074 or 5079 (2 power supply dual line cord), 9406-525	21P6347**
		AC module	5094, 8294 , 9406-525	39J5171* 53P5263**
		Battery power unit	5094, 5074, 5079, 9406-525	97H7318**
		Bulk power controller (BPC) assembly	9118-575, 9119-590, 9119-595, 9406-595	41V0355* 12R6304**
		Bulk power distribution (BPD) assembly	9118-575, 9119-590, 9119-595, 9406-595	12R9722* 12R6302**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		Bulk power jumper (BPJ) assembly	9118-575	41V0426* 44P1998**
		Bulk power hub (BPH) assembly	9118-575	12R9704* 12R6164**
		Bulk power distribution fan	9118-575, 9119-590, 9119-595, 9406-595	12R9323* 44P3865**
		Bulk power regulator (BPR) assembly	9118-575, 9119-590, 9119-595, 9406-595	15R6711* 12R8143**
	684	Enhanced remote asynchronous node, 16-Port RS-422 power supply, remote async node	All	93H6563** 80P3869**
28E8		Processor voltage regulator	9116-561, 9117-570	39J2557* 39J0473**
	152 287 289	Power supply	9110-510, 9110-51A, OpenPower 710	39J4710* 97P5834**
51BA	152 287 289	Power supply	9133-55A, 9406-550, 9113-550, OpenPower 720	39J2576* 39J3741**
	152 287 289	Power supply	9116-561, 9406-570, 9117-570	39J2779* 97P5676**
	152 287 289	Power supply	9118-575	41V1227* 12R9895**
	152 287 289	Power supply	5088, 0588	97P5253**
	152 287 289	Power supply	9405-520, 9406-520, 9406-525, 9406-550, 9406-570, 9406-595, 7311-D20, 9411-100	39J2781* 53P4832**
	152 287 289	840 W power supply	5074, 5079, 5094, 5294, 8093, 8094, 8294	39J5273* 53P1038**
	152 287 289	Power supply	5790, 7311-D11, 9406-525	22R3958* 22R5494**
		Power supply, 850 W	9405-520, 9406-520, 9111-520, 9407-515, 9406-525, 9131-52A	39J4951* 39J0544**
		1.2 V voltage regulator	9111-285, 9131-52A, 9405-520, 9406-520, 9407-515, 9406-525	39J5065* 39J0247**
254x		1.3 V, 75 A voltage regulator module	9115-505	39J5067*
252x, 53Bx, 834x		1.3 V, 105 A voltage regulator module	9115-505	39J5205*
		1.5 V voltage regulator	505, 550, 55A, 720, 9406-525	39J5185* 24P6892**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		2.5 V voltage regulator (44 A VRM)	9110-510, 9110-51A, OpenPower 710	03N6792*
		2.5 V voltage regulator	9115-505, 9110-510, 9405-520, 9406-520, 9111-520, 9133-55A, 9113-550, OpenPower 710, OpenPower 720, 9406-525	97P2642**
		1.2 V regulator card	9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, OpenPower 710, OpenPower 720	39J3615* 44P3193**
		1.3 V voltage regulator (105 A VRM)	9110-510, 9110-51A, OpenPower 710	03N6793* 24R2696**
	11A	Battery kit, cryptographic coprocessor	9406-525	09J8199**
	151	Battery, time-of-day, NVRAM, etc. Notes: After replacing FRU do the following: 1. Set time and date. 2. Set network IP addresses (for machines that IPL from a network). 3. Set the bootlist to reflect the customer's preference for the IPL devices (when it is different from the default list).	9110-51A, 9131-52A, 9115-505, 9110-510, 9111-285, 9406-520, 9111-520, 9406-550, 9406-570, 9117-570, 9406-595, OpenPower 710, OpenPower 720, 9411-100, 9406-525	16G8095* 00P3903**
	153	Device drawer, exp unit power supply		
	167	Power supply (fan)	515, 520, 525 550, 570	
	192	Power supply, portable disk drive	7203	00G2960**
	E30	32 MB cache Battery (Located on the LVD SCSI RAID adapter)	9113-550, 9118-575, 9119-590, 9119-595, 7311-D10, 7311-D11, 7311-D20	44L0305**
	E3A	128 MB cache battery, U.S. 128 MB cache battery, Japan	9406-525	37L6903** 00N9561**
	2526	PCI-X ultra320 SCSI RAID Battery Pack	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 7311-D11, 7311-D20, 9411-100, 9406-570	42R5070* 44L0313**
	2D01	PCI-X quad channel U320 SCSI RAID battery pack	9406-525	39J5554* 97P4846**
		Power supply (acoustic), 700 W	9111-285, 9131-52A	39J5071* 39J4836**
		Power supply	9115-505	39J5045* 97P6073**
		Power supply (processor 42R5210* 42R5208**)	7037-A50, 7047-185	42R4274* 42R4458**
		Power supply (processor 42R5211* 42R5209**)	7037-A50	39J4298* 39J5221**
		966 W power supply	7031-D24, 7031-T24	12R9078**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		845 W power supply	9405-520, 9406-520, 9406-525, 9406-550, 9406-570, 9406-595, 7031-D24, 7031-T24, 9411-100, 5786, 5787	15R7998*
		Fan with grill 7037-A50, 7047-185	7037-A50, 7047-185	39J5382* 39J3737**
		Fan	9115-505, 9133-55A, 9406-550, 9113-550, OpenPower 720	39J2389* 97P6567**
		Power supply	9118-575	41V1228* 41V0946**
		Regulator	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	17G1209**
		Redundant power supply, 845 W	7031-T24	41V0962*
		Bulk power distribution assembly	9118-575, 9119-590, 9119-595	31L8609*
		DC power supply	9133-55A	23R0631*
		Time of day battery	7037-A50, 7047-185	33F8354* 01K4278**
		Distributed converter assembly (DCA)	9119-590, 9406-595	15R6709* 12R9471**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Removable media device parts

CCIN or Type	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
180A		SCSI-to-IDE controller card	9406-570, 9117-570	03N4811* 80P5157**
358x		External ultrium drive; refer to the device maintenance information manual to determine the part number(s) to replace.		
359x		External 1/2 cartridge tape drive.	All	Refer to the device service information.
1997		Internal tape drive. 200 GB & 18+ MB/sec native - 400 GB & 36+ MB/sec compressed.	All	96P1777
2640		DVD ROM	9111-285, 9110-510, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9406-570, 9117-570, OpenPower 710, OpenPower 720, 9407-515, 9406-525	39J1365* 97P5624**
4685		VXA2 tape drive	7037-A50, 7047-185, 9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9119-590, 9119-595, 9406-525	95P1871* 19P4898**

CCIN or Type	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
4685		VXA2 tape drive	7047-185, 9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9406-525	95P1871* 19P4898**
4685		VXA2 tape drive	5074, 5079, 5094, 5294, 8294 expansion units, 9406-525	39J5601* 97P3046**
4685		VXA2 tape drive	Externally attached drives	Refer to the device service information to determine part number(s).
5755		HH LTO drive	7037-A50, 7047-185, 9111-285, 9406-525, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9119-590, 9119-595, OpenPower 720	23R3248* 96P1775**
5755		HH LTO drive	Externally attached drives	Refer to the device service information to determine part number(s).
6279		VXA3 tape drive	7037-A50, 7047-185, 9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9119-590, 9119-595, 9406-525	95P1976*
6279		VXA3 tape drive	5074, 5079, 5094, 5294, 8294 expansion units, 9406-525	03N7174*
6279		VXA3 tape drive	Externally attached drives	Refer to the device service information to determine part number(s).
63A0		Internal 1/4 inch cartridge drive with SLR3 on the front cover.	9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	39J5594* 53P2386**
		4.7 GB IDE slimline DVD RAM drive	9115-505, 9110-51A	39J3807*
		Internal 1/4 inch cartridge drive, 25 GB, all other expansion units	All	95P1867* 19P4089**
6321		CD-ROM	5074, 5079, 5094, 5294, 8294 expansion units, 9406-525	97H7330**
6330		DVD-RAM	5074, 5079, 5094, 5294, 8294 expansion units, 9406-525	53P2646**
6331	2593	DVD-RAM slimline drive	9406-525, 9111-285, 9110-510, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9406-570, 9117-570, OpenPower 720	39J5770* 97P6884**

CCIN or Type	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
6333		DVD-RAM combo	5074, 5079, 5094, 5294, 8294 expansion units, 9406-525	39J4797* 39J2145**
6336		DVD-ROM	5074, 5079, 5094, 5294, 8294 expansion units, 9406-525	97P2376**
6337		DVD ROM slimline drive	9111-520, 9407-515, 9406-525	39J1365* 97P5624**
6381		Internal 1/4 inch cartridge drive with QIC-2 GB (DC) on the door.	All	59H2742**
6382		Internal 1/4 inch cartridge drive with QIC-4 GB (DC) on the door.	OpenPower 720	59H3745**
6382		Internal 1/4 inch cartridge drive with QIC-4 GB (DC) on the door.	5074, 5079, 5094, 5294, 8294 expansion units, 9406-525	53P2647**
6382		Internal 1/4 inch cartridge drive with QIC-4 GB (DC) on the door.	All	59H3745**
6384	457	Internal 1/4 inch cartridge drive with SLR60 on the front cover.	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9407-515, 9406-525	95P1867* 19P4089**
6387		Internal 1/4 inch cartridge drive with SLR100 on the front cover.	9405-520, 9406-520, 9406-525	95P1869* 09L5276**
6387		Internal 1/4 inch cartridge drive with SLR100 on the front cover.	5074, 5079, 5094, 5294, 8294 expansion units, 9406-525	39J5596* 53P2650**
7207 Model 122		External 1/4 inch cartridge drive with QIC-4GB-DC on the door	All	59H4434**
7208 models -342 and -345.		External 8 mm tape drive.		Refer to the device service information.
7239 model 308		External 1/4 inch cartridge tape library		Refer to the device service information.
9348		External 1/2 inch reel tape unit.	Refer to the instructions for 9348.	
	458	36 GB DAT tape drive		40K2553* 71P9163**
	459	72 GB DAT, 4 mm tape drive	7037-A50, 7047-185, 9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9407-515, 9406-525, 9133-55A, 9406-550, 9113-550, 9119-590, 9119-595, OpenPower 720	95P1988* 18P8779**
	45D	200 GB HH LTO2 tape drive		96P1774* 24R0306**

CCIN or Type	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	541	7205-440 40 GB tape drive 7337-360 40 GB tape drive		19P2042** 19P1629**
	542	When replacing a 7208-345 60 GB tape drive or a 7334-410 60 GB tape drive in an OpenPower system go to 542.		
	542	7208-345 60 GB tape drive 7334-410 60 GB tape drive	9406-525	19P0708** 19P0207**
	613	8 mm 80 GB VXA-2 tape device	9406-525	95P1871* 19P4898**
	678	12 GB 4 mm SCSI tape drive		59H3879**
	68C	20 GB 4 mm tape drive		19P0802**
	692	7205-311 35 GB DLT tape drive, 35 GB DLT tape drive, 3447-106 35 GB DLT tape drive		59H3121** 59H4169** 59H3570**
	724	Unknown tape drive		
	733	140 GB 8 mm tape library		59H3161**
	745	16 GB DDS-2 tape cartridge auto loader 48 GB DDS-3 tape cartridge auto loader Note: Service documentation for this device supplies the FRU part numbers.		
	749	7331 model 205 8 mm tape library Note: For FRU numbers, refer to the service documentation for this device.		
	757	SCSI 13 GB 1/4 inch tape drive		87G4858**
	783	24/48 GB DDS-2 4 mm tape autoloader (vertical orientation) 24/48 GB DDS-2 4 mm tape autoloader (horizontal orientation) tape magazine		76H0473** 76H0474** 41H8714**
	914	5 GB 8 mm SCSI DE tape drive		59H3160**
	915	4/8 GB 4 mm tape drive		59H3481**

CCIN or Type	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
	964	20 GB 8 mm SE SCSI tape drive (internal,white) 20 GB 8 mm SE SCSI tape drive (internal, black) 20 GB 8 mm Diff SCSI tape drive (external/white) 400 GB 8 mm Diff tape autoloader (No LCD in bezel/ white)		59H2839** 59H4120** 59H2835** 59H2842**
	970	1/2-inch 9-track tape drive use device documentation		
	971	150 MB 1/4 inch tape drive		16G8423**
	972	2.3 GB 8 mm tape drive		16G8421**
	973	Other SCSI tape drive		
	991	525 MB 1/4 inch SCSI tape drive		46G2700**
	994	5/10 GB 8 mm internal tape drive		19H0204**
	995	1.2 GB 1/4 inch cartridge tape drive		21H5155**
	998	2.0 GB 4 mm SCSI tape drive		8191193**
	2611	When replacing an INT 4 mm 36/72 GB tape drive in an OpenPower system go to 2611.		
	2612	When replacing an VXA2 80/160 GB tape drive in an OpenPower system go to 2612.		
	2613	200/400 GB LTO2 Tape drive When replacing a 200/400 GB LTO2 tape drive in an OpenPower system go to 2613	9406-525	23R3248* 96P1775**
	2614	VXA3 160/320 GB Tape drive	9406-525	95P1976*
	2615	DAT160 80 GB Tape drive		23R9723
	2617	LTO3 400 GB Tape drive		23R7032 23R7038
		When replacing a VXA3 160/320 GB tape drive in an OpenPower system go to 2614		
		DVD ROM slimline drive	9115-505	39J0552**
		CD with hardware	7037-A50	36R2528

CCIN or Type	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
		CD ROM	7037-A50	52P8425 52P8426 09P0736 36R2549 36R2544 40N9818
	2584	IDE DVD RAM	7037-A50, 7047-185	97P6888*
	2585	IDE DVD ROM	7037-A50, 7047-185	03N6667*
		IDE DVD RAM, slimline	9111-285, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 710, OpenPower 720, 9407-515, 9406-525	03N4713* 80P6341**
		IDE DVD ROM, slimline	9111-285, 9110-51A, 9131-52A, 9133-55A, 9116-561, OpenPower 710	03N4712* 80P6300**
		DVD ROM	7037-A50, 7047-185, 9133-55A, 9113-550, 9116-561	07L8782**
		160 GB VXA-320 tape drive	9405-520, 9406-520, 9406-550, 9406-570, 9406-595, 9411-100, 9406-525	03N7174*
		36/72 GB, 4 mm internal tape drive	9110-510, 9110-51A, OpenPower 710	23R2619*
		80/160 GB internal tape drive with VXA technology	7037-A50	24R2134**
		VXA X23 data cartridge	9111-285, 9131-52A, 9111-520, 9133-55A, 9113-550, 9119-590, 9119-595, OpenPower 720	24R2137**
		60/150 GB, 16-bit, 8 mm internal tape drive	9111-520	35L1044**
		60/150 GB 16-bit 8mm internal tape drive	9111-520	09L5323**
		DVD ROM	9119-590, 9119-595	80P2293**

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Storage parts

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
2748		Storage IOA 1. Card (non-Japan) 2. Card (Japan) 3. Cache battery pack (non-Japan) 4. Cache battery pack (Japan) 5. Mode jumper	All	1. 91H3987** 2. 21P6679** 3. 44L0302** 4. 44L0301** 5. 23L3442**
2749		Storage IOA (external removable media)	All	04N2296**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
2757		Storage IOA 1. Card 2. Cache battery pack	All	1. 39J5581* 42R5124** 2. 53P0941**
2763		Storage IOA 1. Card 2. Cache battery pack	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 7311-D11, 7311-D20, 9411-100, 9406-570	1. 53P4805** 2. 42R5070* 44L0313**
2765	447	2 GB fibre channel adapter for 64-bit PCI bus	All	80P4384**
2766		Fibre Channel IOA (for disk drive attachment only)	All	80P4385**
2767		Storage IOA	All	04N2304**
2778		Storage IOA 1. Card 2. Cache battery pack 3. Mode jumper	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 7311-D11, 7311-D20, 9411-100, 9406-570	1. 53P4802** 2. 42R5070* 44L0313** 3. 23L3442**
2780		Storage IOA 1. Card 2. Cache battery pack	All	1. 39J5581* 42R5124** 2. 39J5554* 97P4846**
2782		Storage IOA 1. Card 2. Cache battery pack	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 7311-D11, 7311-D20, 9411-100, 9406-570	1. 21P6477** 2. 42R5070* 44L0313**
2787		Fibre Channel IOA (for disk drive attachment only)	All	80P6417**
280D		Fibre Channel IOA (for removable media attachment only)	All	03N5014* 03N5005**
280E		Disk controller	All	03N5016*
2847		Fibre Channel IOP	All	39J2894*
5702		Storage IOA	All	97P6513**
5703		Storage IOA 1. Card 2. Cache battery pack	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 7311-D11, 7311-D20, 9411-100, 9406-570	1. 39J5105* 97P6516** 2. 42R5070* 44L0313**
5704		Fibre Channel IOA (for removable media attachment only)	All	80P6416**
5708		Auxiliary cache adapter 1. Card 2. Auxiliary cache to SCSI adapter cable (FC 5580, 5581) 3. Cache battery pack	All	1. 39J5584* 39J5061** 2. 42R4053* 39J1702** 3. 39J5554* 97P4846**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
5709		RAID enablement card	9111-285, 9405-520, 9406-520, 9111-520, 9406-525, 9406-550, 9113-550	39J0149**
5709		RAID enablement card	9406-570, 9117-570	39J0148**
5709		Battery pack	9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9113-550, 9116-561, 9117-570, 7311-D11, 7311-D20, 9411-100, 9406-570	42R5070* 44L0313**
570B		Imbedded storage IOA	515, 520, 525 550, 570	Replace the system backplane (see Backplanes).
570C		Imbedded storage IOA	570	Replace the I/O backplane (see Backplanes).
571A		Storage IOA	7037-A50, 7047-185, 9111-285, 9115-505, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, 9116-561, 9406-570, 9117-570, 9406-595, 9407-515, 9406-525	42R4860* 39J4996**
571B		Storage IOA 1. Card 2. Cache battery pack	7037-A50, 7047-185, 9110-510, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9113-550, 9116-561, 9406-570, 9117-570, 9118-575, 9119-590, 9119-595, 9406-525, 9406-525	1. 42R4855* 39J5024** 2. 39J5555* 97P4847**
571E		Storage IOA 1. Card 2. Cache battery pack	All	1. 42R5130* 2. 39J5554* 97P4846**
571F, 575B	22E	Combination storage (571F) and auxiliary cache (575B) IOA 1. Card 2. Cache battery pack	9405-520, 9406-520, 9406-525, 9406-550, 9406-570, 9406-595, 9411-100	42R6578* 42R3965*
573D	2529	RAID enablement card 1. Card 2. Battery	9111-285, 9110-51A, 9131-52A, 9405-520, 9406-520, 9111-520, 9133-55A, 9406-550, 9113-550, OpenPower 720, 9407-515, 9406-525	1. 39J5653* 39J3539** 2. 42R5070* 44L0313**
573D		RAID enablement card 1. Card 2. Battery	9116-561, 9406-570, 9117-570	1. 39J5652* 39J3538** 2. 42R5070* 44L0313**
574F	2D07	PCI-X DDR auxiliary cache adapter 1. Card 2. Auxiliary cache to SCSI adapter cable (FC 5580, 5581) 3. Cache battery pack	All	1. 42R5133* 2. 42R4053* 39J1702** 3. 39J5554* 97P4846**

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VPD parts

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
25A7		VPD card	9111-285	03N6020* 03N5668**
52AB		VPD card	9131-52A	03N6353* 03N6197**
52A1		VPD card	9133-55A, OpenPower 720	03N5213* 80P5154**
52A6		VPD card	9115-505	03N5086* 80P6987**
52A8		VPD card	9116-561	03N6672*
528D		VPD card	9133-55A, 9406-550, 9113-550	03N5201* 80P3259**
528E		VPD card	9116-561, 9406-570, 9117-570	03N6018* 80P5110**
528F		VPD card	9405-520, 9406-520, 9111-520, 9407-515, 9406-525	03N5177* 80P3249**
529A		VPD card	9119-595	03N5076* 80P4973**
52A0		VPD card	9110-51A, OpenPower 710	03N5211* 80P6905**
52A1		VPD card	9133-55A, OpenPower 720	03N5213* 80P5154**
52A3		VPD card	9118-575	03N5161* 80P6009**
52A5		VPD card	9110-510	03N5207* 80P6013**
7390		VPD card	9405-520	03N5187* 80P5307**
7391		VPD card	9405-520	03N5189* 80P5309**
7392		VPD card	9405-520	03N5191* 80P5311**
7395		VPD card	9405-520	03N6022* 03N5823**
7397		VPD card	9406-520	03N6024* 03N5825**
7450		VPD card	9406-520	03N5163* 80P3235**
7451		VPD card	9406-520	03N5165* 80P3237**
7452		VPD card	9406-520	03N5167* 80P3239**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
7453		VPD card	9406-520	03N5169* 80P3241**
7454		VPD card	9406-520	03N5171* 80P3243**
7455		VPD card	9406-520	03N5173* 80P3245**
7456		VPD card	9406-520	03N5175* 80P3247**
7457		VPD card	9406-520	03N5183* 80P3377**
7458		VPD card	9406-520	03N5185* 80P3921**
7459		VPD card	9406-520	03N5181* 80P4438**
7462		VPD card	9406-550	03N5197* 80P3255**
7463		VPD card	9406-550	03N5199* 80P3257**
7464		VPD card	9406-570	03N5117* 80P5112**
7465		VPD card	9406-570	03N5119* 80P5114**
7466		VPD card	9406-570	03N5121* 80P5116**
7467		VPD card	9406-570	03N5123* 80P5118**
7469		VPD card	9406-570	03N5109* 80P4978**
7470		VPD card	9406-570	03N5111* 80P4980**
7471		VPD card	9406-570	03N5127* 80P5122**
7472		VPD card	9406-570	03N5129* 80P5124**
7473		VPD card	9406-570	03N5131* 80P5126**
7474		VPD card	9406-570	03N5133* 80P5128**
7475		VPD card	9406-570	03N5135* 80P5130**
7476		VPD card	9406-570	03N5137* 80P5132**
7478		VPD card	9406-570	03N5141* 80P5136**
7479		VPD card	9406-570	03N5143* 80P5138**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
7480		VPD card	9406-595	03N5066* 80P3645**
7481		VPD card	9406-595	03N5067* 80P3647**
7482		VPD card	9406-595	03N5068* 80P3649**
7483		VPD card	9406-595	03N5069* 80P3651**
7486		VPD card	9406-595	03N5072* 80P3657**
7487		VPD card	9406-595	03N5073* 80P3659**
7488		VPD card	9406-570	03N5113* 80P4982**
7489		VPD card	9406-570	03N5115* 80P4984**
7490		VPD card	9406-570	03N5145* 80P5140**
7491		VPD card	9406-570	03N5147* 80P5142**
7492		VPD card	9406-570	03N5149* 80P5144**
7493		VPD card	9406-570	03N5151* 80P5146**
7494		VPD card	9406-570	03N5157* 80P5192**
7495		VPD card	9406-570	03N5159* 80P5194**
7496		VPD card	9406-595	03N5077* 80P5680**
7497		VPD card	9406-595	03N5078* 80P5682**
7498		VPD card	9406-595	03N5079* 80P5684**
7499		VPD card	9406-595	03N5080* 80P5686**
7559		VPD card	9406-570	03N5147* 80P5142**
7570		VPD card	9406-570	03N5153* 80P5148**
7572		VPD card	9406-570	03N5155* 80P5150**
7590		VPD card	9406-595	03N5074* 80P3858**
7984		VPD card	9406-595	03N5084* 80P5694**

CCIN	Failing Function Code	Description	Model, expansion unit, or unit type	Part number
7985		VPD card	9406-595	03N5085* 80P5696**

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OpenPower parts by failing function code

Failing function code	Description	Part number
445	146 GB 15K rpm u3 SCSI disk drive assembly	03N5288* 80P6426** 03N6352* 80P3412**
446	300 GB 10K rpm u3 SCSI disk drive assembly	03N5272* 80P6322** 03N6337* 80P3410**
451	73.4 GB 15K rpm u3 SCSI disk drive assembly	03N6347* 80P6325** 03N5282* 80P6424**
453	146.8 GB 10K rpm u3 SCSI disk drive assembly	03N5267* 80P6321** 3N63320
542	7208-345 60/150 GB 16-bit 8mm internal tape drive 7334-410 60/150 GB 16-bit 8mm internal tape drive	19P0708** 19P0207**
56D	36.4 GB 15K rpm ultra320 SCSI disk drive assembly	03N6342* 80P6324** 03N5277* 80P6422**
57D	73.4 GB 10K rpm ultra320 SCSI disk drive assembly	03N5262* 80P6320** 03N6327* 80P3406**
59B	36.4 GB 10K rpm ultra320 SCSI disk drive assembly	80P6319**
67E	POWER GXT135P graphics accelerator with digital support	03N5855* 80P6411**
2522	PCI-X dual channel ultra 4 320 SCSI adapter	80P6513**
2523 1975	PCI-X dual channel ultra320 SCSI RAID adapter	39J5107* 80P6515**
2523	Dual channel SCSI RAID enablement card	80P6517**
2529	PCI-X dual channel ultra320 SCSI RAID adapter (FC 1907) PCI-X dual channel ultra320 SCSI RAID adapter (FC 1908)	39J5653* 39J3539**
2530	10/100 Mbps Ethernet PCI adapter II	80P6508**
2533	10 Gigabit-SR Ethernet PCI-X 2.0 DDR adapter	80P6452**

Failing function code	Description	Part number
2534	10 Gigabit-LR Ethernet PCI-X 2.0 DDR adapter	80P6453**
2535	4-port 10/100/1000 base-TX Ethernet PCI-X adapter (FC 1954)	03N5444* 03N5446**
2564 2565	2-port USB PCI adapter	80P2994**
2566	External USB 1.44 MB diskette drive	03N4962* 33P3339**
2581	1 GB iSCSI with TOE Ethernet adapter (copper)	30R5209* 73P3609**
2583	1 GB iSCSI with TOE Ethernet adapter (copper)	32R1926* 26K6490**
2594	4.7 GB IDE slimline DVD-RAM drive	39J5770* 97P6884**
2595	IDE slimline DVD-ROM drive	03N4712* 80P6300**
25B9	1 GB iSCSI w/TOE Ethernet adapter (fiber) wrap plug	30R5509* 12R9314* 11P3847**
25C1	10/100/1000 base-TX Ethernet PCI-X adapter	03N6525* 80P6445**
25C2	2-port Gigabit Ethernet-SX PCI-X adapter (fiber)	03N6974* 80P6451**
25C3	2-port 10/100/1000 base-TX Ethernet PCI-X adapter (copper)	03N5298* 80P6450**
2601	2 Gigabit Fibre Channel PCI-X adapter	03N7067* 03N6439**
2602	PCI 64-Bit 4 GB Fibre Channel adapter (1-Port) PCI 64-Bit 4 GB Fibre Channel adapter (2-Port)	03N5014* 03N5005** 03N5029* 03N5020**
2611	36/72 GB 4 mm internal tape drive	95P1989* 24R1987**
2612	80/160 GB internal tape drive with VXA2 technology	96P1772* 24R1989**
2613	200/400 GB LTO2 Tape drive	96P1777*
2614	VXA3 160/320 GB Tape Drive	95P1977*
2646	146.8 GB 10K rpm U3 80 pin SCSI disk drive	03N6332* 80P3408** 03N5267* 80P6321**
2649	300GB 10K RPM Ultra320 SCSI disk drive	03N5272* 80P6322** 03N6337* 80P3410**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Instructions for 9348 tape drive

Is one of the following status codes displayed anywhere on the 9348 control panel? (x = any number)

Exxx

Fxxx

****x

- **No:** Refer to the 9348 Service Information and use the "Running Diagnostic Tests" procedure to run Diagnostic Test 1. If the test fails, use the 9348 Service Information to determine the failing items.
- **Yes:** Use the "Status Codes" section of the 9348 Service Information to determine the failing items. For other device types, refer to the device's service information to determine the part number or part numbers that need to be replaced.

Cables

Use this parts listing to find internal power and signal cables and external cables.

See the following for other parts:

- For parts that have CCINs, System p Failing Function Code numbers, or OpenPower, see "System parts" on page 277.
- For mechanical and connecting parts, see "Part assembly diagrams" on page 160.
- For miscellaneous parts such as cable wraps or cleaning kits, see "Miscellaneous parts" on page 414.
- For Hardware Management Console (HMC) parts, see "Hardware Management Console (HMC) parts" on page 416.

Select the type of cable you are working with:

Power and signal cables

Power and signal cables topic index.

The following diagrams illustrate the logical cable connections in the system unit, and in the expansion unit.

Select the unit that you are working on.

Model 185 and A50 cables:

Signal and power cables.

Note: This topic contains tables that cross-reference FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

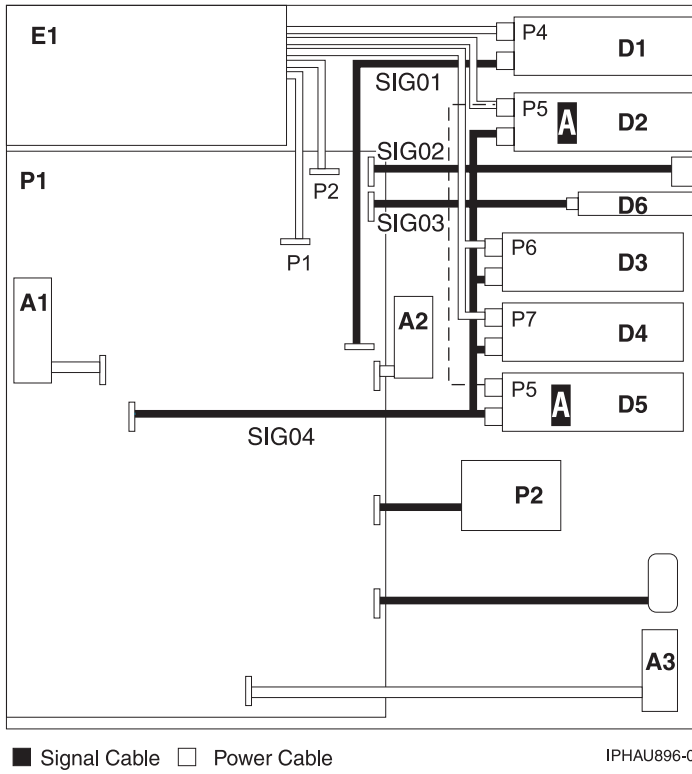
Table 134. Part numbers for the signal cables and the one power jumper (for the 1-core A50)

Name	Description	Part number
SIG01	IDE cable	39J4137**
SIG02	USB cable	42R4100*
SIG03	Op panel	39J4135*
SIG04	SCSI cable	42R4142* 39J4136**
PWR01	Jumper	42R4439*

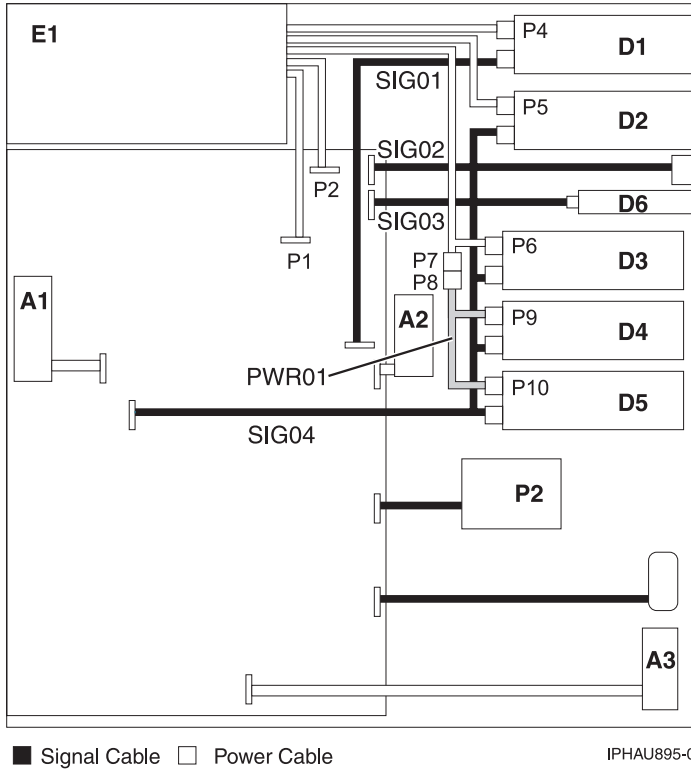
* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

1 or 2-core for 185



1-core for A50



2-core for A50

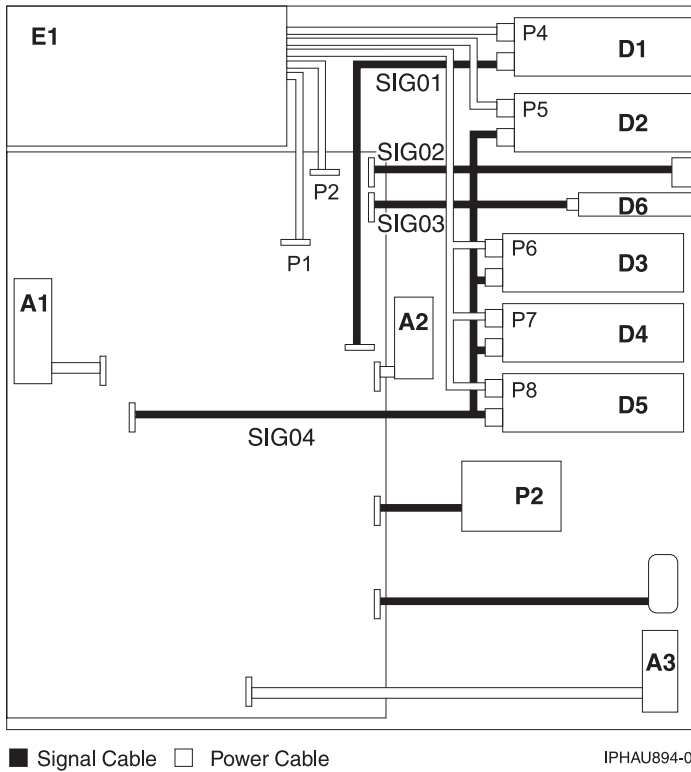


Table 135. Model 7037-A50 and 7047-185 cables

Description	Part number
14' power cord, 200-240 V, 10 A	39M5378* 36L8861**
14' power cord, 200-240 V, 15 A, IEC320/C13	39M5096* 1838573**
6' power cord, 100-127 V, 12 A, IEC320/C13	41V1960* 86G7648**
9' power cord, 100-127 V, 10A, IEC320/C13	39M5233* 49P2110**
9' power cord, 200-240 V, 10A, IEC320/C13, PT#18	39M5123* 13F9979**
9' power cord, 200-240 V, 10A, IEC320/C13, PT#19	39M5130* 13F9997**
9' power cord, 200-240 V, 10A, IEC320/C13, PT#23	39M5151* 14F0033**
9' power cord, 200-240 V, 10A, IEC320/C13, PT#32	39M5172* 14F0087**
9' power cord, 200-240 V, 10A, IEC320/C13, PT#24	39M5158* 14F0051**
9' power cord, 200-240 V, 16A, IEC320/C13, PT#22	39M5144* 14F0015**
9' power cord, 200-240 V, 10A, IEC320/C13, PT#25	39M5165* 14F0069**
6' power cord, 100-127 V, 15 A, IEC320/C13, PT#5	39M5094* 1838576**
9' power cord, 100-127 V (15 A) or 200-240 V (10 A), IEC320/C13, PT#2	39M5068* 39M5068**
9' power cord, 200-240 V, 10A, IEC320/C13, PT#62	39M5206* 02K0546**
9' power cord, 200-240 V, 10A, IEC320/C13, PT#69	39M5226* 74P4424**
9' power cord, 200-240 V, 10A, IEC320/C13, PT#73	39M5237* 74P4393**
9' power cord, 200-240 V, 10A, IEC320/C13, PT#66	39M5219* 24P6873**
9' power cord, 200-240 V, 15A, IEC320/C13, PT#75	39M5247* 6952300**
9' power cord, 200-240 V, 15A, IEC320/C13, PT#76	39M5254* 1838574**
14' power cord, 200-240 V, 15A, IEC320/C13, PT#57	39M5187* 25R2575**
6' power cord, 125 V, 15A, IEC320/C13, PT#59	39M5198* 34G0222**
9' power cord, 200-240 V, 10 A, IEC320/C14	39M5377* 36L8886**
5' power cord, 200-240 V, 10 A, IEC320/C13, IEC320/C14	39M5375* 36L8860**

Table 135. Model 7037-A50 and 7047-185 cables (continued)

Description	Part number
9' power cord, 200-240 V, 10 A, IEC320/C13, PT#6	39M5185* 25R2573**
9' power cord, 250 V, 10 A	39M5144* 14F0015**
14' power cord, 100-127 V, 15 A	41V1962* 87G3880**
9' power cord, 250 V, 10 A	39M5206* 02K0546**
9' power cord, 125 V, 15 A	39M5233* 49P2110**
9' power cord, 250 V, 10 A	39M5172* 14F0087**
9' power cord, 250 V, 10 A	39M5237* 74P4393**
6' power cord, 250 V, 15 A	39M5094* 1838576**
RS232 cable	23R3164* 80P3264**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Model 505 cables:

Power cables.

Note: This topic contains tables that cross-reference FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Table 136. Model 9115-505 - cables

Name	Description	Part number
	9' power cord, 250 V, 10 A	39M5144* 14F0015**
	14' power cord, 100-127 V, 15 A	41V1962* 87G3880**
	9' power cord, 250 V, 10 A	39M5206* 02K0546**
	9' power cord, 125 V, 15 A	39M5233* 49P2110**
	9' power cord, 250 V, 10 A	39M5172* 14F0087**
	9' power cord, 250 V, 10 A	39M5237* 74P4393**
	6' power cord, 250 V, 15 A	39M5094* 1838576**
	1.5 meter 4x IB cable	39J4319*

Table 136. Model 9115-505 - cables (continued)

Name	Description	Part number
	3.7 meter cable, serial-to-serial port for drawer	10N7158* 88G4853**
	Serial-to-serial port cable for rack	10N7159* 88G4854**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Model 9110-510, 9110-51A and OpenPower 710 cables:

Power cables.

Note: This topic contains tables that cross-reference FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Table 137. Model 9110-510, 9110-51A, and OpenPower 710 - cables

Description	Part number
Fan cable	97P6840*
9' power cord, 250 V, 10 A	39M5144* 14F0015**
14' power cord, 100-127 V, 15 A	41V1962* 87G3880**
9' power cord, 250 V, 10 A	39M5206* 02K0546**
9' power cord, 125 V, 15 A	39M5233* 49P2110**
9' power cord, 250 V, 10 A	39M5172* 14F0087**
9' power cord, 250 V, 10 A	39M5237* 74P4393**
6' power cord, 250 V, 15 A	39M5094* 1838576**
1.5 meter 4x IB cable	39J4319*
16 bit differential SCSI cable	52G0173**
3.7 meter cable, serial-to-serial port for drawer	10N7158* 88G4853**
Serial-to-serial port cable for rack	10N7159* 88G4854**
36-72 GB 4 mm internal tape drive power cable	39J5147*

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Model 515 52x and 285 cables:

Power cables.

Note: This topic contains tables that cross-reference FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Table 138. Model 9407-5159406-5259111-285, 9131-52A, 9405-520, 9406-520, and 9111-520 - cables

Name	Description	Part number
	DVD cable	97P2141**
SIGC01	SCSI signal cable (PCI adapter to disk unit backplane)	42R4052* 39J0444**
	Fan cable	42R4061* 53P4483**
PWRC01	Device power cable	42R4119* 97P5354**
SIGC02	Control panel cable	42R4118* 97P5263**
	SCSI cable (Media device to media backplane)	39J4140* 39J2634**
	6' power cord, 250 V, 15 A	41V1966* 73F493**
	14' power cord, 3 PH, 16 A	39M5426* 25R2551**
	9' power cord, 250 V, 10 A	39M5144* 14F0015**
	6' power cord, 250 V, 10 A	41V1961* 86G7878**
	14' power cord, 100-127 V, 15 A	41V1962* 87G3880**
	14' power cord, 200-240 V, 15 A	39M5252*
	14' watertight power cord, 200 V, 12 A	14F1552**
	14' power cord, 200-240 V, 12 A	39M5184* 25R2578**
	4.3 meter power cord, 200 V, 30 A	11F0107**
	4.3 meter power cord, 200 V, 10 A	39M5173* 14F0088**
	9' power cord, 250 V, 10 A	39M5206* 02K0546**
	4.3 meter power cord, 200 V, 16 A	39M5311* 14F1561**
	14' power cord, 200-240 V, 10 A	39M5170* 14F0085**
	9' power cord, 125 V, 15 A	39M5233* 49P2110**
	4.3 meter power cord, 200 V, 10 A	39M5166* 14F0070**
	4.3 meter power cord, 200 V, 16 A	39M5238*
	9' power cord, 250 V, 10 A	39M5172* 14F0087**
	14' power cord, 200-240 V, 10 A	39M5100* 13F9938**

Table 138. Model 9407-5159406-5259111-285, 9131-52A, 9405-520, 9406-520, and 9111-520 - cables (continued)

Name	Description	Part number
	14' power cord, 200-240 V, 10 A	39M5163* 14F0067**
	9' power cord, 250 V, 10 A	39M5237* 74P4393**
	4.3 meter power cord, 200 V, 16 A	39M5283* 14F1554**
	6' power cord, 250 V, 15 A	39M5094* 1838576**
	4.3 meter power cord, 200 V, 32 A	21H7693**
	14' watertight power cord, 200 V	73F4932**
	4.3 meter power cord, 200 V, 10 A	39M5159* 14F0052**
	14' power cord, 200-240 V, 48 A	39M5429* 25R2554**
	14' power cord, 200 V, 16 A	41V1963* 88G4764**
	4.3 meter power cord, 200 V, 10 A	39M5103* 13F9941**
	12' power cord, right angle, 250 V, 10 A	41U0114* 00P2401**
	4.3 meter power cord, 200 V, 16 A	39M5323* 14F1555**
	14' power cord, 200-240 V, 48 A	39M5417*
	4.3 meter power cord, 200 V, 10 A, Africa	39M5145* 14F0016**
	14' power cord, 200-240 V, 32 A	39M5428* 25R2553**
	14' (4.3 meter) power cord, 3 PH, 24 A	39M5427* 25R2552**
	4.3 meter power cord, 200 V, 10 A, UK	39M5152* 14F0034**
	6' power cord, 200 V	39M5261* 14F1547**
	14' power cord, 200-240 V, 24 A	39M5429* 25R2554**
	14' power cord, 200 V, 12 A	39M5275* 14F1550**
	14' power cord, 200-240 V, 24 A	39M5418*
	6' upper locking cord, 200 V	12J5119**
	4.3 meter power cord, 200 V, 10 A, EU/ASIA	39M5124* 13F9980**
	14' power cord, 200 V, 16 A	39M5279* 14F1553**
	4.3 meter power cord, 200 V, 16 A, Italy	39M5299* 14F1560**
	6' locking power cord, 200 V, 12 A	14F1549**

Table 138. Model 9407-5159406-5259111-285, 9131-52A, 9405-520, 9406-520, and 9111-520 - cables (continued)

Name	Description	Part number
	14' locking power cord, 200 V	86G7879**
	6' watertight power cord, 200 V	23R3230* 46F4593**
	14' power cord, 200-240 V, 24 A, UTG0247	39M5430* 25R2555**
	6' watertight power cord, 200 V, 12 A	14F1551**
	6' upper line cord, 200 V	39M5262* 12J5120**
	4.3 meter power cord, 200 V, 10 A, China	39M5207* 02K0547**
	6' power cord, 125 V	12J5112**
	4.3 meter power cord, 200 V, 16 A, Africa	39M5291* 14F1557**
	14' power cord, 200 V, 12 A	39M5263* 14F1548**
	14' power cord, 200-240 V, 24 A, UTG0247	39M5419*
	0.6 meter SCSI cable with 68-pin connectors	52G4291**
	1.5 meter GX Dual-port 4x HCA cable	39J4319*
	2.5 meter system-to-system cable, 16-bit SCSI-2	52G4233**
	4.3 meter power cord, 200 V, 30 A	87G6067**
	4.3 meter power cord, 200 V, 16 A, China	39M5355* 01K9852**
	14' power cord, 200 V	23R3231* 46F4594**
	16 bit differential SCSI cable	52G0173**
	3.7 meter cable, serial-to-serial port for drawer	10N7158* 88G4853**
	Serial-to-serial port cable for rack	10N7159* 88G4854**
	15 meter RIO cable	39J5822* 04N7014**
	4.3 meter power cable	39M5295* 12J5988**
	4.3 meter (14') power cord	39M5319* 36L8857**
	4.3 meter (14') power cord, 200 V, 10 A, Brazil	39M5241* 74P4394**
	4.3 meter (14') 250 V, 10 A power cord	25R2585**
	4.3 meter (14') power cord, 2 PH, 200 V, 16 A, EU	21H7691**
	2 meter (6') watertight power cord, 200 V, 12 A	39M5314* 55H6644**
	12x InfiniBand cable (6 meters)	39J5641*
	7.5 meter (25') ARTIC960RxD quad DTA, E1, 120 Ohm balanced, extension cable	05F2045**
	3 meter (10') ARTIC960RxD quad DTA, E1, 120 Ohm balanced, 4 port cable	87H3791**

Table 138. Model 9407-5159406-5259111-285, 9131-52A, 9405-520, 9406-520, and 9111-520 - cables (continued)

Name	Description	Part number
	4.3 meter (14') power cord, 200 V, 16 A, Brazil	39M5343* 36L8885**
	4.3 meter (14') power cord 200-240 V, 48-60 A, type a 46 plug	39M5431* 25R2556**
	4.3 meter (14') power cord, 200-240 V, 24 A, water-resistant, type 40 plug	39M5432* 25R2557**
	4.3 meter (14') power cord, 1 PH, 24 A, type PDL plug	39M5433* 25R2558**
	4.3 meter (14') power cord, 24 A, type KP plug	39M5434* 25R2559**
	4.3 meter (14') power cord, 200 V, 10A, IEC 320-C13 outlet, Argentina	6952291**
	3 meter (10') 4 port cable, ARTIC960RxD quad DTA, T1, 100 Ohm	87H3793**
	7' power cable, 200-240 V, right angle	39M5457*

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Model 55x and OpenPower 720 cables:

Power cables.

Note: This topic contains tables that cross-reference FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Table 139. Model 9133-55A, 9406-550, 9113-550, and OpenPower 720 - cables

Description	Part number
SCSI signal cable	39J4140* 39J2634**
Device power cable	42R4119* 97P5354**
Control panel cable	42R4118* 97P5263**
14' power cord, 3 PH, 16 A	39M5426* 25R2551**
9' power cord, 250 V, 10 A	39M5144* 14F0015**
6' power cord, 250 V, 10 A	41V1961* 86G7878**
14' power cord, 100-127 V, 15 A	41V1962* 87G3880**
14' power cord, 200-240 V, 15 A	39M5252*
14' watertight power cord, 200 V, 12 A	14F1552**
14' power cord, 200-240 V, 12 A	39M5184* 25R2578**
4.3 meter power cord, 200 V, 30 A	11F0107**

Table 139. Model 9133-55A, 9406-550, 9113-550, and OpenPower 720 - cables (continued)

Description	Part number
4.3 meter power cord, 200 V, 10 A	39M5173* 14F0088**
9' power cord, 250 V, 10 A	39M5206* 02K0546**
4.3 meter power cord, 200 V, 16 A	39M5311* 14F1561**
14' power cord, 200-240 V, 10 A	39M5170* 14F0085**
9' power cord, 125 V, 15 A	39M5233* 49P2110**
4.3 meter power cord, 200 V, 10 A	39M5166* 14F0070**
4.3 meter power cord, 200 V, 16 A	39M5238*
9' power cord, 250 V, 10 A	39M5172* 14F0087**
14' power cord, 200-240 V, 10 A	39M5100* 13F9938**
14' power cord, 200-240 V, 10 A	39M5163* 14F0067**
9' power cord, 250 V, 10 A	39M5237* 74P4393**
4.3 meter power cord, 200 V, 16 A	39M5283* 14F1554**
6' power cord, 250 V, 15 A	39M5094* 1838576**
4.3 meter power cord, 200 V, 32 A	21H7693**
14' watertight power cord, 200 V	73F4932**
4.3 meter power cord, 200 V, 10 A	39M5159* 14F0052**
14' power cord, 200-240 V, 48 A	39M5429* 25R2554**
14' power cord, 200 V, 16 A	41V1963* 88G4764**
4.3 meter power cord, 200 V, 10 A	39M5103* 13F9941**
12' power cord, right angle, 250 V, 10 A	41U0114* 00P2401**
4.3 meter power cord, 200 V, 16 A	39M5323* 14F1555**
14' power cord, 200-240 V, 48 A	39M5417*
4.3 meter power cord, 200 V, 10 A, Africa	39M5145* 14F0016**
14' power cord, 200-240 V, 32 A	39M5428* 25R2553**
14' (4.3 meter) power cord, 3 PH, 24 A	39M5427* 25R2552**

Table 139. Model 9133-55A, 9406-550, 9113-550, and OpenPower 720 - cables (continued)

Description	Part number
4.3 meter power cord, 200 V, 10 A, UK	39M5152* 14F0034**
6' power cord, 200 V	39M5261* 14F1547**
14' power cord, 200-240 V, 24 A	39M5429* 25R2554**
14' power cord, 200 V, 12 A	39M5275* 14F1550**
14' power cord, 200-240 V, 24 A	39M5418*
6' upper locking cord, 200 V	12J5119**
4.3 meter power cord, 200 V, 10 A, EU/ASIA	39M5124* 13F9980**
14' power cord, 200 V, 16 A	39M5279* 14F1553**
4.3 meter power cord, 200 V, 16 A, Italy	39M5299* 14F1560**
6' locking power cord, 200 V, 12 A	14F1549**
14' locking power cord, 200 V	86G7879**
6' watertight power cord, 200 V	23R3230* 46F4593**
14' power cord, 200-240 V, 24 A, UTG0247	39M5430* 25R2555**
6' watertight power cord, 200 V, 12 A	14F1551**
6' upper line cord, 200 V	39M5262* 12J5120**
4.3 meter power cord, 200 V, 10 A, China	39M5207* 02K0547**
6' power cord, 125 V	12J5112**
4.3 meter power cord, 200 V, 16 A, Africa	39M5291* 14F1557**
14' power cord, 200 V, 12 A	39M5263* 14F1548**
14' power cord, 200-240 V, 24 A, UTG0247	39M5419*
5 meter U320 SCSI cable	09L3303**
0.6 meter SCSI cable with 68-pin connectors	52G4291**
1.5 meter GX Dual-port 4x HCA cable	39J4319*
2.5 meter system-to-system cable, 16-bit SCSI-2	52G4233**
4.3 meter power cord, 200 V, 30 A	87G6067**
4.3 meter power cord, 200 V, 16 A, China	39M5355* 01K9852**
14' power cord, 200 V	23R3231* 46F4594**
16 bit differential SCSI cable	52G0173**
3.7 meter cable, serial-to-serial port for drawer	10N7158* 88G4853**

Table 139. Model 9133-55A, 9406-550, 9113-550, and OpenPower 720 - cables (continued)

Description	Part number
Serial-to-serial port cable for rack	10N7159* 88G4854**
15 meter RIO cable	39J5822* 04N7014**
4.3 meter power cable	39M5295* 12J5988**
4.3 meter (14') power cord	39M5319* 36L8857**
4.3 meter (14') power cord, 200 V, 10 A, Brazil	39M5241* 74P4394**
1.5 meter SCSI cable	41V0949*
4.3 meter (14') 250 V, 10 A power cord	25R2585**
4.3 meter (14') power cord, 2 PH, 200 V, 16 A, EU	21H7691**
2 meter (6') watertight power cord, 200 V, 12 A	39M5314* 55H6644**
12x InfiniBand cable (6 meters)	39J5641*
7.5 meter (25') ARTIC960RxD quad DTA, E1, 120 Ohm balanced, extension cable	05F2045**
3 meter (10') ARTIC960RxD quad DTA, E1, 120 Ohm balanced, 4 port cable	87H3791**
4.3 meter (14') power cord, 200 V, 16 A, Brazil	39M5343* 36L8885**
4.3 meter (14') power cord 200-240 V, 48-60 A, type a 46 plug	39M5431* 25R2556**
4.3 meter (14') power cord, 200-240 V, 24 A, water-resistant, type 40 plug	39M5432* 25R2557**
4.3 meter (14') power cord, 1 PH, 24 A, type PDL plug	39M5433* 25R2558**
4.3 meter (14') power cord, 24 A, type KP plug	39M5434* 25R2559**
4.3 meter (14') power cord, 200 V, 10A, IEC 320-C13 outlet, Argentina	6952291**
3 meter (10') 4 port cable, ARTIC960RxD quad DTA, T1, 100 Ohm	87H3793**
7' power cable, 200-240 V, right angle	39M5457*

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Model 561 and 570 cables:

Power cables.

Note: This topic contains tables that cross-reference FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Table 140. Model 9116-561, 9406-570, and 9117-570 cables

Description	Part number
8-core SMP processor cable assembly 570	39J1704* 39J0086**
8-core SMP processor cable assembly 9116-561	39J3712*
12-core SMP processor cable assembly	39J1705* 39J0087**
16-core SMP processor cable assembly	39J1706* 39J0088**
8-core Service processor cable assembly	42R6178* 39J0621**
12-core Service processor cable assembly	39J1741* 39J0420**
16-core Service processor cable assembly	39J1742* 39J0421**
SPCN 2 M cable	22R5217* 87G6235**
SPCN 6 M cable	22R5219* 21F9469**
SPCN 30 M cable	22R5222* 21F9359**
6' power cord, 250 V, 15 A	41V1966* 73F4931**
14' power cord, 3 PH, 16 A	39M5426* 25R2551**
9' power cord, 250 V, 10 A	39M5144* 14F0015**
6' power cord, 250 V, 10 A	41V1961* 86G7878**
14' power cord, 100-127 V, 15 A	41V1962* 87G3880**
14' power cord, 200-240 V, 15 A	39M5252*
14' watertight power cord, 200 V, 12 A	14F1552**
14' power cord, 200-240 V, 12 A	39M5184* 25R2578**
4.3 meter power cord, 200 V, 30 A	11F0107**
4.3 meter power cord, 200 V, 10 A	39M5173* 14F0088**
9' power cord, 250 V, 10 A	39M5206* 02K0546**
4.3 meter power cord, 200 V, 16 A	39M5311* 14F1561**
14' power cord, 200-240 V, 10 A	39M5170* 14F0085**
9' power cord, 125 V, 15 A	39M5233* 49P2110**
4.3 meter power cord, 200 V, 10 A	39M5166* 14F0070**

Table 140. Model 9116-561, 9406-570, and 9117-570 cables (continued)

Description	Part number
4.3 meter power cord, 200 V, 16 A	39M5238*
9' power cord, 250 V, 10 A	39M5172* 14F0087**
14' power cord, 200-240 V, 10 A	39M5100* 13F9938**
14' power cord, 200-240 V, 10 A	39M5163* 14F0067**
9' power cord, 250 V, 10 A	39M5237* 74P4393**
4.3 meter power cord, 200 V, 16 A	39M5283* 14F1554**
6' power cord, 250 V, 15 A	39M5094* 1838576**
4.3 meter power cord, 200 V, 32 A	21H7693**
14' watertight power cord, 200 V	73F4932**
4.3 meter power cord, 200 V, 10 A	39M5159* 14F0052**
14' power cord, 200-240 V, 48 A	39M5429* 25R2554**
14' power cord, 200 V, 16 A	41V1963* 88G4764**
4.3 meter power cord, 200 V, 10 A	39M5103* 13F9941**
12' power cord, right angle, 250 V, 10 A	41U0114* 00P2401**
4.3 meter power cord, 200 V, 16 A	39M5323* 14F1555**
14' power cord, 200-240 V, 48 A	39M5417*
4.3 meter power cord, 200 V, 10 A, Africa	39M5145* 14F0016**
14' power cord, 200-240 V, 32 A	39M5428* 25R2553**
14' (4.3 meter) power cord, 3 PH, 24 A	39M5427* 25R2552**
4.3 meter power cord, 200 V, 10 A, UK	39M5152* 14F0034**
6' power cord, 200 V	39M5261* 14F1547**
14' power cord, 200-240 V, 24 A	39M5429* 25R2554**
14' power cord, 200 V, 12 A	39M5275* 14F1550**
14' power cord, 200-240 V, 24 A	39M5418*
6' upper locking cord, 200 V	12J5119**
4.3 meter power cord, 200 V, 10 A, EU/ASIA	39M5124* 13F9980**

Table 140. Model 9116-561, 9406-570, and 9117-570 cables (continued)

Description	Part number
14' power cord, 200 V, 16 A	39M5279* 14F1553**
4.3 meter power cord, 200 V, 16 A, Italy	39M5299* 14F1560**
6' locking power cord, 200 V, 12 A	14F1549**
14' locking power cord, 200 V	86G7879**
6' watertight power cord, 200 V	23R3230* 46F4593**
14' power cord, 200-240 V, 24 A, UTG0247	39M5430* 25R2555**
6' watertight power cord, 200 V, 12 A	14F1551**
6' upper line cord, 200 V	39M5262* 12J5120**
4.3 meter power cord, 200 V, 10 A, China	39M5207* 02K0547**
6' power cord, 125 V	12J5112**
4.3 meter power cord, 200 V, 16 A, Africa	39M5291* 14F1557**
14' power cord, 200 V, 12 A	39M5263* 14F1548**
14' power cord, 200-240 V, 24 A, UTG0247	39M5419*
5 meter U320 SCSI cable	09L3303**
0.6 meter SCSI cable with 68-pin connectors	52G4291**
1.2 meter switch cable, copper	41U0275* 12R8572**
2.5 meter system-to-system cable, 16-bit SCSI-2	52G4233**
4.3 meter power cord, 200 V, 30 A	87G6067**
4.3 meter power cord, 200 V, 16 A, China	39M5355* 01K9852**
14' power cord, 200 V	23R3231* 46F4594**
16 bit differential SCSI cable	52G0173**
3.7 meter cable, serial-to-serial port for drawer	10N7158* 88G4853**
Serial-to-serial port cable for rack	10N7159* 88G4854**
15 meter RIO cable	39J5822* 04N7014**
4.3 meter power cable	39M5295* 12J5988**
4.3 meter (14') power cord	39M5319* 36L8857**
4.3 meter (14') 250 V, 10 A power cord	25R2585**
4.3 meter (14') power cord, 2 PH, 200 V, 16 A, EU	39M5314* 55H6644**

Table 140. Model 9116-561, 9406-570, and 9117-570 cables (continued)

Description	Part number
12x InfiniBand cable (6 meters)	39J5641*
4.3 meter (14') power cord, 200 V, 16 A, Brazil	39M5343* 36L8885**
4.3 meter (14') power cord 200-240 V, 48-60 A, type a 46 plug	39M5431* 25R2556**
4.3 meter (14') power cord, 200-240 V, 24 A, water-resistant, type 40 plug	39M5432* 25R2557**
4.3 meter (14') power cord, 1 PH, 24 A, type PDL plug	39M5433* 25R2558**
4.3 meter (14') power cord, 24 A, type KP plug	39M5434* 25R2559**
4.3 meter (14') power cord, 200 V, 10A, IEC 320-C13 outlet, Argentina	6952291**
7' power cable, 200-240 V, right angle	39M5457*

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Model 575 cables:

Power cables.

Note: This topic contains tables that cross-reference FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Table 141. Model 9118-575 - cables

Description	Part number
Bulk power controller (BPC) A to emergency power off (EPO) switch	41V0470* 11P1595**
Bulk power controller (BPC) B to emergency power off (EPO) switch	41V0471* 11P1596**
Bulk power controller (BPC-A) to bulk power hub (BPH)	41V0472* 12R8625**
Bulk power controller (BPC-B) to bulk power hub (BPH)	41V0473* 12R8626**
Bulk power controller (BPC) A J09 (P1-C4-T13) to primary rack EIA position 9U J00 (E1-T1) node 1	41V0538* 44P1876**
Bulk power controller (BPC) B J09 (P2-C4-T13) to primary rack EIA position 9U J01 (E1-T2) node 1	41V0539* 44P1877**
Bulk power controller (BPC) A J08 (P1-C4-T12) to primary rack EIA position 11U J00 (E1-T1) node 2	41V0540* 44P1878**
Bulk power controller (BPC) B J08 (P2-C4-T12) to primary rack EIA position 11U J01 (E1-T2) node 2	41V0541* 44P1879**
Bulk power controller (BPC) A J07 (P1-C4-T11) to primary rack EIA position 5U J00 (E1-T1) node 3	41V0542*
Bulk power controller (BPC) B J07 (P2-C4-T11) to primary rack EIA position 5U J01 (E1-T2) node 3	41V0543*

Table 141. Model 9118-575 - cables (continued)

Description	Part number
Bulk power controller (BPC) A J06 (P1-C4-T10) to primary rack EIA position 7U J00 (E1-T1) node 4	41V0544*
Bulk power controller (BPC) B J06 (P2-C4-T10) to primary rack EIA position 7U J01 (E1-T2) node 4	41V0545*
Bulk power controller (BPC) A J05 (P1-C4-T9) to primary rack EIA position 1U J00 (E1-T1) node 5	41V0546*
Bulk power controller (BPC) B J05 (P2-C4-T9) to primary rack EIA position 1U J01 (E1-T2) node 5	41V0547*
Bulk power controller (BPC) A J04 (P1-C4-T8) to primary rack EIA position 3U J00 (E1-T1) node 6	41V0684*
Bulk power controller (BPC) B J04 (P2-C4-T8) to primary rack EIA position 3U J01 (E1-T2) node 6	41V0685*
Bulk power distribution (BPD) A J09 (P1-C3-T10) to primary rack EIA position 19U J00 (E1-T1) node 7	41V0550* 44P1888**
Bulk power distribution (BPD) B J09 (P2-C3-T10) to primary rack EIA position 19U J01 (E1-T2) node 7	41V0551* 44P1889**
Bulk power distribution (BPD) A J08 (P1-C3-T9) to primary rack EIA position 21U J00 (E1-T1) node 8	41V0552* 44P1890**
Bulk power distribution (BPD) B J08 (P2-C3-T9) to primary rack EIA position 21U J01 (E1-T2) node 8	41V0553* 44P1891**
Bulk power distribution (BPD) A J07 (P1-C3-T8) to primary rack EIA position 23U J00 (E1-T1) node 9	41V0554* 44P1898**
Bulk power distribution (BPD) B J07 (P2-C3-T8) to primary rack EIA position 23U J01 (E1-T2) node 9	41V0555* 44P1899**
Bulk power distribution (BPD) A J06 (P1-C3-T7) to primary rack EIA position 25U J00 (E1-T1) node 10	41V0556* 44P1900**
Bulk power distribution (BPD) B J06 (P2-C3-T7) to primary rack EIA position 25U J01 (E1-T2) node 10	41V0557* 44P1901**
Bulk power distribution (BPD) A J05 (P1-C3-T6) to primary rack EIA position 27U J00 (E1-T1) node 11	41V0558* 44P1902**
Bulk power distribution (BPD) B J05 (P2-C3-T6) to primary rack EIA position 27U J01 (E1-T2) node 11	41V0559* 44P1903**
Bulk power distribution (BPD) A J04 (P1-C3-T5) to primary rack EIA position 29U J00 (E1-T1) node 12	41V0560* 44P1904**
Bulk power distribution (BPD) B J04 (P2-C3-T5) to primary rack EIA position 29U J01 (E1-T2) node 12	41V0561* 44P1905**
Bulk power distribution (BPD) A J03 (P1-C3-T4) to primary rack EIA position 31U J00 (E1-T1) node 13	41V0562* 44P1906**
Bulk power distribution (BPD) B J03 (P2-C3-T4) to primary rack EIA position 31U J01 (E1-T2) node 13	41V0563* 44P1907**
Bulk power distribution (BPD) A J02 (P1-C3-T3) to primary rack EIA position 33U J00 (E1-T1) node 14	41V0564* 44P1908**
Bulk power distribution (BPD) B J02 (P2-C3-T3) to primary rack EIA position 33U J01 (E1-T2) node 14	41V0565* 44P1909**
Bulk power distribution (BPD) A J01 (P1-C3-T2) to primary rack EIA position 13U J00 (E1-T1) node 15	41V0576* 44P1910**

Table 141. Model 9118-575 - cables (continued)

Description	Part number
Bulk power distribution (BPD) B J01 (P2-C3-T2) to primary rack EIA position 13U J01 (E1-T2) node 15	41V0577* 44P1911**
Bulk power distribution (BPD) A J00 (P1-C3-T1) to primary rack EIA position 15U J00 (E1-T1) node 16	41V0578* 44P1912**
Bulk power distribution (BPD) B J00 (P2-C3-T1) to primary rack EIA position 15U J01 (E1-T2) node 16	41V0579* 44P1913**
Ethernet bulk power hub (BPH) to bulk power controller (BPC)	41V0475*
Ethernet bulk power hub (BPH) to system unit	41V0476*
Ethernet bulk power hub (BPH) to system unit	41V0477* 12R6812**
Ethernet bulk power hub (BPH) to system unit	41V0478* 12R6813**
Bulk power regulator (BPR) to internal battery feature (IBF)	41V0481* 12R7503**
Bulk power jumper (BPJ) A to bulk power jumper (BPJ) B	41V0480* 44P2088**
9' power cord, 250 V, 10 A	39M5144* 14F0015**
9' power cord, 250 V, 10 A	39M5206* 02K0546**
9' power cord, 125 V, 15 A	39M5233* 49P2110**
9' power cord, 250 V, 10 A	39M5172* 14F0087**
9' power cord, 250 V, 10 A	39M5237* 74P4393**
6' power cord, 250 V, 15 A	39M5094* 1838576**
6' power cord, 250 V, 60 A	15R7497* 41V0005**
14' power cord, 250 V, 60 A	15R7498* 41V0006**
14' line cord with no plug. Use for 200-415 V circuits, up 63 A.	41V0007* 11P0917**
6' power cord, 200-240 V, 70 A	15R7499* 41V0075**
5 meter U320 SCSI cable	09L3303**
2.5 meter system-to-system cable, 16-bit SCSI-2	52G4233**
9' power cable. 250 V, 10 A, IEC320/C13	39M5130* 13F9997**
14' line cord	41V0008* 11P0918**
.5 meter cord	41U0274* 12R8571**
3 meter cable	41U0276* 12R8573**

Table 141. Model 9118-575 - cables (continued)

Description	Part number
4.3 m (14') power cord, 100 A	15R7500* 41V0076**
1.8 meter (6') power cord, 480 V	41V0003* 44P3392**
4.3 meter (14') power cord, 480 V	41V0004* 44P3393**
Super UPIC	41V0534* 12R8185**
Super UPIC	41V0533*
0.6 meter (2') RIO-2 cable	39J2550* 97P6472**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Model 59x cables:

Power cables.

Note: This topic contains tables that cross-reference FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Table 142. Model 9119-590, 9119-595, and 9406-595 cables

Description	Part number
Bulk power controller (BPC) A J02 (P1-C4-T6) to emergency power off (EPO) switch J00	41V0470* 11P1595**
Bulk power controller (BPC) B J02 (P2-C4-T6) to emergency power off (EPO) switch J01	41V0471* 11P1596**
Bulk power controller (BPC) A J00D (P1-C4-T4) to bulk power controller (BPC) B J01 (P2-C4-T5)	41V0811* 44P4083**
Bulk power controller (BPC) B J00D (P2-C4-T4) to bulk power controller (BPC) A J01 (P1-C4-T5)	41V0810* 44P4082**
Bulk power controller (BPC) A J00B (P1-C4-T2) to service processor 0 J03 (P1-C1-T4)	41V0813* 16R0038**
Bulk power controller (BPC) B J00B (P2-C4-T2) to service processor 0 J04 (P1-C1-T5)	41V0814* 16R0039**
Bulk power controller (BPC) A J00C (P1-C4-T3) to service processor 1 J03 (P1-C4-T4)	41V0815* 16R0040**
Bulk power controller (BPC) B J00C (P2-C4-T3) to service processor 1 J04 (P1-C4-T5)	41V0816* 16R0041**
Service processor 0 J01 (P1-C4-T2) to front light strip J00 (P6)	41V0818* 12R7044**
Service processor 0 J02 (P1-C4-T3) to back light strip J00 (P7)	41V0819* 12R704**
Service processor 1 J01 (P1-C1-T2) to front light strip J01 (P6)	41V0820* 12R7046**

Table 142. Model 9119-590, 9119-595, and 9406-595 cables (continued)

Description	Part number
Service processor 1 J02 (P1-C1-T3) to back light strip J01 (P7)	41V0821* 12R7047**
Motor drive assembly 5 J00 (A5-T1) to bulk power distribution (BPD) 2A J06 (P1-C2-T7)	41V0831*
Motor drive assembly 5 J01 (A5-T2) to bulk power distribution (BPD) 2B J06 (P2-C2-T7)	41V0832*
Motor drive assembly 6 J01 (A6-T2) to bulk power distribution (BPD) 2B J07 (P2-C2-T8)	41V0834*
Distributed converter assembly (DCA) 01 J01 (P1-E10-T1 or P1-E10-T2) to bulk power controller (BPC) J08 (P2-C4-T12 or P2-C2-T12)	41V0877* 11P4732**
Distributed converter assembly (DCA) 02 J00 (P1-E11-T1) to bulk power controller (BPC) J09 (P1-C2-T13)	41V0855*
Distributed converter assembly (DCA) 02 J01 (P1-E11-T2) to bulk power controller (BPC) J09 (P2-C2-T13)	41V0856*
Distributed converter assembly (DCA) 03 J00 (P1-E12-T1) to bulk power distribution (BPD) 1A J08 (P1-C3-T9)	41V0857*
Distributed converter assembly (DCA) 03 J01 (P1-E12-T2) to bulk power distribution (BPD) 1B J08 (P2-C3-T9)	41V0858*
Distributed converter assembly (DCA) 11 J00 (P1-E7-T1) to bulk power distribution (BPD) 2A J08 (P1-C2-T9)	41V0859*
Distributed converter assembly (DCA) 11 J01 (P1-E7-T2) to bulk power distribution (BPD) 2B J08 (P2-C2-T9)	41V0860*
Distributed converter assembly (DCA) 12 J00 (P1-E8-T1) to bulk power distribution (BPD) 2A J09 (P1-C2-T10)	41V0861*
Distributed converter assembly (DCA) 12 J01 (P1-E8-T2) to bulk power distribution (BPD) 2B J09 (P2-C2-T10)	41V0862*
Distributed converter assembly (DCA) 13 J00 (P1-E9-T1) to bulk power distribution (BPD) 1A J09 (P1-C3-T10)	41V0863*
Distributed converter assembly (DCA) 13 J01 (P1-E9-T2) to bulk power distribution (BPD) 1B J09 (P2-C3-T10)	41V0864*
Distributed converter assembly (DCA) 21 J00 (P1-E4-T1) to bulk power distribution (BPD) 2A J00 (P1-C2-T1)	41V0865*
Distributed converter assembly (DCA) 21 J01 (P1-E4-T2) to bulk power distribution (BPD) 2B J00 (P2-C2-T1)	41V0866*
Distributed converter assembly (DCA) 22 J00 (P1-E5-T1) to bulk power distribution (BPD) 2A J01 (P1-C2-T2)	41V0867*
Distributed converter assembly (DCA) 22 J01 (P1-E5-T2) to bulk power distribution (BPD) 2B J01 (P2-C2-T2)	41V0868*
Distributed converter assembly (DCA) 23 J00 (P1-E6-T1) to bulk power distribution (BPD) 2A J02 (P1-C2-T3)	41V0869*
Distributed converter assembly (DCA) 23 J01 (P1-E6-T2) to bulk power distribution (BPD) 2B J02 (P2-C2-T3)	41V0870*
Distributed converter assembly (DCA) 31 J00 (P1-E1-T1) to bulk power distribution (BPD) 2A J03 (P1-C2-T4)	41V0871*
Distributed converter assembly (DCA) 31 J01 (P1-E1-T2) to bulk power distribution (BPD) 2B J03 (P2-C2-T4)	41V0872*

Table 142. Model 9119-590, 9119-595, and 9406-595 cables (continued)

Description	Part number
Distributed converter assembly (DCA) 32 J00 (P1-E2-T1) to bulk power distribution (BPD) 2A J04 (P1-C2-T5)	41V0873*
Distributed converter assembly (DCA) 32 J01 (P1-E2-T2) to bulk power distribution (BPD) 2B J04 (P2-C2-T5)	41V0874*
Distributed converter assembly (DCA) 33 J00 (P1-E3-T1) to bulk power distribution (BPD) 2A J05 (P1-C2-T6)	41V0875*
Distributed converter assembly (DCA) 33 J01 (P1-E3-T2) to bulk power distribution (BPD) 2B J05 (P2-C2-T6)	41V0876*
Bulk power distribution (BPD) 1A J04 (P1-C3-T5) to primary rack EIA position 1U J00 (E1-T1)	44P1884**
Bulk power distribution (BPD) 1B J04 (P2-C3-T5) to primary rack EIA position 1U J01 (E1-T2)	44P1885**
Bulk power distribution (BPD) 1A J05 (P1-C3-T6) to primary rack EIA position 1U J00 (E2-T1)	44P1886**
Bulk power distribution (BPD) 1B J05 (P2-C3-T6) to primary rack EIA position 1U J01 (E2-T2)	44P1887**
Bulk power distribution (BPD) 1A J02 (P1-C3-T3) to primary rack EIA position 5U J00 (E1-T1)	44P1880**
Bulk power distribution (BPD) 1B J02 (P2-C3-T3) to primary rack EIA position 5U J01 (E1-T2)	44P1881**
Bulk power distribution (BPD) 1A J03 (P1-C3-T4) to primary rack EIA position 5U J00 (E2-T1)	44P1882**
Bulk power distribution (BPD) 1B J03 (P2-C3-T4) to primary rack EIA position 5U J01 (E2-T2)	44P1883**
Bulk power distribution (BPD) 1A J00 (P1-C3-T1) to primary rack EIA position 9U J01 (E1-T1)	41V0538* 44P1876**
Bulk power distribution (BPD) 1B J00 (P2-C3-T1) to primary rack EIA position 9U J00 (E1-T2)	41V0539* 44P1877**
Bulk power distribution (BPD) 1A J01 (P1-C3-T2) to primary rack EIA position 9U J00 (E2-T1)	41V0540* 44P1878**
Bulk power distribution (BPD) 1B J01 (P2-C3-T2) to primary rack EIA position 9U J01 (E2-T2)	41V0541* 44P1879**
Bulk power distribution (BPD) 1A J06 (P1-C3-T7) to primary rack EIA position 13U J00 (E1-T1)	41V0576* 44P1910**
Bulk power distribution (BPD) 1B J06 (P2-C3-T7) to primary rack EIA position 13U J01 (E1-T2)	41V0577* 44P1911**
Bulk power distribution (BPD) 1A J07 (P1-C3-T8) to primary rack EIA position 13U J00 (E2-T1)	41V0578* 44P1912**
Bulk power distribution (BPD) 1B J07 (P2-C3-T8) to primary rack EIA position 13U J01 (E2-T2)	41V0579* 44P1913**
Bulk power distribution (BPD) 2A J00 (P1-C2-T1) to expansion rack EIA position 1U J00 (E1-T1)	41V0644*
Bulk power distribution (BPD) 2B J00 (P2-C2-T1) to expansion rack EIA position 1U J01 (E1-T2)	41V0645*
Bulk power distribution (BPD) 2A J01 (P1-C2-T2) to expansion rack EIA position 1U J00 (E2-T1)	41V0646*

Table 142. Model 9119-590, 9119-595, and 9406-595 cables (continued)

Description	Part number
Bulk power distribution (BPD) 2B J01 (P2-C2-T2) to expansion rack EIA position 1U J01 (E2-T2)	41V0647*
Bulk power distribution (BPD) 2A J02 (P1-C2-T3) to expansion rack EIA position 5U J00 (E1-T1)	41V0648*
Bulk power distribution (BPD) 2B J02 (P2-C2-T3) to expansion rack EIA position 5U J01 (E1-T2)	41V0649*
Bulk power distribution (BPD) 2A J03 (P1-C2-T4) to expansion rack EIA position 5U J00 (E2-T1)	41V0650*
Bulk power distribution (BPD) 2B J03 (P2-C2-T4) to expansion rack EIA position 5U J01 (E2-T2)	41V0651*
Bulk power distribution (BPD) 2A J04 (P1-C2-T5) to expansion rack EIA position 9U J00 (E1-T1)	41V0652*
Bulk power distribution (BPD) 2B J04 (P2-C2-T5) to expansion rack EIA position 9U J01 (E1-T2)	41V0653*
Bulk power distribution (BPD) 2A J05 (P1-C2-T6) to expansion rack EIA position 9U J00 (E2-T1)	41V0654*
Bulk power distribution (BPD) 2B J05 (P2-C2-T6) to expansion rack EIA position 9U J01 (E2-T2)	41V0655*
Bulk power distribution (BPD) 2A J06 (P1-C2-T7) to expansion rack EIA position 13U J00 (E1-T1)	41V0840*
Bulk power distribution (BPD) 2B J06 (P2-C2-T7) to expansion rack EIA position 13U J01 (E1-T2)	41V0841*
Bulk power distribution (BPD) 2A J07 (P1-C2-T8) to expansion rack EIA position 13U J00 (E2-T1)	41V0842*
Bulk power distribution (BPD) 2B J07 (P2-C2-T8) to expansion rack EIA position 13U J01 (E2-T2)	41V0843*
Bulk power distribution (BPD) 2A J08 (P1-C2-T9) to expansion rack EIA position 19U J00 (E1-T1)	41V0844*
Bulk power distribution (BPD) 2B J08 (P2-C2-T9) to expansion rack EIA position 19U J01 (E1-T2)	41V0845*
Bulk power distribution (BPD) 2A J09 (P1-C2-T10) to expansion rack EIA position 19U J00 (E2-T1)	41V0846*
Bulk power distribution (BPD) 2B J09 (P2-C2-T10) to expansion rack EIA position 19U J01 (E2-T2)	41V0847*
Bulk power distribution (BPD) 3A J00 (P1-C1-T1) to expansion rack EIA position 23U J00 (E1-T1)	41V0664*
Bulk power distribution (BPD) 3B J00 (P2-C1-T1) to expansion rack EIA position 23U J01 (E1-T2)	41V0665*
Bulk power distribution (BPD) 3A J01 (P1-C1-T2) to expansion rack EIA position 23U J00 (E2-T1)	41V0666*
Bulk power distribution (BPD) 3B J01 (P2-C1-T2) to expansion rack EIA position 23U J01 (E2-T2)	41V0667*
Bulk power distribution (BPD) 3A J02 (P1-C1-T3) to expansion rack EIA position 27U J00 (E1-T1)	41V0668*
Bulk power distribution (BPD) 3B J02 (P2-C1-T3) to expansion rack EIA position 27U J01 (E1-T2)	41V0669*

Table 142. Model 9119-590, 9119-595, and 9406-595 cables (continued)

Description	Part number
Bulk power distribution (BPD) 3A J03 (P1-C1-T4) to expansion rack EIA position 27U J00 (E2-T1)	41V0670*
Bulk power distribution (BPD) 3B J03 (P2-C1-T5) to expansion rack EIA position 27U J01 (E2-T2)	41V0671*
Bulk power distribution (BPD) 3A J04 (P1-C1-T6) to expansion rack EIA position 31U J00 (E1-T1)	41V0672*
Bulk power distribution (BPD) 3B J04 (P2-C1-T6) to expansion rack EIA position 31U J01 (E1-T2)	41V0673*
Bulk power distribution (BPD) 3A J05 (P1-C1-T7) to expansion rack EIA position 31U J00 (E2-T1)	41V0674*
Bulk power distribution (BPD) 3B J05 (P2-C1-T7) to expansion rack EIA position 31U J01 (E2-T2)	41V0675*
Bulk power regulator (BPR) to internal battery feature (IBF) in primary rack	41V0481* 12R7503**
Bulk power regulator (BPR) to internal battery feature (IBF) in expansion rack	41V0569* 11P2998**
Bulk power regulator (BPR) back to internal battery feature (IBF) front	41V0570* 60G7534**
6' power cord, 250 V, 15 A	41V1966* 73F4931**
14' power cord, 3 PH, 16 A	39M5426* 25R2551**
6' power cord, 250 V, 10 A	41V1961* 86G7878**
14' power cord, 100-127 V, 15 A	41V1962* 87G3880**
14' power cord, 200-240 V, 15 A	39M5252*
14' watertight power cord, 200 V, 12 A	14F1552**
14' power cord, 200-240 V, 12 A	39M5184* 25R2578**
4.3 meter power cord, 200 V, 30 A	11F0107**
4.3 meter power cord, 200 V, 10 A	39M5173* 14F0088**
4.3 meter power cord, 200 V, 16 A	39M5311* 14F1561**
14' power cord, 200-240 V, 10 A	39M5170* 14F0085**
9' power cord, 125 V, 15 A	39M5233* 49P2110**
4.3 meter power cord, 200 V, 10 A	39M5166* 14F0070**
4.3 meter power cord, 200 V, 16 A	39M5238*
14' power cord, 200-240 V, 10 A	39M5100* 13F9938**
14' power cord, 200-240 V, 10 A	14F0067* 14F0067**

Table 142. Model 9119-590, 9119-595, and 9406-595 cables (continued)

Description	Part number
4.3 meter power cord, 200 V, 16 A	39M5283 [†] 14F1554 ^{**}
6' power cord, 250 V, 15 A	39M5094 [†] 1838576 ^{**}
4.3 meter power cord, 200 V, 32 A	21H7693 ^{**}
14' watertight power cord, 200 V	73F4932 ^{**}
4.3 meter power cord, 200 V, 10 A	39M5159 [†] 14F0052 ^{**}
14' power cord, 200-240 V, 48 A	39M5429 [†] 25R2554 ^{**}
14' power cord, 200 V, 16 A	41V1963 [†] 88G4764 ^{**}
6' power cord, 250 V, 60 A	15R7497 [†] 41V0005 ^{**}
4.3 meter power cord, 200 V, 10 A	39M5103 [†] 13F9941 ^{**}
12' power cord, right angle, 250 V, 10 A	41U0114 [†] 00P2401 ^{**}
4.3 meter power cord, 200 V, 16 A	39M5323 [†] 14F1555 ^{**}
14' power cord, 200-240 V, 48 A	39M5417 [†]
4.3 meter power cord, 200 V, 10 A, Africa	39M5145 [†] 14F0016 ^{**}
14' power cord, 200-240 V, 32 A	39M5428 [†] 25R2553 ^{**}
14' (4.3 meter) power cord, 3 PH, 24 A	39M5427 [†] 25R2552 ^{**}
4.3 meter power cord, 200 V, 10 A, UK	39M5152 [†] 14F0034 ^{**}
6' power cord, 200 V	39M5261 [†] 14F1547 ^{**}
14' power cord, 200-240 V, 24 A	39M5429 [†] 25R2554 ^{**}
14' power cord, 250 V, 60 A	15R7498 [†] 41V0006 ^{**}
14' power cord, 200 V, 12 A	39M5275 [†] 14F1550 ^{**}
14' line cord with no plug. Use for 200-415 V circuits, up 63 A.	41V0007 [†] 11P0917 ^{**}
14' power cord, 200-240 V, 24 A	39M5418 [†]
6' upper locking cord, 200 V	12J5119 ^{**}
4.3 meter power cord, 200 V, 10 A, EU/ASIA	39M5124 [†] 13F9980 ^{**}
14' power cord, 200 V, 16 A	39M5279 [†] 14F1553 ^{**}

Table 142. Model 9119-590, 9119-595, and 9406-595 cables (continued)

Description	Part number
4.3 meter power cord, 200 V, 16 A, Italy	39M5299 [†] 14F1560 ^{**}
6' locking power cord, 200 V, 12 A	14F1549 ^{**}
14' locking power cord, 200 V	86G7879 ^{**}
6' watertight power cord, 200 V	23R3230 [†] 46F4593 ^{**}
14' power cord, 200-240 V, 24 A, UTG0247	39M5430 [†] 25R2555 ^{**}
6' watertight power cord, 200 V, 12 A	14F1551 ^{**}
6' upper line cord, 200 V	39M5262 [†] 12J5120 ^{**}
4.3 meter power cord, 200 V, 10 A, China	39M5207 [†] 02K0547 ^{**}
6' power cord, 125 V	12J5112 ^{**}
4.3 meter power cord, 200 V, 16 A, Africa	39M5291 [†] 14F1557 ^{**}
14' power cord, 200 V, 12 A	39M5263 [†] 14F1548 ^{**}
6' power cord, 200-240 V, 70 A	15R7499 [†] 41V0075 ^{**}
14' power cord, 200-240 V, 24 A, UTG0247	39M5419 [†]
5 meter U320 SCSI cable	09L3303 ^{**}
0.6 meter SCSI cable with 68-pin connectors	52G4291 ^{**}
2.5 meter system-to-system cable, 16-bit SCSI-2	52G4233 ^{**}
4.3 meter power cord, 200 V, 30 A	87G6067 ^{**}
4.3 meter power cord, 200 V, 16 A, China	39M5355 [†] 01K9852 ^{**}
14' power cord, 200 V	23R3231 [†] 46F4594 ^{**}
16 bit differential SCSI cable	52G0173 ^{**}
3.7 meter cable, serial-to-serial port for drawer	10N7158 [†] 88G4853 ^{**}
Serial-to-serial port cable for rack	10N7159 [†] 88G4854 ^{**}
15 meter RIO cable	39J5822 [†] 04N7014 ^{**}
9' power cable. 250 V, 10 A, IEC320/C13	39M5130 [†] 13F9997 ^{**}
14' line cord	41V0008 [†] 11P0918 ^{**}
External power cord	41V0567 [†] 11P4302 ^{**}
4.3 meter power cable	39M5295 [†] 12J5988 ^{**}

Table 142. Model 9119-590, 9119-595, and 9406-595 cables (continued)

Description	Part number
3.5 meter optical cable	12R9079* 12R6953**
10 meter optical cable	12R9080* 12R6954**
20 meter optical cable	12R9081* 12R6955**
30 meter optical cable	12R9082* 12R6956**
4.3 m (14') power cord, 100 A	15R7500* 41V0076**
1.8 meter (6') power cord, 480 V	41V0003* 44P3392**
4.3 meter (14') power cord, 480 V	41V0004* 44P3393**
Cable AMD1	41V0823* 12R6378**
Bulk power controller (BPC) A J04 (P1-C4-T8) to primary rack EIA position 3U J00 (E1-T1) node 6	41V0684*
Bulk power controller (BPC) B J04 (P2-C4-T8) to primary rack EIA position 3U J01 (E1-T2) node 6	41V0685*
4.3 meter (14') power cord	39M5319* 36L8857**
Super UPIC	41V0835* 44P3917**
4.3 meter (14') power cord, 200 V, 10 A, Brazil	39M5241* 74P4394**
1.5 meter SCSI cable	41V0949*
0.6 meter (2') RIO-2 cable	39J2550* 97P6472**
8 meter (26') RIO-G cable with core	39J2556* 39J0170**
10 meter cable	16R1653*
20 meter (65') optical switch cable	00P3792*
30 meter cable	16R1654*
40 meter cable	00P3793*
8 meter (26') RIO-2 cable	31P6132**
4.3 meter (14') power cord, 2 PH, 200 V, 16 A, EU	21H7691**
2 meter (6') watertight power cord, 200 V, 12 A	39M5314* 55H6644**
12x InfiniBand cable (6 meters)	39J5641*
4.3 meter (14') power cord, 200 V, 16 A, Brazil	39M5343* 36L8885**
4.3 meter (14') power cord 200-240 V, 48-60 A, type a 46 plug	39M5431* 25R2556**
4.3 meter (14') power cord, 200-240 V, 24 A, water-resistant, type 40 plug	39M5432* 25R2557**

Table 142. Model 9119-590, 9119-595, and 9406-595 cables (continued)

Description	Part number
4.3 meter (14') power cord, 1 PH, 24 A, type PDL plug	39M5433* 25R2558**
4.3 meter (14') power cord, 24 A, type KP plug	39M5434* 25R2559**
4.3 meter (14') power cord, 200 V, 10A, IEC 320-C13 outlet, Argentina	6952291**
7' power cable, 200-240 V, right angle	39M5457*

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

5094 ,5074, 5079, 5294, 8079-002, 8093-002, 8094-002, and 8294 expansion unit cables:

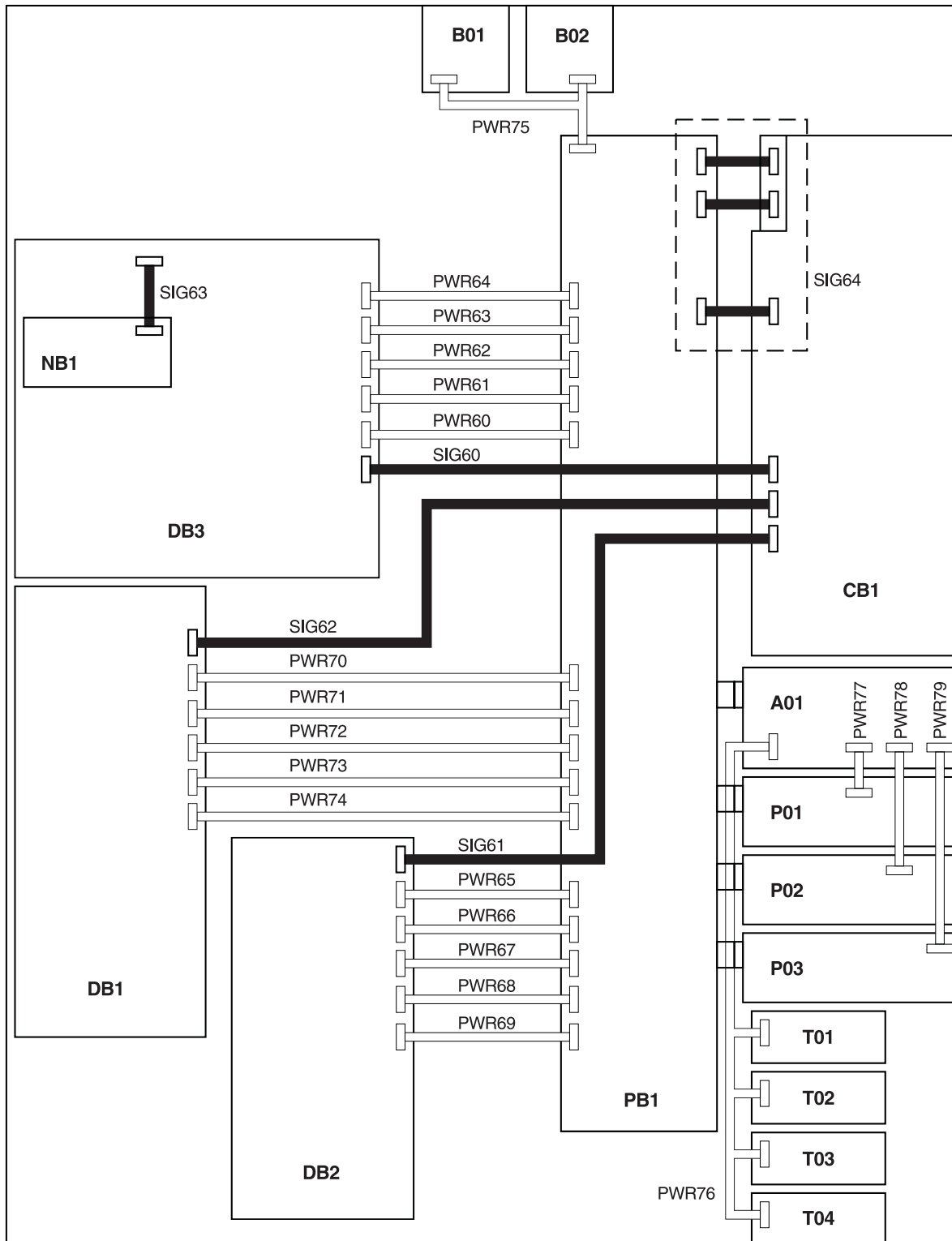
Expansion unit cables.

Note: The 5079 expansion unit is serviced as two 5074 units in the same frame. Cable names and part numbers are repeated in the upper and lower section of the 5079 frame.

Note: This topic contains tables that cross-reference FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Refer to the following two figures and tables, one for single power cord configurations and one for dual power cord configurations.

Figure 74. Single power cord for expansion unit - power and signal cables



Signal Cable
 Power Cable

RZAQ7507-1

Table 143. Single power cord - power cables

Name	Description	Part number
PWR60	Power distribution board PB1 to device board DB3	42R4033* 24L1886**

Table 143. Single power cord - power cables (continued)

Name	Description	Part number
PWR61 to PWR64	Power distribution board PB1 to device board DB3	42R4036* 97H7483**
PWR65	Power distribution board PB1 to device board 2	42R4047* 97H7544**
PWR66 to PWR69	Power distribution board PB1 to device board 2	42R4048* 97H7543**
PWR70	Power distribution board PB1 to device board DB1	42R4047* 97H7544**
PWR71 to PWR74	Power distribution board PB1 to device board DB1	42R4048* 97H7543**
PWR75	Power distribution board PB1 to AMDs B01 and B02	42R4035* 97H7475**
PWR76	Charger A01 to Batteries T01 through T04	42R4116* 97H7474**
PWR77	Charger A01 to Power supply P01	41V1958* 04N2181**
PWR78	Charger to Power supply P02	41V1958* 04N2181**
PWR79	Charger to Power supply P03	41V1958* 04N2181**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

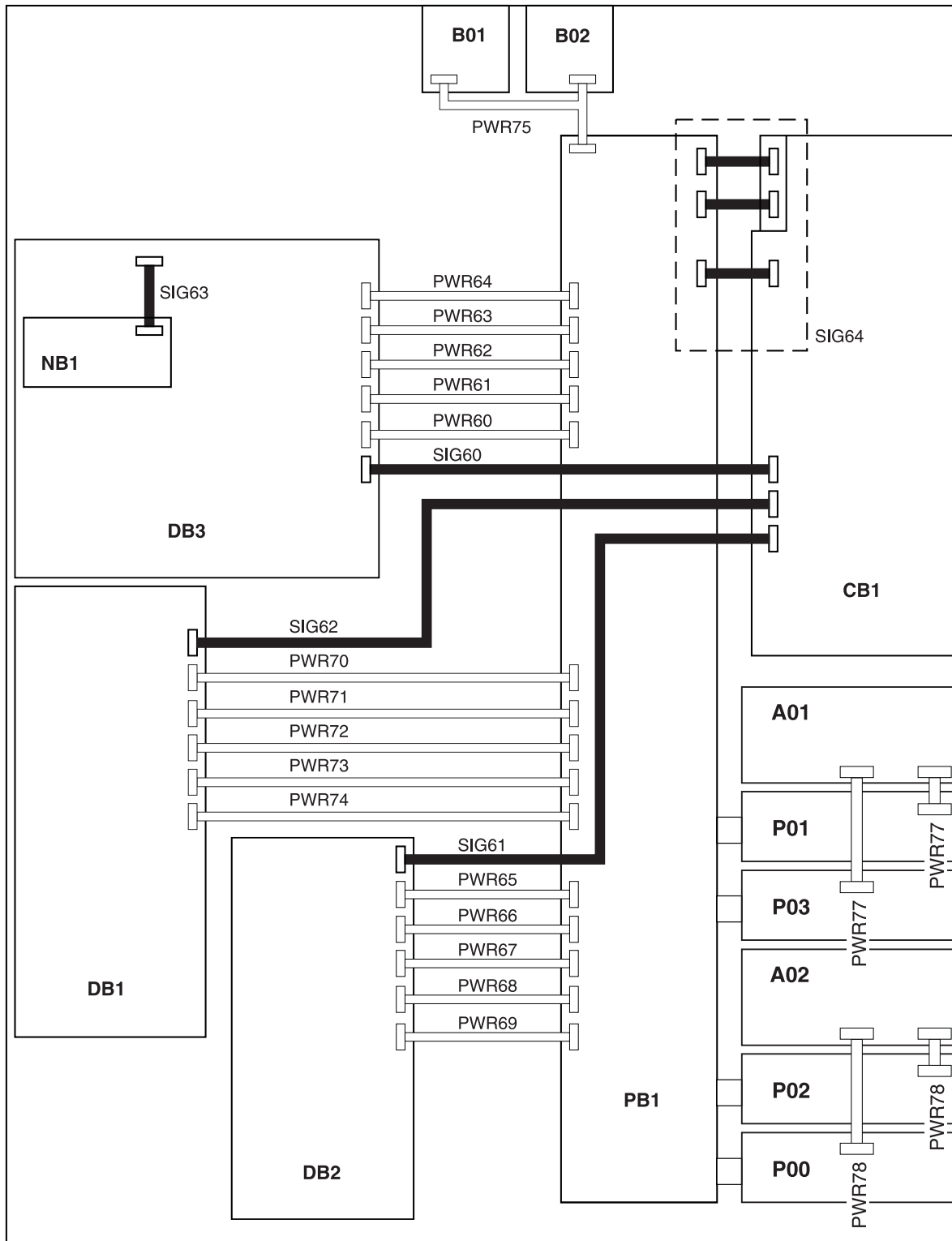
Table 144. Single power cord - signal cables

Name	Description	Part number
SIG60	IOA in expansion unit card CB1 to device board DB3	42R4034* 53P5649**
SIG61	IOA in expansion unit card CB1 to device board 2	42R4050* 53P5650**
SIG62	IOA in expansion unit card CB1 to device board DB1	42R4049* 53P5651**
SIG63	Control panel NB1 to device board DB3	24L1752**
SIG64	Expansion unit card CB1 to Power distribution board (PB1 - includes part numbers 97H7476, 97H7477, 97H7607) (Part of the expansion unit card FRU assembly)	24L0843* 97H7607**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Figure 75. Dual power cord - power and signal cables



Signal Cable
 Power Cable

RZAQ7511-2

Table 145. Dual power cord - power cables

Name	Description	Part number
PWR60	Power distribution board PB1 to device board (DB3)	42R4033* 24L1886**

Table 145. Dual power cord - power cables (continued)

Name	Description	Part number
PWR61 to PWR64	Power distribution board PB1 to device board DB3	42R4036* 97H7483**
PWR65	Power distribution board PB1 to device board 2	42R4047* 97H7544**
PWR66 to PWR69	Power distribution board PB1 to device board 2	42R4048* 97H7543**
PWR70	Power distribution board PB1 to device board DB1	42R4047* 97H7544**
PWR71 to PWR74	Power distribution board PB1 to device board DB1	42R4048* 97H7543**
PWR75	Power distribution board PB1 to AMDs B01 and B02	42R4035* 97H7475**
PWR77	AC input A01 to Power supply P01 and P03	41V1958* 04N2181**
PWR78	AC input A02 to Power supply P00 and P02	41V1958* 04N2181**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Table 146. Dual power cord - signal cables

Name	Description	Part number
SIG60	IOA in expansion unit card CB1 to device board DB3	42R4034* 53P5649**
SIG61	IOA in expansion unit card CB1 to device board 2	42R4050* 53P5650**
SIG62	IOA in expansion unit card CB1 to device board DB1	42R4049* 53P5651**
SIG63	Control panel NB1 to device board DB3	24L1752**
SIG64	Expansion unit card CB1 to Power distribution board (PB1 - includes part numbers 97H7476, 97H7477, 97H7607) (Part of expansion unit card FRU assembly)	24L0843* 97H7607**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

5088 and 0588 expansion unit cables:

Expansion units power and signal cables.

Figure 76. 5088 and 0588 expansion units - power and signal cables

Note: This topic contains tables that cross-reference FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

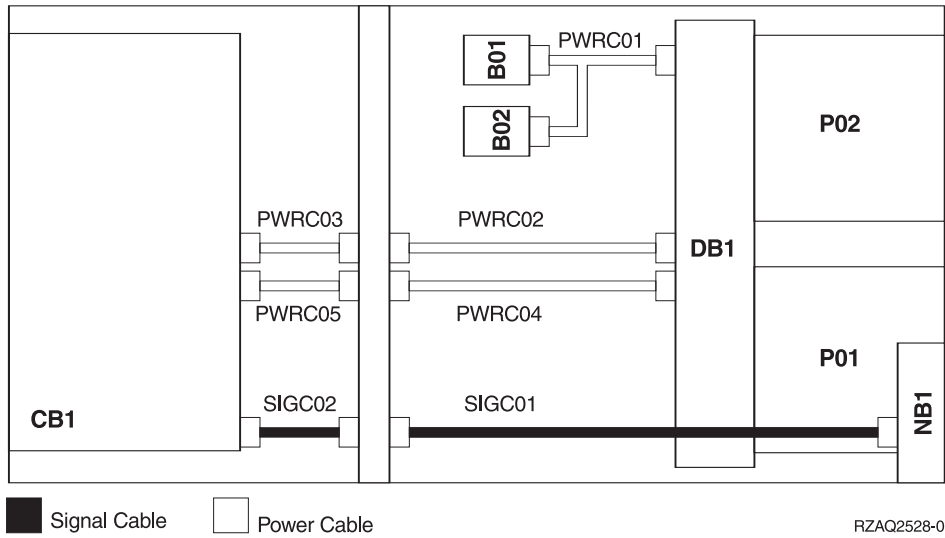


Table 147. 5088 and 0588 expansion units - power cables

Name	Description	Part number
PWRC01	Power Distribution Backplane (PB1) to AMDs (B01 and B02)	41L5652**
PWRC02	Power Distribution Backplane (PB1) to SPCN connector	41L5650**
PWRC03	SPCN connector to expansion unit card (CB1)	21P6096
PWRC04	Power Distribution Backplane (PB1) to Power connector	21P6094**
PWRC05	Power connector to expansion unit card (CB1)	21P6095

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Table 148. 5088 and 0588 expansion units - signal cables

Name	Description	Part number
SIGC01	Control panel (NB1) to Control panel connector	41L5649**
SIGC02	Control panel (NB1) to expansion unit card (CB1)	41L5517**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

5095 and 0595 expansion unit cables:

Power expansion unit cables.

Note: This topic contains indexed drawings and tables that cross-reference the enclosure's FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Use the following diagram and table for information about the power and signal cables for 5095 and 0595 expansion units.

Figure 77. 5095 and 0595 expansion units - power and signal cables

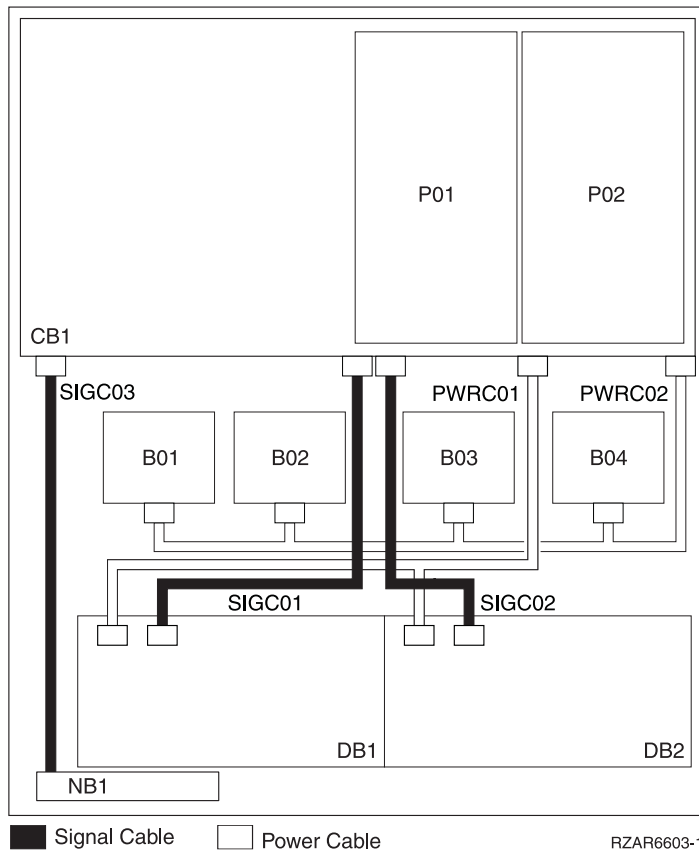


Table 149. 5095 and 0595 expansion units - power cables

Name	Description	Part number
PWRC01	CB1 to device backplanes DB1 and device backplane 2	53P0416
PWRC02	CB1 to Air moving devices (AMDs) B01, B02, B03, and B04	53P4065*

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Table 150. 5095 and 0595 expansion units - signal cables

Name	Description	Part number
SIGC01	CB1 to Device backplane DB1, left/top	53P0417*
SIGC02	CB1 to device backplane 2, right/bottom	42R4058* 53P0418**
SIGC03	Operation panel NB1 to system unit backplane CB1	53P0414*

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

5795 expansion unit cables:

Expansion unit cables.

Note: This topic contains tables that cross-reference FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Table 151. 5795 expansion unit cables

Name	Description	Part number
	SCSI signal cable	11P4215**
	SCSI power cable	11P4214**
	Operator panel cable	44P1799**
	Diskette cable	44P1800**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

7311-D20 expansion unit cables:

Expansion unit power cables.

Note: This topic contains tables that cross-reference FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Table 152. Expansion unit power cables

Name	Description	Part number
	7.5 meter (25') ARTIC960RxD quad DTA, E1, 120 Ohm balanced, extension cable	05F2045**
	4.3 meter (14') power cord, 200 V, 10A, IEC 320-C13 outlet, Argentina	6952291**
	6 meter (20') SPCN cable (1464, 6008)	22R5219* 21F9469**
	2.7 meter (9 ft.) power cord	39M5102* 13F9940**
	2.7 meter (9ft.) power cord	39M5095* 1838574**
	15 meter (50') extension cable, ARTIC960RxD quad DTA, T1, 100 Ohm	54F0740**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Table 153. 7311-D20 expansion unit - signal and miscellaneous cables

Failing Function Code	Description	Part number
	3 meter (10') ARTIC960RxD quad DTA, E1, 120 Ohm balanced, 4 port cable	87H3791**
	Disk unit cable	53P0416*
	SCSI cable	53P0417*
	SCSI cable	42R4058* 53P0418**
	Control panel cable	53P0414*

Table 153. 7311-D20 expansion unit - signal and miscellaneous cables (continued)

Failing Function Code	Description	Part number
263	Terminal cable, EIA-232	10N6535* 12H1204**
	6' 15 pin to 15 pin extension cable for displays	42R4755* 07L9633**
	H.100 cable	42R4756* 08L1215**
	3.7 meter modem cable	10N7712*
	10 meter modem cable	10N7713*
	3 meter (10') ARTIC960RxD Quad DTA, E1, 120 Ohm balanced, 4 port cable	87H3791**
	3 meter (10') 4 port cable, ARTIC960RxD quad DTA, T1, 100 Ohm	87H3793**
	Analog cable	31P7515**
	Digital video cable for flat panel monitors	73P3896**
	Differential SCSI Y-cable	39J3889* 61G8324**
	Cable tie	0524519**
	Video cable	22P7936**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

External cables

External cables.

Note: This topic contains tables that cross-reference FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Choose the type of external cable you are working with:

- General external cables
- External ac line cords

Table 154. General external cables

Description	Part number
Ethernet cable, 6 M (CIN 7801)	41V0479* 16R0449**
Ethernet cable, 15 M (CIN 7802)	41V0143* 05N5292**
Internal modem cable (System i5® CIN 1010) - Austria	39J5818* 21H4902**
Internal modem cable (System i5 CIN 1011) - Belgium	39J5819* 21H4903**
Internal modem cable (System i5 CIN 1012) - Africa	39J5808* 21H4904**
Internal modem cable (System i5 CIN 1013) - Israel	21H4905**

Table 154. General external cables (continued)

Description	Part number
Internal modem cable (System i5 CIN 1014) - Italy	39J5809* 75G3802**
Internal modem cable (System i5 CIN 1015) - France	39J5810* 75G3803**
Internal modem cable (System i5 CIN 1016) - Germany	39J5811* 75G3804**
Internal modem cable (System i5 CIN 1017) - UK	39J5817* 75G3808**
Internal modem cable (System i5 CIN 1018) - Iceland/Sweden	39J5812* 75G3806**
Internal modem cable (System i5 CIN 1019) - Australia	39J5813* 75G3807**
Internal modem cable (System i5 CIN 1020) - HK/NZ	39J5817* 75G3808**
Internal modem cable (System i5 CIN 1021) - Finland/Norway	39J5815* 75G3809**
Internal modem cable (System i5 CIN 1022) - Netherlands	39J5816* 75G3810**
Internal modem cable (System i5 CIN 1023) - Switzerland	39J5806* 75G3811**
Internal modem cable (System i5 CIN 1024) - Denmark	39J5807* 75G3812**
Internal modem cable (System i5 CIN 1025) - US/Canada	42R5087* 87G6236**
Cable, token ring (System i5 CIN 2745) 8 feet	6339098**
Cable, Ethernet (System i5 CIN 4723) RJ-45	75G2865**
Cable, 8 Port Twinax (System i5 CIN 4746)	39J5129* 21F5093**
Cable, ISDN RJ-45	97H7699**
Cable, ATM filtered (System i5 CIN 4815)	97H7385**
Cable, VIDEO EXT (System i5 CIN 0325)	39J5821* 44H8676**
Cable, mouse, keyboard extension (System i5 CIN 0325)	39J5831* 44H8677**
Keyboard/mouse splitter cable (CIN 2890)	42R5187* 07G3794**
V/S COMM - 6m cable (CCIN 031A)	44L0007**
VSCOM (6 meters) (CCIN 31B)	97P3189**
V.24 - 20' cable (System i5 CIN 0348)	39J5825* 44H7480**
V.24 - 20' cable - Germany (System i5 CIN 0348)	39J5826* 44H7482**
V.24 - 20' cable - Japan (System i5 CIN 0348)	39J5827* 44H7484**
V.24 - 50' cable (System i5 CIN 0349)	44H7481**
V.24 - 50' cable - Germany (System i5 CIN 0349)	44H7483**

Table 154. General external cables (continued)

Description	Part number
V.24 - 50' cable - Japan (System i5 CIN 0349)	44H7485**
V.24 - 20' cable (System i5 CIN 0350)	44H7486**
V.24 - 20' cable - Germany (System i5 0350)	44H7489**
V.24 - 20' cable - Japan (System i5 CIN 0350)	44H7492**
V.24 - 50' cable (System i5 CIN 0351)	44H7487**
V.24 - 80' cable (System i5 CIN 0352)	44H7488**
V.24 - 80' cable - Germany (System i5 CIN 0352)	44H7491**
V.24 - 80' cable - Japan (System i5 CIN 0352)	44H7494**
V.35 - 20' cable (System i5 CIN 0353)	39J5828* 44H7495**
V.35 - 50' cable (System i5 CIN 0354)	44H7496**
V.35 - 80' cable (System i5 CIN 0355)	44H7497**
V.36 - 20' cable (System i5 CIN 0356)	39J5829* 44H7498**
V.36 - 50' cable (System i5 CIN 0357)	44H7499**
V.36 - 80' cable (System i5 CIN 0358)	44H7500**
X.21 - 20' cable (System i5 CIN 0359)	39J5830* 44H7501**
X.21 - 50' cable (System i5 CIN 0360)	44H7502**
RS232 - 80' cable (System i5 CIN 0365)	97H7386**
RS232 - 80' cable - Germany (System i5 CIN 0365)	97H7387**
RS232 - 80' cable - Japan (System i5 CIN 0365)	97H7388**
HSL copper cable (3 meters) (CIN 1460)	39J5833* 44L0005**
HSL copper cable (6 meters) (CIN 1461)	39J5834* 97H7490**
HSL copper cable (15 meters) (CIN 1462)	39J5822* 04N7014**
HSL optical cable (6 meters) (CIN 1470)	42R5270* 21P5014**
HSL optical cable (30 meters) (CIN 1471)	42R5271* 21P5015**
HSL optical cable (100 meters) (CIN 1472)	42R5272* 21P5016**
HSL optical cable (250 meters) (CIN 1473)	42R5273* 21P6326**
HSL to HSL-2 copper cable 6 meter (CIN 1474)	39J2559* 21P5477**
HSL to HSL-2 copper cable 10 meter cable (CIN 1475)	39J2551* 53P5245**
HSL-2/RIO-2 cooper cable 1 meter (CIN 1481)	39J2562* 21P5454**
HSL-2/RIO-2 cooper cable 1.75 meter RIO-2 cable (CIN 1307)	03N5867* 00P5238**

Table 154. General external cables (continued)

Description	Part number
HSL-2/RIO-2 cooper cable 2.5 meter RIO-2 cable (CIN 1308)	03N5866* 00P5239**
HSL-2/RIO-2 cooper cable 3.5 meter (CIN 1482)	39J2554* 53P2676**
HSL-2/RIO-2 cooper cable 10 meter (CIN 1483)	39J2561* 21P5456**
HSL-2/RIO-2 cooper cable 15 meter (CIN 1485)	21P5457**
8 meters (System p5 CIN 3170)	41V0481* 12R7503**
Remote control panel cable	53P5704**
Serial-UPS conversion cable (System i5 CIN 1827)	39J5836* 97P4299**
SPCN cable (3 meters) (System i5 and System p5 CIN 6006)	22R5239* 09P1251**
SPCN cable (6 meters) (System p5 CIN 1464, System i5 and System p5 CIN 6008)	22R5219* 21F9469**
SPCN cable (15 meters) (System i5 CIN 1465, System i5 and System p5 CIN 6007)	22R5221* 21F9358**
SPCN cable (30 meters) (System i5 CIN 1466, System i5 and System p5 CIN 6029)	22R5222* 21F9359**
SPCN cable (60 meters)	21F9360**
Optical SPCN cable (100 meters) (System i5 CIN 0369)	41U0128* 21F9415**
Optical SPCN cable (250 meters) (System i5 CIN 1468)	41U0129* 21P6325**
SPCN Y-cable	39J5820* 04N2652**
RS485 cable	39J5824* 21P4162**
J-TAG A cable (CCIN 033A)	21H7375**
J-TAG C cable (CCIN 033B)	97H7487**
J-TAG E cable (CCIN 033C)	97H7604**
50 micron Fibre Channel conversion cable (System i5 CIN 0371)	12R9321* 11P1373**
62.5 micron Fibre Channel conversion cable (System i5 CIN 0372)	12R9322* 11P1374**
AC Jumper Non-DLC (5094 - 5294 only) A01 to A02	41V1959* 44H8388**
SPCN port cable (frame-to-node)	21F9362**
2 meter Frame-to-frame cable (CIN 6001)	22R5217* 87G6235**
SPCN optical adapter (CIN 1468)	39J3865* 90H6287**
Extender cable for USB keyboards/diskettes, 2 meter (System i5 and System p5 CIN 4256)	10N7374* 00P2969**
12x InfiniBand cable (4 meters) (System i5 and System p5 CIN 1832)	41V0231*

Table 154. General external cables (continued)

Description	Part number
12x InfiniBand cable (6 meters) (System i5CIN 1833)	97P3654*
12x InfiniBand cable (8 meters) (System i5 and System p5 CIN 1834)	39J5642*
4x InfiniBand cable (3 meters) (System i5 and System p5 CIN 1835)	97P6113*
4x InfiniBand cable (8 meters) (System p5 CIN 1836)	21P8318*
12x to three 4x InfiniBand cable (3 meters)	97P6114*
12x to three 4x InfiniBand cable (8 meters) (System p5 CIN 1838)	21P8319*

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Table 155. External ac line cords

Description	Units per assembly	Feature code	Length	Part number
4.3 meter (14ft) high voltage line cord for use in World Trade countries (non-US/Canada/Japan). 380-415 V, 30 A, does not have a wall plug. Line cord is 6 AWG.	2	1304 (System i5)	14 feet	41V0008* 11P0918**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Miscellaneous parts

Use this information to find part numbers for miscellaneous items such as cable wraps or cleaning kits.

Note: This topic contains tables that cross-reference FRUs to part numbers, (if applicable), and a part description. In this information, RoHS refers to European Union Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

See the following for other parts:

- For parts that have CCINs, System p Failing Function Code numbers, or OpenPower Failing Function Code numbers, see “System parts” on page 277.
- For mechanical and connecting parts, see “Part assembly diagrams” on page 160.
- For internal signal and power cables and external cables, see “Cables” on page 375.
- For Hardware Management Console (HMC) parts, see “Hardware Management Console (HMC) parts” on page 416.

Miscellaneous parts

Description	Units	Part number
QIC cleaning cartridge		35L0844**
Test tape QIC 4GB		59H3661**
Test tape QIC 16GB		87G1626**
Test tape QIC 25GB		59H4127**
Test tape QIC 50GB		35L0967*

Description	Units	Part number
Cleaning kit, optical cables		46G6844**
CD-ROM test disk (FC 4425, FC 4525)		31F4232**
DVD test disk (FC 4430, FC 4530)		17P8966**
DVD cleaning kit		19P0489**
Mouse (FC 1700)		76H5078**
II card wrap (TR LAN) FC 2744	AR	6165899**
LL card wrap	AR	21H3548**
MM card wrap	AR	21H3547**
NN card wrap	AR	42H0540**
OO card wrap (WS PCI)	AR	45H2364**
QQ card wrap (WAN PCI)	AR	44H7479**
SS RJ-45 card wrap FC 2838 and FC 2892	AR	21H4811**
UU card wrap (ISDN) FC 2750	AR	97H7749**
VV card wrap (ISDN) FC 2751	AR	97H7745**
WW card wrap FC 2761	AR	97H7754**
XX card wrap (FC 2744)	AR	44L0082**
YY card wrap (FC 2743)	AR	16G5609**
ZZ card wrap USB (FC 2890 and FC 2892)	AR	04N5682**
Optical card wrap	AR	75G2725**
GL card wrap (Ethernet) - (FC 2760, FC 5701, and FC 5706)	AR	21P4745**
GM card wrap (FC 2742 and FC 2793)	AR	53P1677**
ASYNc cable wrap	1	17G2642**
V.24AD cable wrap	1	21H3761**
RS232AD cable wrap	1	21H3762**
V35AD cable wrap	1	21H3763**
RS449AD cable wrap	1	21H3790**
X21AD cable wrap	1	21H3791**
Twinax port tester (93X2040)	AR	59X4262**
Adapter, 25 pin to 9 pin EIA232	AR	42R5145* 46G0298**
Battery, Integrated xSeries Server (IXS) (2890) adapter card	AR	33F8354* 15F8409**
DIMM, Integrated xSeries Server (IXS) (2890) adapter card IOP	AR	08J0653
FC 5077 jumper	AR	04N2653**
PCI card filler plate		01R1473* 03K8992**
PCI U3 DASD tray		53P2599**
GF card wrap - LC Optical (FC 2765, 2766, 2787, 5700, 5704, 5716)	AR	12R9314* 11P3847**
V35GM cable wrap	AR	53P1678**
Power cord retainer clip (models 270, 800, 810, 820, 825, and FC 5075)	AR	5556740*
MCM repair kit - support rails (models 590 and 595)	AR	12R7403**

Description	Units	Part number
MCM repair kit - clamp assembly, blocks, shelves, and tools (models 590 and 595)	AR	39J3008**
MCM repair kit - shelf (models 590 and 595)	AR	12R7409**
MCM repair kit - nest and blower blocking plate (models 590 and 595)	AR	12R7411**
Memory repair kit (models 590 and 595)	AR	16R1540**
MCM repair kit - tower (models 590 and 595)	AR	16R1549**
RIO bracket (models 590 and 595)	1	12R7091*
Wrap plug (models 7037-A50, 7047-185, 9111-285, 9115-505, 9110-51A, 9131-52A, 9133-55A, 9116-561)		03N6070* 00G2380**

* Designed to comply with RoHS requirement

** Not designed to comply with RoHS requirement

Hardware Management Console (HMC) parts

Use this information to find part numbers for HMC.

Personal computer parts

This section contains part number information for parts that are added to the base personal computer of the Hardware Management Console (HMC). These additional parts, when added to one of the personal computers listed in the following table, make up your HMC. For personal computer parts information not listed in the following tables, refer to the hardware maintenance manual for your personal computer.

The following table contains a cross-reference equivalent of the HMC machine type and model number to the personal computer machine type and model number.

HMC machine type and model number (available on the serial number plate of your HMC)	Equivalent PC server machine type and model number	Order numbers for supporting Hardware Maintenance Manuals (HMM)
7310-CR2	8676 Model 22X	48P9908
7310-CR3	8837 Model 22U	25K8109
7310-CR4	7978 Model 42U or 7978 Model PBT	31R1156
7310-C03	8187 Model F4U (without POV)	74P2661
7310-C04	8141 Model 31U	19R0486
7310-C05	8485 Model 2AU	31R2005
7310-C06	4362 Model 52U or 4362 Model PAT	nn1cqmst

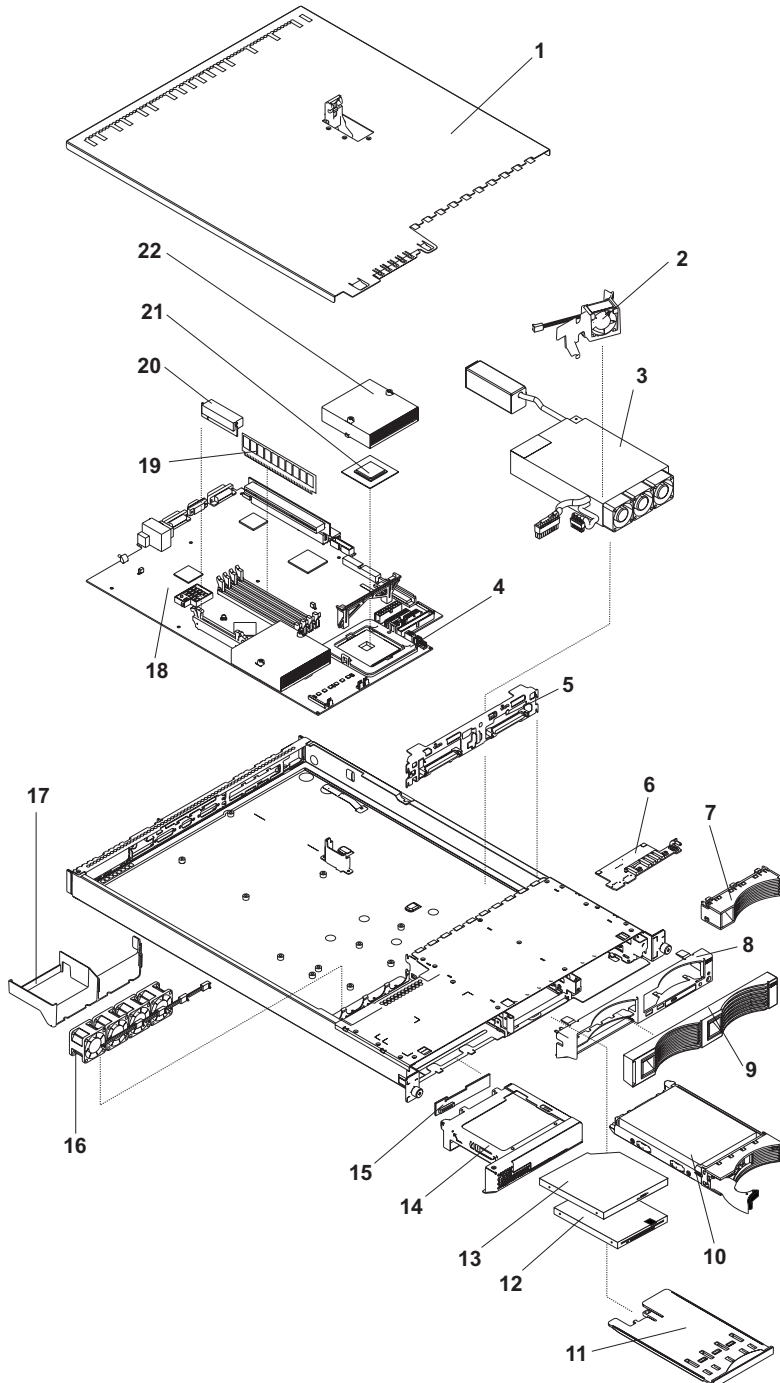
For the latest information regarding maintenance of your HMC PC, system board specifications, and parts, refer to the PC hardware maintenance manuals. To obtain the latest versions of these publications through the IBM web site, follow this procedure:

1. Go to www.ibm.com
2. Click **Support & downloads**.
3. In the **Search Technical support** keyword search field, type the order number of the manual that you want to access.
4. Click **Search**.
5. In the search results, click the link to the document that you want to view.

Hardware Management Console model 7310-CR2 parts

Machine type 7310-CR2 uses a personal computer machine type of 8676 Model 22X for its base configuration. To access the personal computer hardware maintenance manuals, see "Personal computer parts" on page 416.

Note: Each PC hardware maintenance manual may reference more than one machine type in its title. If necessary, to cross-reference to the original PC hardware maintenance manual, make sure that you find the hardware maintenance manual for the PC machine type and model for the HMC that you are servicing.



Index	Description	Units	Part numbers
1	Top cover assembly	1	40K9765
2	Fan, DASD	1	00N6991
3	Power Supply (332W)		49P2090
4	Heat sink Retention Module	1	24P0836
5	Hot-Swap SCSI Backplane		32P1932
6	Operator Information Card		48P9086
7	Bezel Filler		06P6245
8	Bezel, Hot Swap Trim		24P0720
9	Bezel, Non-Hot Swap Trim		24P0723
10	40GB IDE Drive (7200 RPM)		19K1568
11	USB Tray		32P0580
12	12.7, 3 MODE Diskette Drive		36L8645
	FDD 1.44 MB		39M0107
13	DVD-RAM		33P3307
14	Bracket, CD-ROM Drive/Diskette Drive		32P1925
15	Interposer Card		48P9028
			39R8542
16	Microprocessor Fan		24P1118
17	Baffle		24P0742
17a	Chassis		32P1924
18	System Board		25R3039
19	512 MB Memory DIMM		09N4307
19	1 GB Memory DIMM		09N4308
20	9.0 1U/13A VRM Card,		74P4407
21	533/3.06-0K L3 Microprocessor		02R8908
22	533 Heat sink		24P0891

The following table contains part descriptions and part numbers for parts not shown in the 7310-CR2 illustration.

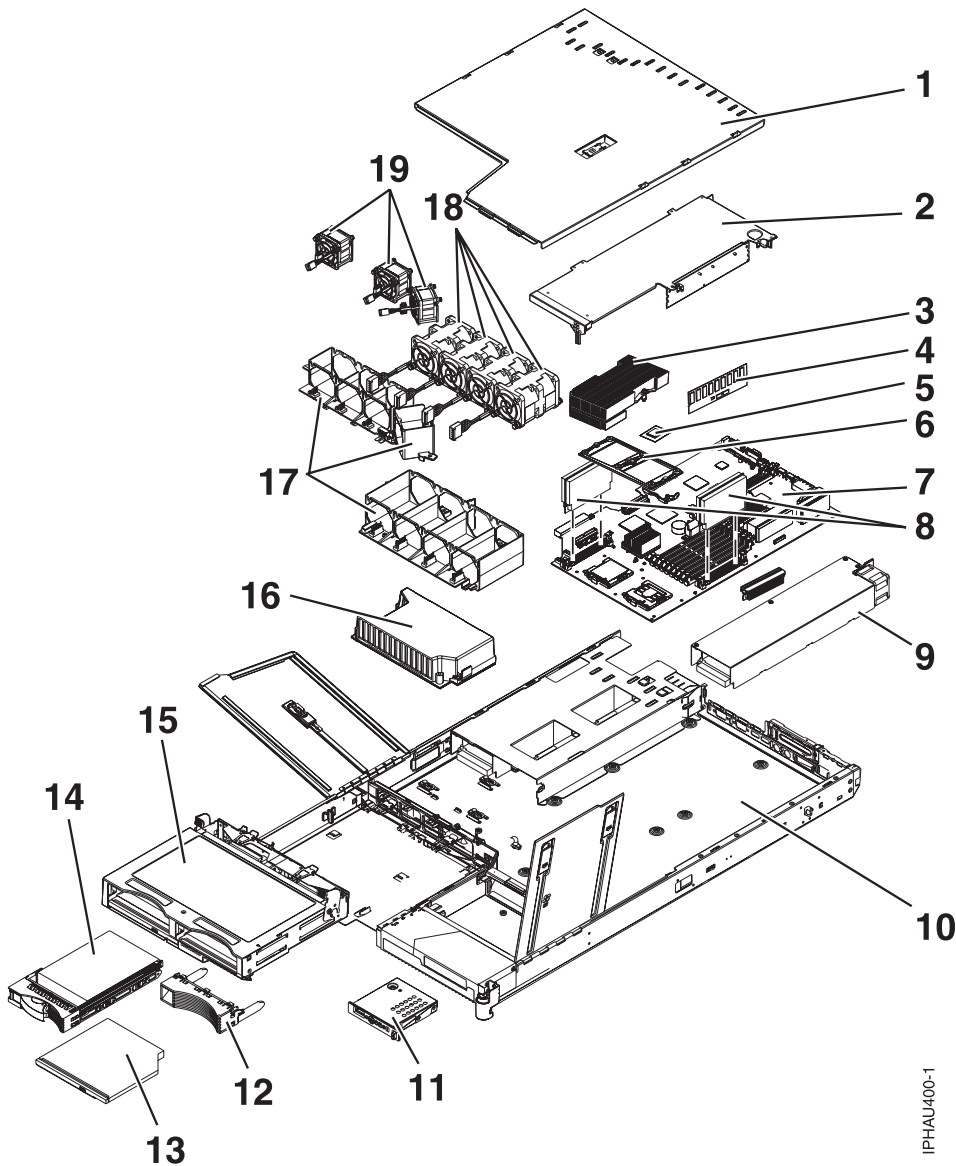
Description	Units	Part Numbers
Front Panel		39Y7157
3.0 V battery		33F8354
Mouse		24P0507
Mouse Cable		00N6954
C2T Cable (FC 4271) 0.26 m, HMC to HMC, (Keyboard/Video/Mouse)		00N7003
C2T Cable (FC 4272) 2 m, HMC to HMC, (Keyboard/Video/Mouse)		00N7006

Description	Units	Part Numbers
-48V Connector		01R1199
40x20 Fan Assembly Duct		24P0892
1U Tool-less Rail Kit		24P1121
PC-Doctor Diagnostic Diskette		21H4251
Service Label		33P2339
eServer xSeries Nameplate		33P2205
Non-Hot Swap Hard Disk Drive Rail Kit		32P1928
3.5V Riser Assembly		25P3359
Jumper Cord		36L8886
CD-ROM Drive Power Cable		24P0867
CD-ROM Signal Cable		24P0851
Hard Disk Drive Power Fixed 2-Drop Cable		24P0865
Cable, switch and USB		24P0853
Cable, diskette drive signal		24P0790
Cable, IDE drive		24P0788
Cable, hard disk drive 4-pin power		24P0622
Miscellaneous parts kit - contains: <ul style="list-style-type: none"> • CD-ROM drive spring rod (1) • Diskette drive spring rod (1) • Screws (10) • PCI card support bracket (1) • Icon light pipe (1) • Rear light pipe (1) • CD-ROM drive blank bezel (1) • Diskette drive blank bezel (1) • Slotted M3x5 screws (18) • I/O bracket (2) • Fan bracket (1) • 40 mm by 20 mm fan bracket (1) (all models) FRU 		32P1926

7310-CR3 Hardware Management Console parts

This HMC uses a personal computer machine type of 8837 Model 22U for its base configuration. To access the personal computer hardware maintenance manuals, see “Personal computer parts” on page 416.

Note: Each PC hardware maintenance manual may reference more than one machine type in its title. If necessary, to cross-reference to the original PC hardware maintenance manual, make sure that you find the hardware maintenance manual for the PC machine type and model for the HMC that you are servicing.



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Notes:

1. Field replaceable units (FRUs) must be serviced only by an authorized service provider.
2. Customer replaceable units (CRUs) can be replaced by the customer. A definition of Tier 1 and Tier 2 CRUs for this model HMC is:

Tier 1 CRU

Procedure that a customer can perform without input from a service representative. The procedure used to service this type of component is usually required to be done by the customer.

Tier 2 CRU

Procedure that a customer can perform, but may require support from a service representative. The procedure used to service this component is usually not required to be done by the customer.

3. If the part you are replacing is not identified as being either Tier 1 or Tier 2 call your service representative to service the FRU.

Table 156. 7310-CR3 Parts listing

Index	Description	Tier 1 CRUs	Tier 2 CRUs	Part Number
1	Top cover	*		23K4219
2	Riser card assembly, PCI		*	23K4211
	Riser card (PCI-X)	*		90P1957
3	Heat sink (field replaceable unit)			90P5281
4	Memory, 512 MB ECC DRR	*		13N1424
4	Memory, 512 MB	*		09N4307
5	Microprocessor, 3.4 GHz (field replaceable unit) Note: Use BIOS CD FRU P/N 03N5955 when replacing the microprocessor if the HMC BIOS level of 1.06 or later is not installed in the CR3.			13M8295
6	Heat sink retention module (field replaceable unit)			90P5282
7	System board (field replaceable unit) Note: When ordering or replacing a CR3 system board, you must order the HMC BIOS Update CD. The FRU part number is 03N5955.			39Y6958
8	VRM, 1U/75A (on system board)	*		39Y7261
9	585 W Power Supply	*		39Y7169
	Power supply fan cable (field replaceable unit) (not shown)	*		40K8160
10	Chassis (field replaceable unit)			90P5284
11	Control panel signal cable (field replaceable unit)			25R4052
	Control panel (field replaceable unit) (not shown)			39Y6912
12	Bezel filler panel, hard disk drive	*		59P5236
13	DVD-RAM Drive		*	39M3523
13	DVD R/W Media		*	18P7250
14	HDD 80 GB SATA		*	40K6867
	Cartridge SATA (not shown)		*	40K8151
15	Cage assembly, 3.5 in. SCSI hard disk drive, with CD and hard disk drive backplanes		*	73P8007
16	Power backplane		*	40K8157
17	Fan holder with fan backplanes		*	40K8156
18	Fan, 40x40x56	*		40K8140
19	Fan, 40x40x28	*		40K8139
	3.0 V battery	*		33F8354
	Bezel filler panel, SATA drive	*		23K4990
	Bezel filler panel, DVD drive	*		26K4300

Table 157. 7310-CR3 Parts listing

Index	Description	Units		Part Number
	Cable assembly, 2.5 inch SCSI with power cable, signal cable, and bracket		*	23K4206
	Cable, 3.5 inch SCSI power		*	23K4204
	Cable management arm	*		90P1958

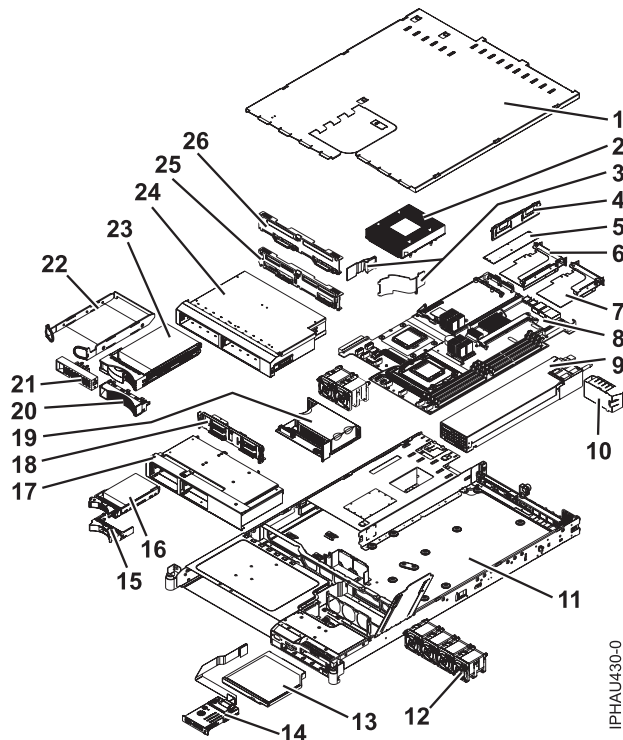
Table 157. 7310-CR3 Parts listing (continued)

Index	Description	Units		Part Number
	Cable, signal, SCSI		*	33P2353
	Filler panel	*		26K8680
	Kit, miscellaneous parts (all models) <ul style="list-style-type: none"> • Bezel blank filler • EIA bracket assembly, left • EIA bracket assembly, right • Rail set, DVD • Power supply filler 1 • Screw, 3.5mm • Screw, M3.5 steel 		*	90P5285
	Kit, tool-less rail	*		23K4218
	Line cord	*		39M5247
	Riser card, PCI-X 1.0	*		90P1957
	Service label	*		23K4220
	Service label, generic	*		23K4991
	USB connector cable, front panel (field replaceable unit)			40K8159
	Y cord, 1345mm		*	25R2567
	PC-Doctor Diagnostic Diskette	*		21H4251
	HMC BIOS Update CD Note: Use BIOS CD FRU P/N 03N5955 when replacing the microprocessor if the HMC BIOS level of 1.06 or later is not installed in the CR3.			03N5955
	Mouse, (Black)	*		03N6669
	Modem cable (see "HMC modem cable part numbers" on page 435)			

7310-CR4 Hardware Management Console parts

This HMC uses a personal computer machine type of 7978 Model 42U for its base configuration. To access the personal computer hardware maintenance manuals, see "Personal computer parts" on page 416.

Note: Each PC hardware maintenance manual may reference more than one machine type in its title. If necessary, to cross-reference to the original PC hardware maintenance manual, make sure that you find the hardware maintenance manual for the PC machine type and model for the HMC that you are servicing.



Notes:

1. Field replaceable units (FRUs) must be serviced only by an authorized service provider.
2. Customer replaceable units (CRUs) can be replaced by the customer. A definition of Tier 1 and Tier 2 CRUs for this model HMC is:

Tier 1 CRU

Procedure that a customer can perform without input from a service representative. The procedure used to service this type of component is usually required to be done by the customer.

Tier 2 CRU

Procedure that a customer can perform, but may require support from a service representative. The procedure used to service this component is usually not required to be done by the customer.

3. If the part you are replacing is not identified as being either Tier 1 or Tier 2 call your service representative to service the FRU.

Table 158. 7310-CR4 Parts listing

Index	Description	Tier 1 CRUs	Tier 2 CRUs	Part Number
1	Top cover assembly	*		43W0609
2	Heatsink assembly			39Y9423
3	Air baffles	*		39Y9420
4	Memory, 512 MB ECC DRR	*		39M5781
5	Not applicable to this model			
6	PCI-X riser card		*	39Y6975
7	Not applicable to this model			
8	Planar, SATA			42D3639

Table 158. 7310-CR4 Parts listing (continued)

Index	Description	Tier 1 CRUs	Tier 2 CRUs	Part Number
9	Power supply, 670 W	*		39Y7189
10	Power supply filler panel	*		XXXXXXXX
11	Chassis assembly			39Y9522
12	Fan assembly unit (dual fans)	*		26K8083
13	DVD-RAM Drive	*		42C0955
14	Operator information panel card assembly			39K6973
15	Not applicable to this model			
16	Not applicable to this model			
17	Not applicable to this model			
18	Not applicable to this model			
19	Power backplane		*	39Y6972

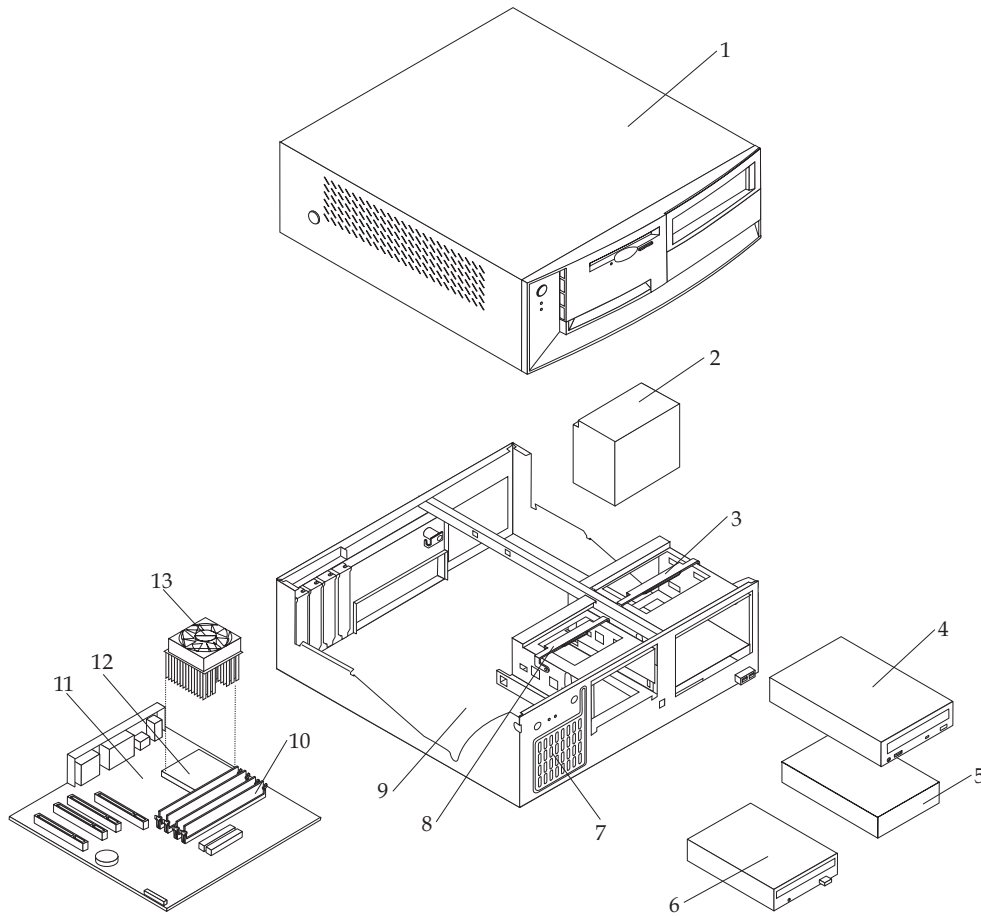
Table 159. 7310-CR4 Parts listing

Index	Description	Units		Part Number
20	Not applicable to this model			
21	Simple-swap filler panel, 3.5 inch	*		23K4990
22	Disk drive, 80 GB SATA	*		39M4503
23	Not applicable to this model			
24	Simple-swap SATA disk drive cage		*	32R2823
25	Not applicable for this model			
26	Power cable, SATA, with backplate	*		26K8060
	Microprocessor, 2.0 GHz with heatsink			42C4229
	Media bezel assembly	*		39Y9419
	Rack latch assembly, EIA		*	26K8080
	Service label, 3.5 inch, SATA	*		32R2820
	Service label, right fan door	*		39Y9418
	USB connector cable, front panel (field replaceable unit)		*	26K8058
	CD-RW/DVD drive interposer card		*	42C3983
	Slides and hardware		*	52P8517
	Battery, system board, 3.0 V	*		33F8354
	Mouse, (Black)	*		03N6669
	Modem cable (see "HMC modem cable part numbers" on page 435)			

7310-C03 Hardware Management Console parts

Machine type 7310-C03 uses a personal computer machine type of 8187 Model F4U for its base configuration. To access the personal computer hardware maintenance manuals, see "Personal computer parts" on page 416.

Note: Each PC hardware maintenance manual may reference more than one machine type in its title. If necessary, to cross reference to the original PC hardware maintenance manual, make sure that you find the hardware maintenance manual for the PC machine type and model for the HMC that you are servicing.



Index	Description	Units	Part Numbers
1	Top cover assembly	1	88P5962
2	Power supply, 230W	1	74P4300
2	Power supply, 230W		74P4301
3	Media Bracket/HDD mounting bracket assembly		88P5916
4	DVD-RAM		33P3309
4	DVD-RW drive		26K5383
4	CD-ROM drive		33P3243
5	HDD, 40 GB EIDE	1	19K1568
6	FDD, 3.5 1.44 MB		76H4091
6	FDD, 3.5 1.44 MB (2 mode)		24P3889
6	FDD, 3.5 1.44 MB (2 mode) (w/bezel)		40Y9105
6	FDD, 3.5 1.44 MB (2 mode) (w/bezel)		40Y9107

Index	Description	Units	Part Numbers
6	FDD, 3.5 1.44 MB		40Y9113
7	Speaker Assembly		39M0614
7	Speaker with cable		00N5151
8	Pivot lock, 3.5 diskette drive		09N5748
9	Chassis		88P5963
10	512 MB SDRAM		31P9122
11	System board, Gigabit Ethernet, without POV		89P7944
11	System board, Gigabit Ethernet, without POV		41X2830 (supports Prescott CPU)
12	Intel® P4 3.0 GHz		88P5870
13	Fan sink		01R3330 32P4004 13N2951 13R9195

The following table contains part descriptions and part numbers for parts not shown in the 7310-C03 illustration.

Description	Units	Part Numbers
Button Control		32P3257
RFID antenna - hook-and-loop fastner		03K9654
3.0 V battery		33F8354
COM Port to Modem Async Cable		21L4322
Cable, C2 assembly		09K9827
PC-Doctor Diagnostic Diskette		21H4251
5.25 EMC shield		19K5548
Retention kit		88P5915
Planar shield kit		88P5931
Cable, FDD		88P6515
Cable, HDD		88P5928
Cable, ATA66 1 drop		88P5967
Cable, ATA66 2 drop		88P5971
Cable, SATA		88P5927
HMC Model CR3 BIOS Update CD		03N4720
Service label		88P5964
Bezel kit		49P4371
Pivot lock, 3.5 FDD		09N5748
Pivot lock, 5.25 DASD		09N5747
Fan bracket assembly		89P6700
Miscellaneous hardware kit		88P5965
Cable, CD-ROM audio		75H9219
Mouse		24P0507

Description	Units	Part Numbers
Keylock assembly, random		88P5920
HDD mounting bracket assembly		88P5916
Control panel		37L5092
Cable, second system port serial		49P4530
Cable, dual USB 2.0		49P4365
ASYNCR 8-Way Adapter		93H6541
ASYNCR 128-Way Adapter		93H6545
10/100 Ethernet Adapter		09P5023
Modem cable (see "HMC modem cable part numbers" on page 435)		

7310-C04 Hardware Management Console parts

Machine type 7310-C04 uses a personal computer machine type of 8187 Model 31U for its base configuration. To access the personal computer hardware maintenance manuals, see "Personal computer parts" on page 416.

Note: Each PC hardware maintenance manual may reference more than one machine type in its title. If necessary, to cross reference to the original PC hardware maintenance manual, make sure that you find the hardware maintenance manual for the PC machine type and model for the HMC that you are servicing.

Notes:

1. Field replaceable units (FRUs) must be serviced only by an authorized service provider.
2. Customer replaceable units (CRUs) can be replaced by the customer. Tier 1 and Tier 2 CRUs for this model HMC are defined as follows:

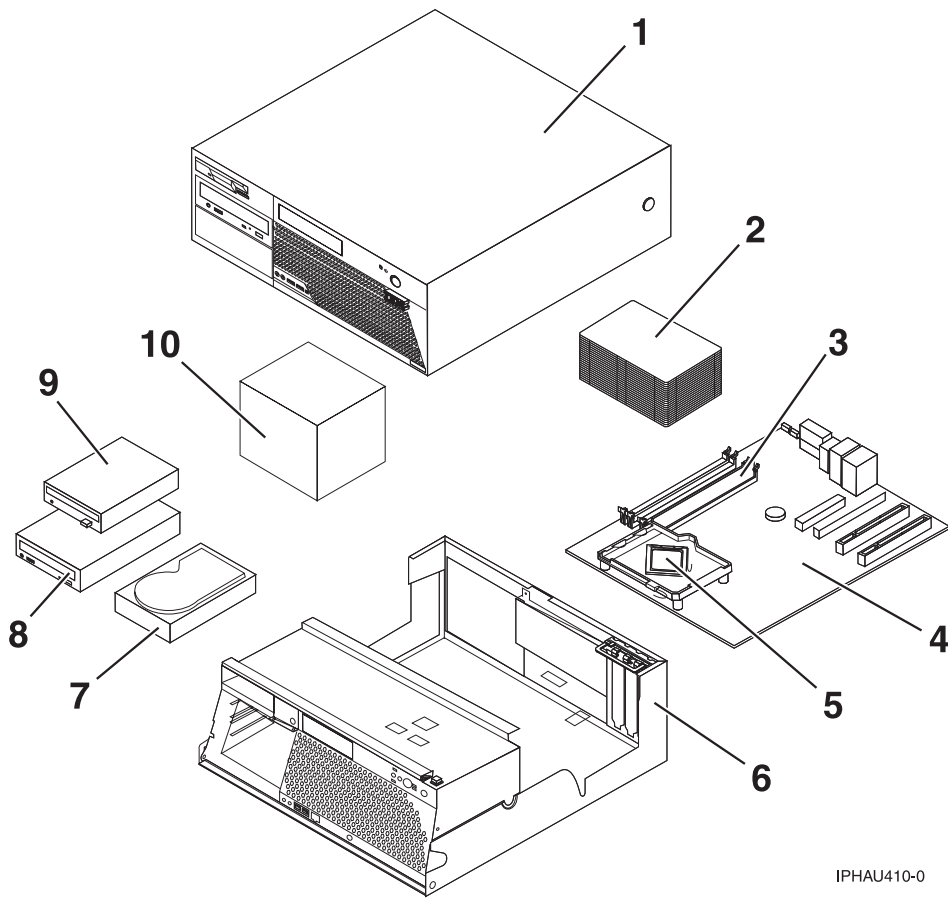
Tier 1 CRU

Procedure that a customer can perform without input from a service representative. The procedure used to service this type of component is usually required to be done by the customer.

Tier 2 CRU

Procedure that a customer can perform, but may require support from a service representative. The procedure used to service this component is usually not required to be done by the customer.

3. If the part you are replacing is not identified as being either Tier 1 or Tier 2, call your service representative to service the FRU.



IPHAU410-0

Table 160. 7310-C04 Parts listing

Index	Description	Tier 1 CRU	Tier 2 CRU	Part Number
1	Top Cover assembly	*		89P6730
2	Heat sink		*	89P6729
3	512MB PC2 3200 Memory DDR1	*		73P2684
4	System board 10/1000 w/ POV		*	41X2839
5	3.2 GHZ Prescott P4		*	19R0497
6	Chassis and top cover kit		*	89P6732
7	HDD 80GB SATA	*		73P8000
7	HDD 40GB SATA	*		71P7312
8	DVD	*		09P5407
8	DVD (Black)	*		33P3309
8	DVD-RW drive	*		26K5383
9	3.5 - 1.44MB 2 MODE FDD wo/Bezel	*		76H4091
9	3.5 - 1.44MB 2MODE FDD (wo/Bezel) -- optional to 76H4091	*		33P3343
9	3.5 - 1.44MB 2MODE FDD	*		24P3889
10	Power Supply 310 Watt		*	24R2574

7310-C04 FRU's listed in the following table are not illustrated

Table 161. 7310-C04 Parts listing

Description	Tier 1 CRU	Tier 2 CRU	Part Number
HDD mounting bracket assembly	*		88P5916
Speaker assembly, internal (All EXCEPT CAU CBU)	*		00N5151
Speaker			39M0614
Cable, second system port serial		*	49P4530
Cable, C2 assembly		*	09K9827
Retention module assembly	*		89P6725
Device retaining clips	*		13N2449
PC-Doctor diagnostic diskette	*		21H4251
Fan and duct assembly	*		89P6726 39K5014
System board shield	*		89P6727
Cable, SATA (all models)		*	89P6728
Bezel Kit (all models)	*		89P6731
Cable and Front USB/Audio Card (all models)	*		89P6733
Cable, 2-drop IDE		*	89P6734
Cable, FDD		*	89P6735
Shield, Blank FDD	*		89P6736
EMC shield	*		89P6771
Miscellaneous Hardware kit	*		89P6737
Cable, 1394 Front		*	89P6738
Cable, Power/LED		*	89P6739
3.0 V battery	*		33F8354
Modem cable (see "HMC modem cable part numbers" on page 435)			

7310-C05 Hardware Management Console parts

Machine type 7310-C05 uses a personal computer machine type of 8485-2AU for its base configuration. To access the personal computer hardware maintenance manuals, see "Personal computer parts" on page 416.

Note: Each PC hardware maintenance manual may reference more than one machine type in its title. If necessary, to cross reference to the original PC hardware maintenance manual, make sure that you find the hardware maintenance manual for the PC machine type and model for the HMC that you are servicing.

Notes:

1. Field replaceable units (FRUs) must be serviced only by an authorized service provider.
2. Customer replaceable units (CRUs) can be replaced by the customer. A definition of Tier 1 and Tier 2 CRUs for this model HMC is:

Tier 1 CRU

Uses a procedure that a customer can perform without input from a service representative. The procedure used to service this type of component is usually required to be done by the customer.

Tier 2 CRU

Uses a procedure that a customer can perform, but may require support from a service representative. The procedure used to service this component is usually not required to be done by the customer.

- If the part you are replacing is not identified as being either Tier 1 or Tier 2 call your service representative to service the FRU.

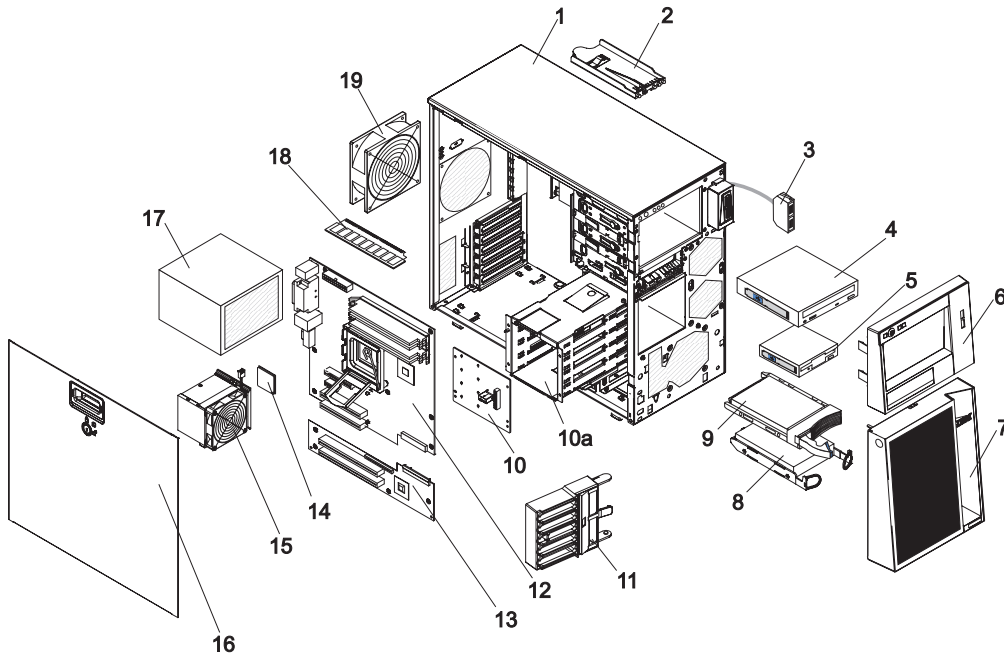


Table 162. 7310-C05 (8485-2AU) Parts listing

Index	Description	Tier 1 CRU	Tier 2 CRU	Part Number
1	Chassis assembly, non-redundant power supply			25R8834
2	Front-panel assembly		*	25R8866
3	Front USB port cable connector		*	11X0082
4	DVD-RAM drive	*		42C0951
5	Diskette drive	*		33P3343
6	Bezel, upper	*		25R8835
7	Bezel, lower	*		25R8822
8	Hard disk drive, SATA, 80 GB, fixed/simple-swap with tray	*		39M4503
9	Hard disk drive (not applicable to all models)			
10	SAS backplane		*	11X0007
10a	Hard disk drive cage			25R8838
11	Front adapter-retention bracket			13N2993
12	System board assembly			42C1453
13	Expansion card			39M4478

Table 162. 7310-C05 (8485-2AU) Parts listing (continued)

Index	Description	Tier 1 CRU	Tier 2 CRU	Part Number
14	Microprocessor, 800/3.2 GHz - 2 MB			39M4473
15	Heatsink			39R9308
16	Cover, side	*		25R8836
17	Power supply, 400 watt			24R2666
18	Memory, 512MB 533/667 Hz PC2-4200 ECC	*		30R5151
19	System fan, rear		*	25R8829

7310-C05 parts listed in the following table are not illustrated

Table 163. 7310-C05 Parts listing

Index	Description	Tier 1 CRU	Tier 2 CRU	Part Number
	Backplate, simple-swap		*	25R8842
	3.0 V battery		*	33F8354
	Bezel kit	*		13N2450
	Shield kit	*		13N2997
	Label			25R8841
	Bezel, diskette drive	*		25R8857
	Cable, diskette drive		*	39R8112
	Cable, IDE signal		*	13N2466
	Cable, USB	*		26K6096
	Cable, panel mount		*	13N2413
	EMC I/O shield	*		25R8843
	Keyboard, US	*		09P3247
	Mouse, USB	*		09P3033
	Panel, access	*		25R8859
	Retainer, device	*		39R9369
	Retention module, fan sink			25R8873
	System fan, front		*	25R8829
	TX 2-Port Ethernet adapter	*		80P6450
	SATA RAID card	*		11X0033
	Display 19-inch TFT, black	*		73P3890
	CD-ROM cable	*		11X0081
	CD-ROM Interposer card	*		11X0006
	Fansink	*		11X0043
	Tower mechanical parts	*		97P5754
	Tower stabilizing feet	*		13N2985
	Hardware Kit			26K7305
	Modem cable (see "HMC modem cable part numbers" on page 435)			

7310-C06 Hardware Management Console parts

Machine type 7310-C06 uses a personal computer machine type of 4362-52U for its base configuration. To access the personal computer hardware maintenance manuals, see “Personal computer parts” on page 416.

Note: Each PC hardware maintenance manual may reference more than one machine type in its title. If necessary, to cross reference to the original PC hardware maintenance manual, make sure that you find the hardware maintenance manual for the PC machine type and model for the HMC that you are servicing.

Notes:

1. Field replaceable units (FRUs) must be serviced only by an authorized service provider.
2. Customer replaceable units (CRUs) can be replaced by the customer. A definition of Tier 1 and Tier 2 CRUs for this model HMC is:

Tier 1 CRU

Uses a procedure that a customer can perform without input from a service representative. The procedure used to service this type of component is usually required to be done by the customer.

Tier 2 CRU

Uses a procedure that a customer can perform, but may require support from a service representative. The procedure used to service this component is usually not required to be done by the customer.

3. If the part you are replacing is not identified as being either Tier 1 or Tier 2 call your service representative to service the FRU.

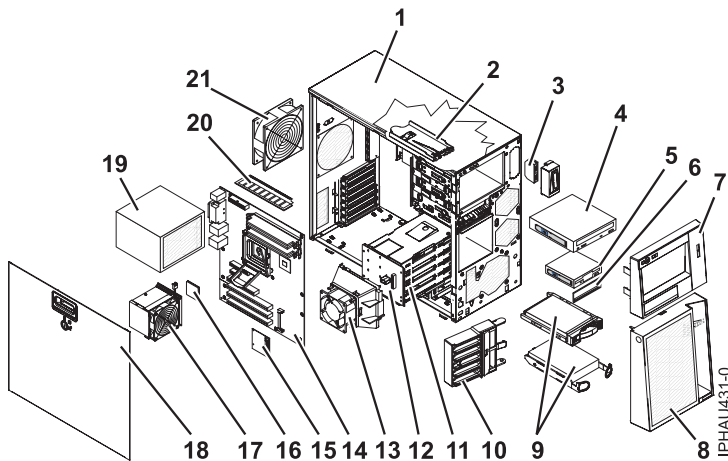


Table 164. 7310-C06 (4362-52U and 4362-PAT) Parts listing

Index	Description	Tier 1 CRU	Tier 2 CRU	Part Number
1	Chassis assembly, non-redundant power supply			42C8916
2	Front-panel assembly		*	25R8865
3	Front USB connector assembly (cable)		*	26K7340
4	DVD-RAM drive	*		39M3565
5	Diskette drive	*		33P3343
6	Diskette drive bezel	*		25R8857

Table 164. 7310-C06 (4362-52U and 4362-PAT) Parts listing (continued)

Index	Description	Tier 1 CRU	Tier 2 CRU	Part Number
7	Bezel, upper	*		42C8912
8	Bezel, lower	*		42C8913
9	Hard disk drive, SATA, 80 GB simple swap	*		39M3701
	Disk drive tray	*		25R8864
	Half -Height disk drive, slim bare Rambo-5	*		42C0957
10	Retention bracket, PCI		*	13N2993
11	Hard disk drive cage, 3.5-inch	*		42C8910
12	Disk drive backplane (for 3.5 inch simple-swap SATA disk drives)		*	25R8842
13	3.5 inch disk drive duct assembly		*	39Y9860
14	System board assembly			43W4982
15	SAS/SATA controller		*	42C1279
16	Microprocessor, 2.13 GHz			41Y3849
17	Fansink			43W0401
18	Side cover with lock	*		25R8859
19	Power supply, 400 watt			39Y7297
20	Memory, 512MB	*		41Y2725
21	System fan, rear		*	25R8829
	PSU adapter bracket (not shown)		*	42C7509

7310-C06 parts listed in the following table are not illustrated

Table 165. 7310-C06 Parts listing

Index	Description	Tier 1 CRU	Tier 2 CRU	Part Number
	3.0 V battery		*	33F8354
	Bezel kit	*		13N2450
	Cable, 24-inch SATA signal		*	25R5635
	Cable, 400 watt DAS		*	25R8849
	Shield kit	*		13N2997
	Service label			43W0417
	Cable, panel mount		*	13N2413
	Cable, diskette drive		*	39R8112
	Cable, IDE signal		*	13N2466
	Cable, serial port 2	*		42C1053
	EMC I/O shield	*		43W4986
	EMC shield kit	*		13N2997
	Mouse, 2-button	*		03N6669
	Kit, shield	*		13N2997
	Kit, bezel	*		13N2450
	Retainer kit (for optical and diskette drives)	*		39R9369

Table 165. 7310-C06 Parts listing (continued)

Index	Description	Tier 1 CRU	Tier 2 CRU	Part Number
	Retention module, fan sink			25R8873
	Stabilizing feet	*		13N2985
	C2 switch		*	39Y9783
	Miscellaneous Kit (clip, insulator, retainer)	*		39Y9773
	Modem cable (see "HMC modem cable part numbers" on page 435)			

HMC Keyboard CRUs

The keyboards identified in the following table can be attached to any of the HMCs listed in the information center.

Notes:

1. All keyboards are considered a Tier 1 CRU.
2. You will need the specific character set designed for each language installed on your HMC.

Keyboard country code	FRU/CRU part number
US English	10N6956
Arabic	10N6984
Belgian/French	89P8302
Belgian/UK	10N6969
Bulgarian	10N6972
Brazilian Portuguese	10N6963
Chinese/US	10N6966
Czech	10N6981
Danish	10N6971
Dutch	10N6975
English/EMEA	10N6988
French	10N6957
French Canadian 445	10N6967
French Canadian 58	10N6968
German	10N6959
Greek	10N6977
Hebrew	10N6978
Hungarian	10N6964
Icelandic	89P8317
Italian 141	89P8318
Italian 142	10N6958
Japanese 194	10N6962
Korean	10N6965
LA Spanish	10N6983
Norwegian	10N6974

Keyboard country code	FRU/CRU part number
Polish	10N6979
Portuguese	10N6976
Romanian	89P8326
Russian	10N6986
Russian/Cyrillic	89P8328
Serbian/Cyrillic	89P8329
Slovak	10N6980
Spanish	10N6961
Swedish/Finnish	10N6870
Swiss/French/Germay	10N6973
Thailand	89P8334
Turkish 440	10N6982
Turkish 179	89P8336
UK English	10N6960
US	89P8338
Yugoslav/Latin	89P8339

HMC modem cable part numbers

The following tables contain part number information for HMC modem cables, along with the name of the country where used, and a listing of countries along with the telephone cable name and part number where used.

If you are using a cable other than one of the cables listed in the following table, read the following caution statement.

CAUTION: To reduce the risk of fire, use only No. 26 AWG or larger (for example, 24 AWG) UL-listed or CSA certified telecommunication line cord. (C035)

Primary Country or Region	Cable Name	Cable Part Number
Austria	AUS	21H4902
Australia	AUZ	75G3807
Belgium	BEL	21H4903
Denmark	DN	75G3812
Finland	FN	75G3809
France	FR	75G3803
Germany	GE	75G3804
Hong Kong (S.A.R.)	HK	75G3808
Israel	ISR	21H4905
Italy	IT	75G3802
Netherlands	NL	75G3810
South Africa	SAF	21H4904
Sweden	SW	75G3806
Switzerland	SZ	75G3811

Primary Country or Region	Cable Name	Cable Part Number
United Kingdom	UK	75G3805
United States	US	87G6236

External Modems - Multitech II MT5600BA

The following table lists the external modem part number along with the primary country or region where used.

Primary Country or Region	Modem Part Number
United States	03N7035
Australia	03N7036
Europe	03N7037
United Kingdom	03N7038
China	03N7039
Taiwan	03N7040
All geographies	03N7041
	10N8499

Internal Modem

When ordering a replacement internal modem for your HMC use part number 80P4702.

Power cords

The manufacturer provides a power cord with a grounded attachment plug to use with this product. To avoid electrical shock, always use the power cord and plug with a properly grounded outlet.

Power cords used in the United States and Canada are listed by Underwriter's Laboratories (UL) and certified by the Canadian Standards Association (CSA).

For units intended to be operated at 115 volts: Use a UL-listed and CSA-certified cord set consisting of a minimum 18 AWG, Type SVT or SJT, three-conductor cord, a maximum of 15 feet in length and a parallel blade, grounding-type attachment plug rated 15 amperes, 125 volts.

For units intended to be operated at 230 volts (U.S. use): Use a UL-listed and CSA-certified cord set consisting of a minimum 18 AWG, Type SVT or SJT, three-conductor cord, a maximum of 15 feet in length and a tandem blade, grounding-type attachment plug rated 15 amperes, 250 volts.

For units intended to be operated at 230 volts (outside the U.S.): Use a cord set with a grounding-type attachment plug. The cord set should have the appropriate safety approvals for the country in which the equipment will be installed.

The power cords listed in the following table are specifically designed for a country or region and are usually available only in that country or region.

Note: All power cords are considered a Tier 1 CRU.

Power Cord Part Number	Used in these Countries and Regions
13F9940	Argentina, Australia, China (PRC), New Zealand, Papua New Guinea, Paraguay, Uruguay, Western Samoa
13F9979	Afghanistan, Algeria, Andorra, Angola, Austria, Belgium, Benin, Bulgaria, Burkina Faso, Burundi, Cameroon, Central African Rep., Chad, China (Macau S.A.R.), Czech Republic, Egypt, Finland, France, French Guiana, Germany, Greece, Guinea, Hungary, Iceland, Indonesia, Iran, Ivory Coast, Jordan, Lebanon, Luxembourg, Malagasy, Mali, Martinique, Mauritania, Mauritius, Monaco, Morocco, Mozambique, Netherlands, New Caledonia, Niger, Norway, Poland, Portugal, Romania, Senegal, Slovakia, Spain, Sudan, Sweden, Syria, Togo, Tunisia, Turkey, former USSR, Vietnam, former Yugoslavia, Zaire, Zimbabwe
13F9997	Denmark
14F0015	Bangladesh, Burma, Pakistan, South Africa, Sri Lanka
14F0033	Antigua, Bahrain, Brunei, Channel Islands, China (Hong Kong S.A.R.), Cyprus, Dubai, Fiji, Ghana, India, Iraq, Ireland, Kenya, Kuwait, Malawi, Malaysia, Malta, Nepal, Nigeria, Polynesia, Qatar, Sierra Leone, Singapore, Tanzania, Uganda, United Kingdom, Yemen, Zambia
14F0051	Liechtenstein, Switzerland
14F0069	Chile, Ethiopia, Italy, Libya, Somalia
14F0087	Israel
1838574	Thailand
6952301	Bahamas, Barbados, Bermuda, Bolivia, Brazil, Canada, Cayman Islands, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Japan, Korea (South), Liberia, Mexico, Netherlands Antilles, Nicaragua, Panama, Peru, Philippines, Saudi Arabia, Suriname, Taiwan, Trinidad (West Indies), United States of America, Venezuela

Removing and replacing parts

Use this information to remove and replace parts.

About this task

This is the starting point for all removal and replacement procedures. Perform the following steps.

Attention: When you are removing the cover while the system is powered on, errors may occur due to electromagnetic interference.

1. See “Finding part locations” on page 1 to locate the part you are replacing.
2. Find the appropriate procedure in this topic for the field replaceable unit (FRU) you are removing, and follow the instructions.

Attention: If you are removing an IOA, IOP, IXS card, disk unit, removable media unit, or certain parts in an expansion unit, you might be able to keep the system powered on and perform a concurrent exchange.

3. When you have completed the procedure, install the new unit by reversing the removal and replacement procedure unless otherwise noted.

Note: Depending on the configuration of your system, the storage IOA might have been altered and/or the storage IOA cache might have been disabled to allow for the attachment of OEM storage that emulates a load source drive. When replacing the storage IOA that has its cache

disabled, configure the replacement storage IOA to be the same as the removed failed storage IOA. If hardware has been removed from the replacement storage IOA, return the removed hardware along with the failed storage IOA.

4. After exchanging an item, see “Verifying the repair” on page 561.

Removing and replacing parts in the model 7037-A50 and 7047-185

Use this information to remove and replace parts.

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)

Note: For most parts, the removal and replacement procedures are customer tasks and can be found in the Installing hardware topic.

Exchanging the system backplane in the model 7037-A50 and 7047-185

Shows you how to restore settings before removing the system backplane.

About this task

Important: When you remove the system backplane from the model 7037-A50 or 7047-185, the system will lose its settings. In order to restore these settings or any custom settings after the backplane is replaced, if possible, do the following before you remove the system backplane:

1. If you have not done so, verify that the backplane is the failing part.
2. Check and record the server firmware level prior to replacing this part. Refer to Server firmware fixes.
3. Check and record the settings you previously set using the System Management Services (SMS). Refer to Starting the System Management Services for information about setting up the SMS menus, and Using the System Management Services for information about using the SMS.

To exchange the system backplane, perform the following procedure:

1. If you are removing the system backplane as part of another procedure, continue to the next step.
2. Perform the following to prepare the system:
 - a. Ensure that the customer has taken appropriate actions to remove the system from normal use.
 - b. Power off the system.
 - c. Disconnect the power source from the system.

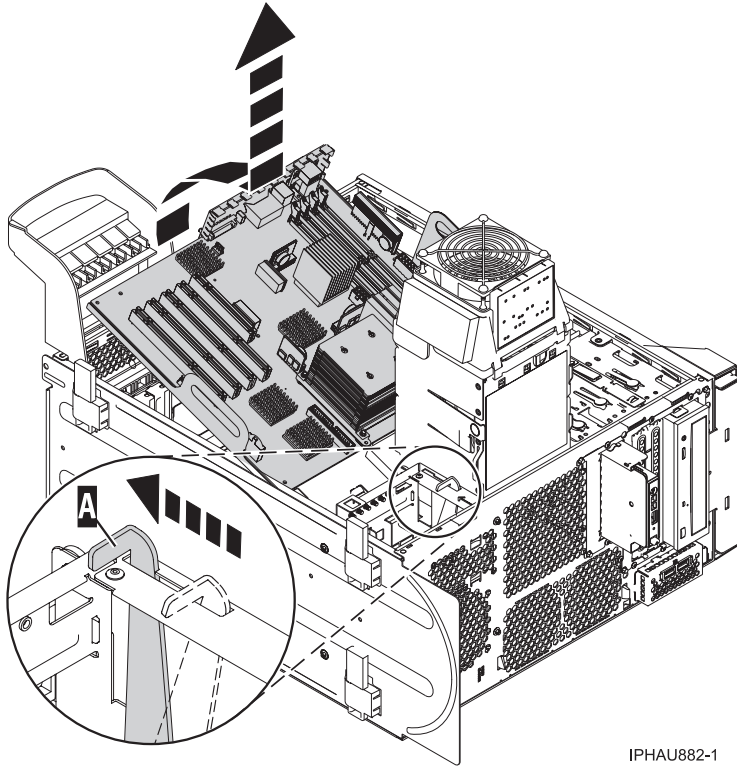
Note: This system might be equipped with a second power supply. Before continuing with this procedure, ensure that the power source to the system has been completely disconnected.

- d. Attach a wrist strap to a metal surface of your hardware to prevent electrostatic discharge from damaging your hardware. If you do not have a wrist strap, touch a metal surface of the system before installing or replacing hardware.

Note: Follow the same precautions that you would use if you were not using the wrist strap. A wrist strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

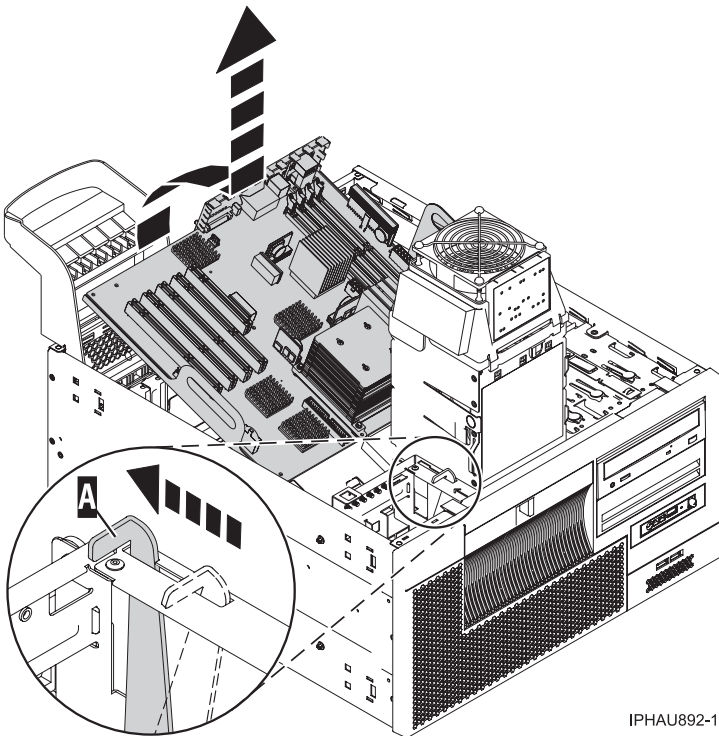
3. Remove all of the cables from the back of the system unit.
4. Remove the service access cover.
5. Remove the unit air baffle. For instructions, see Model 7037-A50 and 7047-185 system unit air baffle.
6. Lift the adapter retention bracket and remove the adapter cards. For instructions, see Prepare to remove or install Model 7037-A50 and 7047-185 adapters with the system power off.
7. Remove the processor fan from the processor. For instructions, see Remove the model 7037-A50 and 7047-185 system unit fans.
8. Remove all remaining cables connecting to the system backplane.
9. Position the unit with the system backplane facing up.
10. Slide the planar locking lever to unlock the system backplane.

Tower unit



IPHAU882-1

Rack unit



IPHAU892-1

11. Lift the back of the system backplane, farthest from the planar locking lever, and slide it up and out of the system. Double check to ensure that cables are not in the way.

12. Remove the memory from the system backplane. Keep track of the location of each memory stick, each needs to be placed in the same position on the new system backplane.
13. To insert a system backplane, reverse the steps in this procedure.
14. If you replaced the system backplane as part of another procedure, return to that procedure now. If you replaced it because it was not operational, verify that the new resource is functional. See “Verifying the repair” on page 561.
15. Restore the settings using the System Management Services. For instructions, see Using the System Management Services.

Note: The first time the system is powered on with the new backplane installed, system firmware progress codes will be seen. Depending on the system configuration different system progress codes will be seen. Use the system progress code information to determine the appropriate action to take.

Results

Removing and replacing parts in the model 9115-505

How to remove and replace FRU and CRU parts.

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)

Choose the part you want to replace.

Note: For most parts in the model 9115-505, the removal and replacement procedures are customer tasks and can be found in the Installing hardware topic. Use the following links to go directly to these procedures.

Exchanging the system backplane in the model 9115-505

Before you remove or disconnect any components, note where they are connected or installed in the system.

About this task

To exchange the system backplane in the model 9115-505, perform the following procedure:

Attention: Before you remove or disconnect any components, note where they are connected or installed in the system.

Note: When you replace the system backplane assembly or time-of-day battery, you will lose the service processor settings.

Check and record the following service processor settings:

- System name setting. Refer to Changing system name.
 - System power settings. Refer to Controlling the system power.
 - ASMI service aids settings. Refer to Troubleshooting the system using system service aids.
 - System configuration settings. Refer to Changing system configuration.
 - Network services settings. Refer to Configuring network services.
 - Login profile settings. Refer to Setting up login profile.
 - Processing unit identifier. Refer to Changing processing unit identifier.
 - Server firmware. Refer to Server firmware fixes. The system might need to be updated to the latest server firmware code level after you replace the system backplane.
 - Service processor settings that may have been set using operating system commands.
1. If you are removing the system backplane as part of another procedure, continue to the next step. If you are removing the system backplane because it is not operational, verify that it is the failing part. See Identify a failing part.
 2. Perform the following to prepare the system:
 - a. Ensure that the customer has taken appropriate actions to remove the server from normal use.
 - b. Power off the system. For instructions, see Stopping the system.
 - c. Disconnect the power source from the system unit.

Note: This system might be equipped with a second power supply. Before continuing with this procedure, ensure that the power source to the system is completely disconnected.

- d. Attach a wrist strap to a metal surface of your hardware to prevent electrostatic discharge from damaging your hardware. If you do not have a wrist strap, touch a metal surface on the system unit before installing or replacing hardware.

Note: Follow the same precautions that you would use if you were not using the wrist strap. A wrist strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

- e. Make a note of cable connections and disconnect all of the cables from the system unit.
 - f. Move the system unit into the service position. For instructions, see Place the rack-mounted system in the service position.
- Note:** This unit weighs approximately 17 kg (37 pounds) be sure you can safely support this weight when removing the system unit from the rack.
- g. Remove the system unit from the rack, by pressing the release latches on each extended rail, and pulling the unit outward. Place the system unit on a flat work surface.
 - h. Remove the service access cover.
 - i. Open the fan access door on the top of the system unit by releasing the two latches.
 3. Prepare to remove the system backplane by doing the following:

Note: For reference when doing the steps in this procedure, refer to “Part assembly diagrams for model 505” on page 164.

- a. Remove the PCI adapter riser cards from the backplane connectors by pulling the riser card assemblies upwards, out of the system unit, and place the riser card assemblies on a flat, antistatic surface.
- b. Remove the long PCI adapter plastic support bracket. Each leg of the bracket fastens through the backplane in opposite directions.
- c. Remove the removable media drive.
- d. Remove the control panel cable from the L-shaped media card which is located behind the operator panel enclosure and in front of the fan assembly.
- e. Remove the L-shaped media card, held in place with snap fasteners.
- f. Remove the S-shaped bracket that holds one end of the L-shaped media card in place. A single screw retains this bracket near the power supply enclosure.
- g. Remove the disk drives. See Disk drive.
- h. Remove the power supplies. See Power supply.
- i. Remove the voltage regulator modules. See Voltage regulator module.
- j. Remove the memory modules. See Memory modules.
- k. Remove the VPD card. See Exchanging the VPD card.
- l. If so equipped, remove the RAID card assembly by releasing the plastic retaining tabs and pulling the card upward.
- m. Disconnect the fan assembly cables from the system backplane.
- n. Remove the screws that attach the system backplane to the system unit.
 - 12 screws fasten backplane to chassis.
 - 4 screws fasten backplane connectors to chassis at rear of enclosure. Use care when removing these screws to avoid damaging the threads.

Save these screws because they are needed to install the new backplane.

4. Lift and remove the system backplane.
5. Replace the system backplane and reassemble the enclosure by reversing the previous steps in this procedure.

Note: Review the following before continuing with the next step.

- Do not attach power cords, power on, or IPL the system until directed to do so. Failure to do so could result in bus renumbering.
- Do not start the system at this time. You are instructed when to connect the power and start the system later in this procedure.
- If the system is managed by an HMC, check the system’s connection to the HMC through the service network. Before continuing, the HMC and the service network should be operating normally.

Continue with the next step.

6. After you replace a system backplane assembly, do the following to restore the service processor and SPCN settings:
 - a. Enable the service network access to the service processor by doing one of the following:
 - If the network connection uses the Dynamic Host Configuration Protocol (DHCP) to establish an IP address, and uses a Hardware Management Console (HMC) as the DHCP server, no additional configuration is necessary to enable network access to the service processor. Do the following:
 - 1) Ensure that the system’s service processor is connected to the existing service network by verifying that an HMC service network cable is connected to an HMC port on the system.

- 2) Connect all system power cables by plugging them into power outlets.
- 3) Can you access the service network?
 - No: To reset the service processor reset toggle switches, go to step 6b.
 - Yes: To reset the processing unit identifier using the ASMI, go to step 6c.
- If the network connection uses DHCP to establish an IP address, but does not use an HMC as the DHCP server, do the following:
 - 1) Complete any network configuration necessary to allow the DHCP server to recognize and assign an IP address to the service processor.
 - 2) Ensure that the system's service processor is connected to the existing service network by verifying that an HMC service network cable is connected to an HMC port on the system.
 - 3) Connect all system power cables by plugging them into power outlets.
 - 4) Can you access the service network?
 - No: To reset the service processor reset toggle switches, go to step 6b.
 - Yes: To reset the processing unit identifier using the ASMI, go to step 6c.
- If the network connection uses static IP address assignments (not managed by an HMC), do the following:
 - 1) Connect a client with a Web browser directly to the service processor network port using one of the following URLs:
 - <https://192.168.2.147>
 - <https://192.168.3.147>
 - 2) Connect all system power cables by plugging them into power outlets.
 - 3) On the client's Web browser, Log in to the Advanced System Management Interface (ASMI) with the user ID: admin and the default password: admin.
 - 4) Change the admin user ID's password and the general user ID's password. Refer to Changing ASMI password.
 - 5) Configure network access using the static IP address. Refer to Configuring network access.
 - 6) Can you access the service network?
 - No: To reset the service processor reset toggle switches, go to step 6b.
 - Yes: To reset the processing unit identifier using the ASMI, go to step 6c.
- b. If you are not able to access the service network, reset the service processor network interfaces (and passwords) by doing the following:
 - 1) Move both service processor reset toggle switches from their current position to the opposite position. To identify the service processor reset toggle switches, see "Locations — model 505" on page 10.
 - 2) To enable network access to the service processor, return to step 6a on page 444.
- c. Reset the processing unit identifier and the MTMS values using the ASMI by doing the following:
 - 1) Follow the instructions in Changing processing unit identifier to update the processing unit identifier. Change the identifier to C0.
 - 2) Follow the instructions in Setting the system enclosure type to change the system enclosure type.
- d. Ask the customer (system administrator) to do the following:
 - 1) Change the admin user ID's password and the general user ID's password. Refer to Changing ASMI password.
 - 2) Set the system name. Refer to Changing system name.
 - 3) Set the time of day. If this server uses an HMC, set the time of day using the ASMI. Refer to Changing the time of day. If this server does not use an HMC, set the time of day using the appropriate operating system command.

- 4) Reenter any of the following settings that you previously changed through the ASMI, unless you want to use the defaults:
 - System power settings. Refer to Controlling the system power.
 - ASMI service aids settings. Refer to Troubleshooting the system using system service aids.
 - System configuration settings. Refer to Changing system configuration.
 - Network services settings. Refer to Configuring network services.
 - Login profile settings. Refer to Setting up login profile.
 - 5) Reenter any service processor settings that you may have set using operating system commands. You recorded these settings before removing the system backplane (the service processor is integrated on the system backplane).
 - 6) Reactivate any Capacity on Demand devices using the ASMI. Refer to Using on-demand utilities
 - 7) If the system is managed by an HMC and runs logical partitions, restore the logical partition profiles. Refer to Restoring profile data using the HMC.
 - 8) Verify the time of day for each partition after the system is powered on and the partitions are activated. If necessary, set the time of day using the appropriate operating system command for each logical partition.
 - 9) If your system is managed by an HMC, reset the HMC access password. From the HMC command line, type:


```
chsyspwd -m managed system -t access --passwd --newpasswd newpassword
```

 Where:
 - The value for *managed system* is the new service processor's managed system name.
 - No value for `--passwd` is entered thereby allowing authentication
 - The value for *newpassword* is the new password value.
 - 10) If necessary, update to the latest server firmware level. Refer to Server firmware fixes.
 - 11) Reboot in slow mode.
 - 12) Start the system
7. If you replaced the system backplane as part of another procedure, return to that procedure now. If you replaced the system backplane because it was not operational, verify that the new resource is functional. See Verifying the repair.

Exchanging the VPD card in the model 9115-505

Shows how to program data into the replacement VPD card.

About this task

Attention: The VPD card contains data that is vital to system operation:

- Machine type, model, and serial number
- System brand
- System unique ID (SUID)
- Activation codes for Capacity on Demand and Virtualization Engine™ Technologies (if applicable)

If the VPD card is replaced, this data must be programmed into the replacement VPD card. If the system is still functional prior to the replacement of the VPD card, view and record the System unique ID (SUID).

New, replacement activation codes for Capacity on Demand and Virtualization Engine Technologies must be generated. The original activation codes for the system cannot be reused. Contact your next level of support for new activation codes.

To exchange the VPD card in the model 9115-505, perform the following procedure:

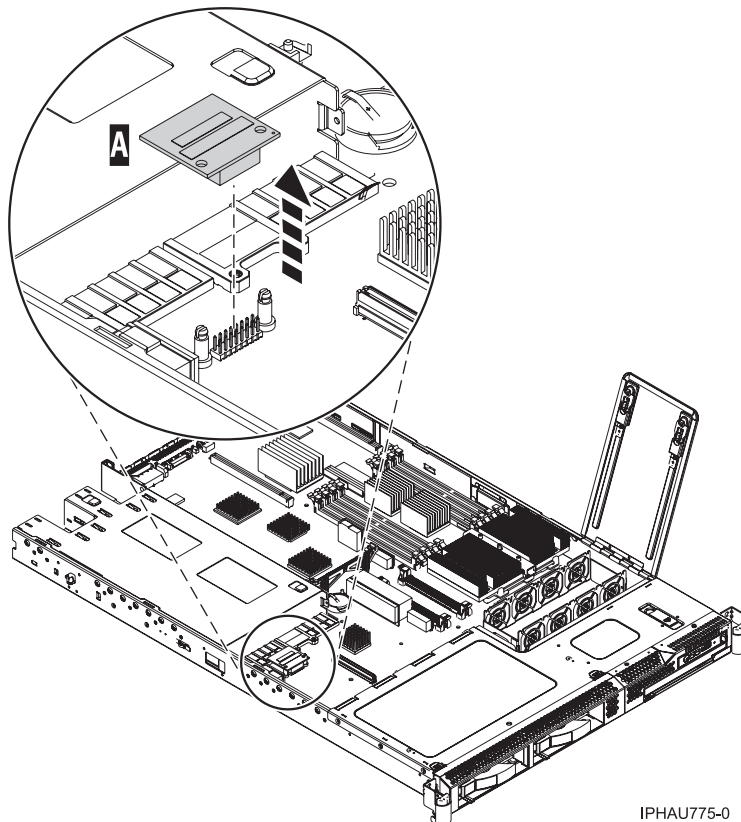
1. If you are removing the VPD card as part of another procedure, continue to the next step. If you are removing the VPD card because it is not operational, verify that it is the failing part. See *Identify a failing part*.
2. If the system is still functional and you are replacing the VPD card with a new VPD card, view and record the System unique ID (SUID). This can be done by using a Hardware Management Console (HMC) or PC to access the ASMI. Refer to *Accessing the Advanced System Management Interface* for information about setting up the ASMI, and *Managing your server using the Advanced System Management Interface* for information about using the ASMI. For further information, see *Viewing vital product data*.
3. Perform the following to prepare the system:
 - a. Ensure that the customer has taken appropriate actions to remove the server from normal use.
 - b. Power off the system. For instructions, see *Stopping the system*.
 - c. Disconnect the power source from the system.

Note: This system might be equipped with a second power supply. Before continuing with this procedure, ensure that the power source to the system has been completely disconnected.

- d. Attach a wrist strap to a metal surface of your hardware to prevent electrostatic discharge from damaging your hardware. If you do not have a wrist strap, touch a metal surface of the system before installing or replacing hardware.

Note: Follow the same precautions that you would use if you were not using the wrist strap. A wrist strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

4. Remove the service access cover. For instructions, see *Remove the service access cover*.
5. Pull the VPD card out as you squeeze the retainers together (A).



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6. To insert a VPD card, reverse the steps in this procedure.

7. If you replaced the VPD card as part of another procedure, return to that procedure now.
8. Connect the line cords to each power supply.
9. Use the ASMI to set the system identifiers. Access the ASMI by either using a Hardware Management Console (HMC) or PC to access the ASMI. Refer to *Accessing the Advanced System Management Interface* for information about setting up the ASMI, and *Managing your server using the Advanced System Management Interface* for information about using the ASMI. Update the system configuration settings. For further information, see *Programming vital product data*.
10. If the customer had Capacity on Demand activation codes, obtain new activation codes from your next level of support and enter the new codes. For more information, see *Working with Capacity on Demand*.
11. If the customer had Virtualization Engine Technologies activation codes, obtain new activation codes from your next level of support and enter the new codes. For more information, see *Entering the activation code for Virtualization Engine technologies*.
12. Power on the system. To review the power on procedure, go to *Powering on and powering off*.
13. If you replaced the VPD card because it was not operational, verify that the new resource is functional. See “Verifying the repair” on page 561. **This ends the procedure.**

Removing and replacing parts in the model 51x and OpenPower 710

Use this information to remove and replace parts in the model 51x and OpenPower 710.

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)

Note: For most parts in the model 510, 51A, and OpenPower 710, the removal and replacement procedures are customer tasks and can be found in the Installing hardware topic.

Exchanging the system backplane in the model 9110-510, 9110-51A, and OpenPower 710

Provides a checklist and instructions for exchanging the system backplane.

About this task

To exchange the system backplane in the model 9110-510, 9110-51A, and OpenPower 710, perform the following procedure

Attention: Before you remove or disconnect any components, note where they are connected or installed in the system.

Note: When you replace the system backplane assembly or time-of-day battery, you will lose the service processor settings.

Check and record the following service processor settings:

- System name setting. Refer to Changing system name.
 - System power settings. Refer to Controlling the system power.
 - ASMI service aids settings. Refer to Troubleshooting the system using system service aids.
 - System configuration settings. Refer to Changing system configuration.
 - Network services settings. Refer to Configuring network services.
 - Login profile settings. Refer to Setting up login profile.
 - Processing unit power control network identifier. Refer to Changing processing unit power control network identifier.
 - Server firmware. Refer to Server firmware fixes. The system may need to be updated to the latest server firmware code level after you replace the service processor.
 - Service processor settings that may have been set using operating system commands.
1. If you are removing the system backplane as part of another procedure, continue to the next step. If you are removing the system backplane because it is not operational, verify that it is the failing part. See Identify a failing part.
 2. Perform the following procedure to prepare the system:
 - a. Ensure that the customer has taken appropriate actions to remove the server from normal use.
 - b. Power off the system. For instructions, see Stopping the system.
 - c. Disconnect the power source from the system unit.

Note: This system might be equipped with a second power supply. Before continuing with this procedure, ensure that the power source to the system has been completely disconnected.

- d. Attach a wrist strap to a metal surface of your hardware to prevent electrostatic discharge from damaging your hardware. If you do not have a wrist strap, touch a metal surface of the system before installing or replacing hardware.

Note: Follow the same precautions that you would use if you were not using the wrist strap. A wrist strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

- e. Make a note of cable connections and disconnect all of the cables from the system unit.
 - f. Remove the front cover. For instructions, see Remove the front cover from the model 51x or 710.
 - g. Move the system unit into the service position. For instructions, see Place the 51x or 710 system in the service position.
 - h. Remove the service access cover. For instructions, see Remove the service access cover from the model 285, 51x, 52x, 55x, 710, or 720.
3. Prepare to remove the system backplane by doing the following:

Note: For reference when doing the steps in this procedure, refer to “Part assembly diagrams for model 51x and OpenPower 710” on page 169.

- a. Remove the PCI adapter enclosure by lifting up on the enclosure handle, and then lift the enclosure out of the system unit and place it on a flat, antistatic surface.
- b. Remove the fans. See Fans.
- c. Remove the control panel and device enclosure. See Control panel.
- d. Remove the disk drives. See Disk drive.
- e. Remove the power supplies. See Power supply.
- f. Remove the voltage regulators. See Voltage regulator modules.

- g. Remove the memory modules. See Memory modules.
- h. Remove the VPD card. See VPD card.
- i. Disconnect the fan assembly cables from the system backplane.
- j. Remove the screws that attach the system backplane to the system unit. Be sure to save these screws, they will be needed to install the new backplane. Some of the screws that attach the system backplane to the system unit are screws that also attach:
 - Connectors to the back of the system unit.
 - PCI adapter enclosure front supports.
 - PCI adapter enclosure handle grip post.
 - VPD card connector.
- 4. Lift and remove the system backplane.
- 5. To insert a system backplane, reverse the steps in this procedure.

Note: Review the following before continuing with the next step.

- Do not attach power cords, power on, or IPL the system until directed to do so. Failure to do so could result in bus renumbering.
- Do not start the system at this time. You are instructed when to connect the power and start the system later in this procedure.
- If the system is managed by an HMC, check the system's connection to the HMC through the service network. Before continuing, the HMC and the service network should be operating normally.

Continue with the next step.

- 6. After you replace a system backplane assembly, do the following to restore the service processor and SPCN settings:
 - a. Enable the service network access to the service processor by doing one of the following:
 - If the network connection uses the Dynamic Host Configuration Protocol (DHCP) to establish an IP address, and uses a Hardware Management Console (HMC) as the DHCP server, no additional configuration is necessary to enable network access to the service processor. Do the following:
 - 1) Ensure that the system's service processor is connected to the existing service network by verifying that an HMC service network cable is connected to an HMC port on the system.
 - 2) Connect all system power cables by plugging them into power outlets.
 - 3) Can you access the service network?
 - No: To reset the service processor reset toggle switches, go to step 6b on page 452.
 - Yes: To reset the processing unit identifier using the ASMI, go to step 6c on page 452.
 - If the network connection uses DHCP to establish an IP address, but does not use an HMC as the DHCP server, do the following:
 - 1) Complete any network configuration necessary to allow the DHCP server to recognize and assign an IP address to the service processor.
 - 2) Ensure that the system's service processor is connected to the existing service network by verifying that an HMC service network cable is connected to an HMC port on the system.
 - 3) Connect all system power cables by plugging them into power outlets.
 - 4) Can you access the service network?
 - No: To reset the service processor reset toggle switches, go to step 6b on page 452.
 - Yes: To reset the processing unit identifier using the ASMI, go to step 6c on page 452.
 - If the network connection uses static IP address assignments (not managed by an HMC), do the following:

- 1) Connect a client with a Web browser directly to the service processor network port using one of the following URLs:
 - https://192.168.2.147
 - https://192.168.3.147
 - 2) Connect all system power cables by plugging them into power outlets.
 - 3) On the client's Web browser, Log in to the Advanced System Management Interface (ASMI) with the user ID: admin and the default password: admin.
 - 4) Change the admin user ID's password and the general user ID's password. Refer to Changing ASMI password.
 - 5) Configure network access using the static IP address. Refer to Configuring network access.
 - 6) Can you access the service network?
 - No: To reset the service processor reset toggle switches, go to step 6b.
 - Yes: To reset the processing unit identifier using the ASMI, go to step 6c.
- b. If you are not able to access the service network, reset the service processor network interfaces (and passwords) by doing the following:
- 1) Move both service processor reset toggle switches from their current position to the opposite position. To identify the service processor reset toggle switches, see "Locations — models 510, 51A and OpenPower 710" on page 15.
 - 2) To enable network access to the service processor, return to step 6a on page 451.
- c. Reset the processing unit identifier and the MTMS values using the ASMI by doing the following:
- 1) Follow the instructions in Changing processing unit identifier to update the processing unit identifier. Change the identifier to BA.
 - 2) Follow the instructions in Setting the system enclosure type to change the system enclosure type.
- d. Ask the customer (system administrator) to do the following:
- 1) Change the admin user ID's password and the general user ID's password. Refer to Changing ASMI password.
 - 2) Set the system name. Refer to Viewing system name.
 - 3) Set the time of day. If this server uses an HMC, set the time of day using the ASMI. Refer to Viewing time of day. If this server does not use an HMC, set the time of day using the appropriate operating system command.
 - 4) Reenter any of the following settings that you previously changed through the ASMI, unless you want to use the defaults:
 - System power settings. Refer to Controlling the system power.
 - ASMI service aids settings. Refer to Troubleshooting the system using system service aids.
 - System configuration settings. Refer to Changing system configuration.
 - Network services settings. Refer to Configuring network services.
 - Login profile settings. Refer to Setting up login profile.
 - 5) Reenter any service processor settings that you may have set using operating system commands. You recorded these settings before removing the service processor (the service processor is integrated on the system backplane).
 - 6) Reactivate any Capacity on Demand devices using the ASMI. Refer to Using on-demand utilities.
 - 7) If the system is managed by an HMC and runs logical partitions, restore the logical partition profiles. Refer to Restoring profile data using the HMC.
 - 8) Verify the time of day for each partition after the system is powered on and the partitions are activated. If necessary, set the time of day using the appropriate operating system command for each logical partition.

- 9) If your system is managed by an HMC, reset the HMC access password. From the HMC command line, type:

```
chsyspwd -m managed system -t access --passwd --newpasswd newpassword
```

where:

- The value for *managed system* is the new service processor's managed system name.
 - No value for `--passwd` is entered thereby allowing authentication
 - The value for *newpassword* is the new password value.
- 10) If necessary, update to the latest server firmware level. Refer to Server firmware fixes.
 - 11) Reboot in slow mode.
 - 12) Start the system.
7. If you replaced the system backplane as part of another procedure, return to that procedure now. If you replaced it because it was not operational, verify that the new resource is functional. See Verifying the repair.

Exchanging the VPD card in the model 9110-510, 9110-51A, and OpenPower 710

New, replacement activation codes for Capacity on Demand and Virtualization Engine Technologies will have to be generated. The original activation codes for the system cannot be reused. Contact your next level of support for new activation codes.

About this task

Attention: The VPD card contains data which is vital to system operation:

- Machine type, model, and serial number
- System brand
- System unique ID (SUID)
- Activation codes for Capacity on Demand and Virtualization Engine Technologies (if applicable)

If the VPD card is replaced, this data must be programmed into the replacement VPD card. If the system is still functional prior to the replacement of the VPD card, view and record the System unique ID (SUID).

New, replacement activation codes for Capacity on Demand and Virtualization Engine Technologies will have to be generated. The original activation codes for the system cannot be reused. Contact your next level of support for new activation codes.

To exchange the VPD card in the model 9110-510, 9110-51A, and OpenPower 710, perform the following procedure:

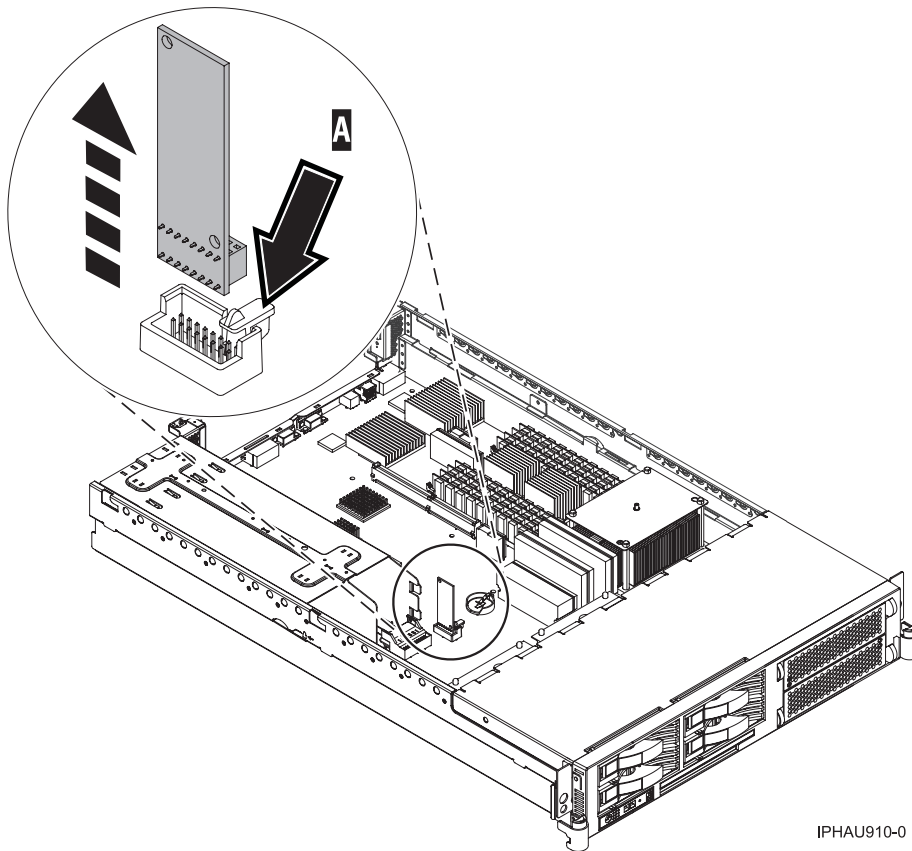
1. If you are removing the VPD card as part of another procedure, continue to the next step. If you are removing the VPD card because it is not operational, verify that it is the failing part. See Identify a failing part.
2. If the system is still functional and you are replacing the VPD card with a new VPD card, view and record the System unique ID (SUID). This can be done by using a Hardware Management Console (HMC) or PC to access the ASMI. Refer to Accessing the Advanced System Management Interface for information about setting up the ASMI, and Managing your server using the Advanced System Management Interface for information about using the ASMI. For further information, see Viewing vital product data.
3. Perform the following to prepare the system:
 - a. Ensure that the customer has taken appropriate actions to remove the server from normal use.
 - b. Power off the system. For instructions, see Stopping the system.
 - c. Disconnect the power source from the system.

Note: This system might be equipped with a second power supply. Before continuing with this procedure, ensure that the power source to the system has been completely disconnected.

- d. Attach a wrist strap to a metal surface of your hardware to prevent electrostatic discharge from damaging your hardware. If you do not have a wrist strap, touch a metal surface of the system before installing or replacing hardware.

Note: Follow the same precautions that you would use if you were not using the wrist strap. A wrist strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

4. Remove the service access cover. For instructions, see Remove the service access cover.
5. Pull the VPD card free by pushing the plastic tab behind the VPD card A.



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6. To insert a VPD card, reverse the steps in this procedure.
7. If you replaced the VPD card as part of another procedure, return to that procedure now.
8. Connect the line cords to each power supply.
9. Use ASMI to set the system identifiers. This can be done by using a Hardware Management Console (HMC) or PC to access the ASMI. Refer to Accessing the Advanced System Management Interface for information about setting up the ASMI, and Managing your server using the Advanced System Management Interface for information about using the ASMI. Update the system configuration settings. For further information, see Programming vital product data.
10. If the customer had Capacity on Demand activation codes, obtain new activation codes from your next level of support and enter the new codes. For more information, see Working with Capacity on Demand.
11. If the customer had Virtualization Engine Technologies activation codes, obtain new activation codes from your next level of support and enter the new codes. For more information, see Entering the activation code for Virtualization Engine technologies.

12. Power on the system. To review the power on procedure, go to Powering on and powering off.
13. If you replaced the VPD card because it was not operational, verify that the new resource is functional. See “Verifying the repair” on page 561. **This ends the procedure.**

Removing and replacing parts in the model 515, 285, and 52x

Use this information to remove and replace parts in the model 9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9407-515, and 9406-525.

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)

Note: For most parts in the model 9111-285, 9131-52A, 9405-520, 9406-520, and 9111-520, the removal and replacement procedures are customer tasks and can be found in the Installing hardware topic.

Exchanging the system backplane in the model 9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9407-515, and 9406-525

How to remove and replace the system backplane.

About this task

Use this procedure to remove and replace a 9111-285, 9131-52A, 9405-520, 9406-520, 9111-520, 9407-515, and 9406-525 system backplane.

To complete these procedures, you might also need to perform removal and replacements from these topics:

- Control panel
- Removable media enclosure
- Fan assembly
- Power supplies
- Voltage regulators
- Disk drives and disk drive backplanes
- PCI adapters and dividers
- Service processor
- SCSI RAID backplane

If you are planning to use this information in printed form, be sure to print all of the information you need. You can find all of the information, in both HTML or PDF format, in the Installing features and parts topic.

Before performing the following procedures, read the System Safety Inspection.

Attention: If you are servicing a rack-mounted system unit, it is strongly recommended that you remove the system drawer from the rack. If you are servicing a stand-alone system unit, place the system on a flat and stable surface on its side. To avoid potential breakage, the system front foot must not be resting on the surface.

Removing the system backplane:

About this task

Attention: Before you remove or disconnect any components, note where they are connected or installed in the system.

1. If you are removing the system backplane as part of another procedure, continue to the next step. If you are removing the system backplane because it is not operational, verify that it is the failing part. See Identify a failing part.
2. Perform the following to prepare the system:
 - a. Ensure that the customer has taken appropriate actions to remove the server from normal use.
 - b. Power off the system. For instructions, see Stopping the system.
 - c. Disconnect the power source from the system.

Note: This system might be equipped with a second power supply. Before continuing with this procedure, ensure that the power source to the system has been completely disconnected.

- d. Attach a wrist strap to a metal surface of your hardware to prevent electrostatic discharge from damaging your hardware. If you do not have a wrist strap, touch a metal surface of the system before installing or replacing hardware.

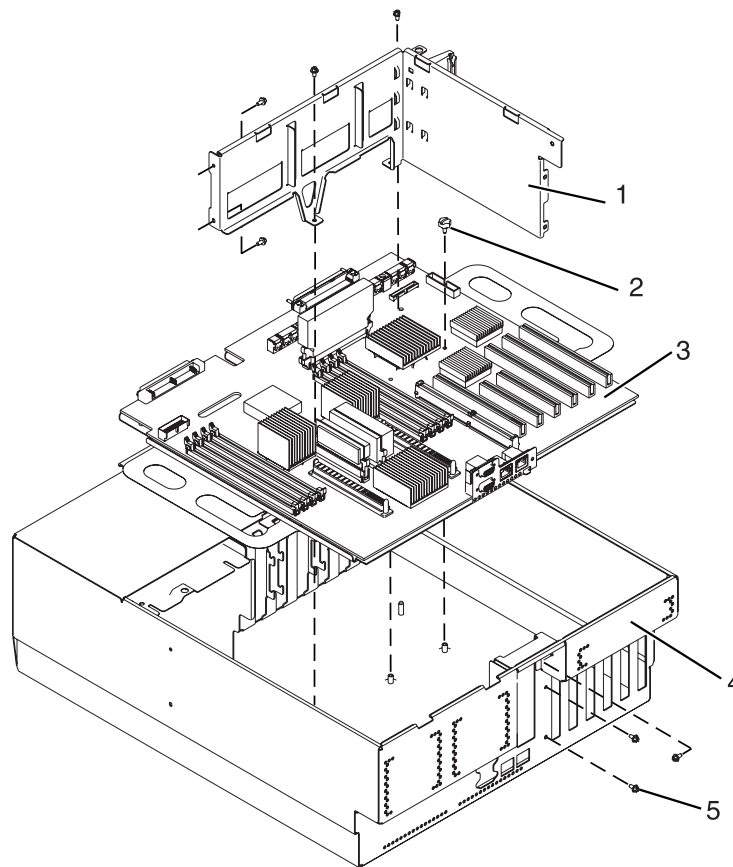
Note: Follow the same precautions that you would use if you were not using the wrist strap. A wrist strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

3. Remove the front cover.
4. Label and disconnect all other cables located at the rear of the system.

5. Place it in the service position.
6. Remove the service access cover.
7. Record the slot number and location of each adapter that is installed in the server.
8. Remove the PCI adapters (see Removing the PCI adapter with the system power off).
9. Remove the PCI adapter dividers (see Removing a PCI adapter).
10. Remove both power supplies, if two are present in the system, or remove the power supply and filler (see Removing the power supply).
11. Remove the service processor assembly and time-of-day battery.
12. Remove the media-device enclosure.

Note: If there is a cable from the media bay enclosure to the control panel, unplug the cable as you remove the control panel from the media bay enclosure.

13. Remove the VPD card (see Exchanging the VPD card).
14. Remove the voltage regulator module (see Remove the voltage regulator module).
15. Remove the disk drives (see Remove a disk drive).
16. Remove the fan tray assembly.
17. Remove the disk drive backplanes (see Replace a disk drive backplane).
18. Remove memory modules.
19. Remove the 7 hex-head screws holding the power supply bay chassis bracket as shown in the following illustration.



- 1 Power supply bay chassis bracket
- 2 Blue thumbscrew

- 4 System chassis (shown in service position)
- 5 Hex-head screw (7)

3 System backplane (shown
with voltage regulator
modules attached)

20. Remove the power supply bay chassis bracket.
21. Remove the blue thumbscrew holding the system backplane to the chassis. Do not remove any other screws from the backplane. The blue thumbscrew is the only screw that needs to be removed in order to release the backplane from the chassis.
Attention: Use care when removing the system backplane. Standoffs attached to the chassis base might damage the components attached to the bottom of the system backplane. Do not lift the system backplane by any of the attached modules.
22. To remove the system backplane from the chassis, lift the front edge of the system backplane and pull it towards the front of the system. Lift the system backplane up and out of the system chassis.
23. Place the system backplane in a safe place.

Replacing the system backplane:

About this task

To replace the system backplane, do the following:

1. Attach a wrist strap to a metal surface of your hardware to prevent electrostatic discharge from damaging your hardware. If you do not have a wrist strap, touch a metal surface of the system before installing or replacing hardware.

Note: Follow the same precautions that you would use if you were not using the wrist strap. A wrist strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

2. If necessary, remove the system backplane from the antistatic package.
3. Carefully grasp the system backplane along two edges.
4. Lower the system backplane at an angle, so that the rear of the backplane connects with the system chassis first.

Attention: Use care when replacing the system backplane. Standoffs attached to the chassis base may damage the components attached to the bottom of the system backplane.

5. Slide the system backplane toward the back of the system chassis, and align the retaining screw hole with the mating screw hole located on the system chassis.
6. Replace the thumbscrew that secures the system backplane to the system chassis.
7. Replace the power supply bay chassis bracket. Insert and tighten the 7 hex-head screws.
8. Replace the memory modules.
9. Replace the disk drive backplanes (see Replace a disk drive backplane).
10. Replace the fan tray assembly.
11. Replace the disk drives (see Replace a disk drive).
12. Replace the VPD card (see Exchanging the VPD card).
13. Replace the voltage regulator module (see Replace the voltage regulator module).
14. Replace the media-device enclosure.

Note: If there is a cable from the media device enclosure to the control panel, reconnect the control panel cable as you install the media device enclosure.

15. Replace the service processor assembly and time-of-day battery.
16. Replace both power supplies, if two were present in the system, or replace the power supply and filler (see Replacing the power supply).
17. Replace the PCI adapter dividers (see Replace a PCI adapter divider).

18. Replace the PCI adapters (see Replacing the PCI adapter with the system power off).
19. Replace the service access cover.
20. Replace the front cover.
21. Place it in the operating position.
22. Reconnect all signal and power cables to the back of the system.
23. Reconnect the power source to the system.
24. Perform the following to set the configuration ID and MTMS values:
 - a. Use the HMC or PC Web browser to access the ASMI (see Accessing the Advanced System Management Interface).
 - b. Follow the instructions in Changing processing unit power control network identifier to update the processing unit power control network ID. Change the identifier to **B4**.
 - c. Follow the instructions in Setting the system enclosure type to change the system enclosure type.
25. Start the system.
26. If you replaced the system backplane as part of another procedure, return to that procedure now. If you replaced it because it was not operational, verify that the new resource is functional. See “Verifying the repair” on page 561.

Exchanging the VPD card in the model 9111-285, 9131-52A, 9405-520, 9406-520, and 9111-520

How to remove and replace the VPD card.

About this task

Attention: The VPD card contains data which is vital to system operation:

- Machine type, model, and serial number
- System brand
- System unique ID (SUID)
- Activation codes for Capacity on Demand and Virtualization Engine Technologies (if applicable)

If the VPD card is replaced, this data must be programmed into the replacement VPD card. If the system is still functional prior to the replacement of the VPD card, view and record the System unique ID (SUID).

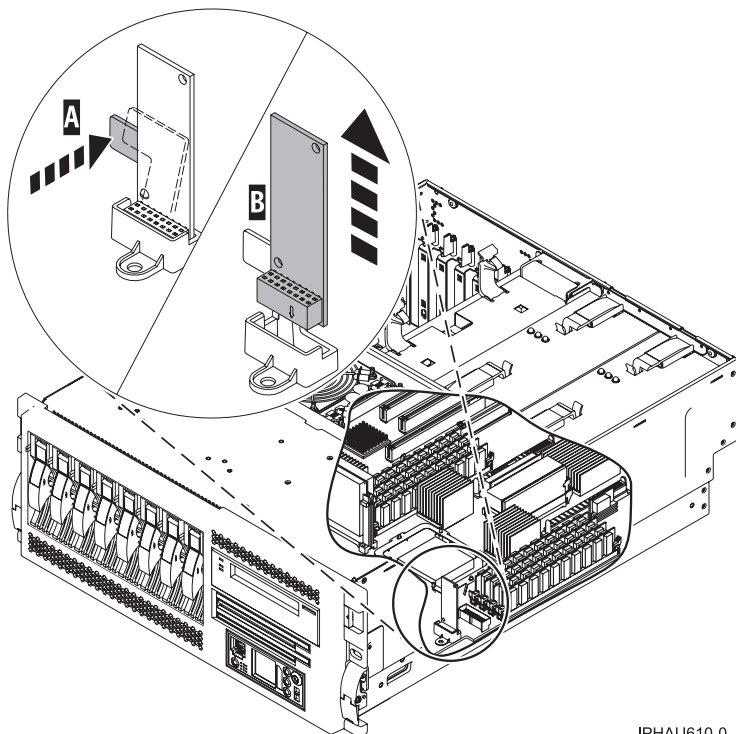
New, replacement activation codes for Capacity on Demand and Virtualization Engine Technologies will have to be generated. The original activation codes for the system cannot be reused. Contact your next level of support for new activation codes.

To exchange the VPD card in the model 9111-285, 9131-52A, 9405-520, 9406-520, and 9111-520, perform the following procedure:

1. If you are removing the VPD card as part of another procedure, continue to the next step. If you are removing the VPD card because it is not operational, verify that it is the failing part. See Identify a failing part.
2. If the system is still functional and you are replacing the VPD card with a new VPD card, view and record the System unique ID (SUID). This can be done by using a Hardware Management Console (HMC) or PC to access the ASMI. Refer to Accessing the Advanced System Management Interface for information about setting up the ASMI, and Managing your server using the Advanced System Management Interface for information about using the ASMI. For further information, see Viewing vital product data.
3. Power off the system. To review the power-off procedure, go to Powering on and powering off.
4. Disconnect the line cords to each power supply.
5. Remove the model 520 and 285 media device enclosure. For further instructions, see Remove the model 520 media device enclosure.

6. Unlock the VPD card by pressing on retaining bracket **A**.
7. Remove the VPD card from its bracket **B**.
8. To install a VPD card, reverse this procedure. Ensure retaining pin fully engages VPD card.
9. If you replaced the VPD card as part of another procedure, return to that procedure now.
10. Connect the line cords to each power supply.
11. Use ASMI to set the system identifiers. This can be done by using a Hardware Management Console (HMC) or PC to access the ASMI. Refer to *Accessing the Advanced System Management Interface* for information about setting up the ASMI, and *Managing your server using the Advanced System Management Interface* for information about using the ASMI. Update the system configuration settings. For further information, see *Programming vital product data*.
12. If the customer had Capacity on Demand activation codes, obtain new activation codes from your next level of support and enter the new codes. For more information, see *Working with Capacity on Demand*.
13. If the customer had Virtualization Engine Technologies activation codes, obtain new activation codes from your next level of support and enter the new codes. For more information, see *Entering the activation code for Virtualization Engine technologies*.
14. Power on the system. To review the power on procedure, go to *Powering on and powering off*.
15. If you replaced the VPD card because it was not operational, verify that the new resource is functional. See “Verifying the repair” on page 561. **This ends the procedure.**

Results



IPHAU610-0

Removing and replacing parts in the model 55x and OpenPower 720

Use this information to remove and replace parts in the model 9133-55A, 9406-550, 9113-550, and OpenPower 720.

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)

Note: For most parts in the model 9133-55A, 9406-550, 9113-550, and OpenPower 720, the removal and replacement procedures are customer tasks and can be found in the Installing hardware topic.

Exchanging the system backplane in a model 9133-55A, 9406-550, 9113-550, and OpenPower 720

Use this procedure to remove and replace a system backplane in a model 9133-55A, 9406-550, 9113-550, and OpenPower 720.

About this task

If you are planning to use this information in printed form, be sure to print all of the information you need. You can find all of the information, in both HTML or PDF format, in the Installing features and parts topic.

Before performing the following procedures, read the System Safety Inspection.

Attention: If you are servicing a rack-mounted system unit, it is strongly recommended that the system drawer be removed from the rack. If you are servicing a stand-alone system unit, it is strongly recommended that the system be placed on its side, on a flat and stable surface. To avoid potential breakage, the system front foot must not be resting on the surface.

Attention: Before you remove or disconnect any components, note where they are connected or installed in the system.

Note: When you replace the system backplane assembly or time-of-day battery, you will lose the service processor settings.

Check and record the following service processor settings:

- System name setting. Refer to Changing system name.
 - System power settings. Refer to Controlling the system power.
 - ASMI service aids settings. Refer to Troubleshooting the system using system service aids.
 - System configuration settings. Refer to Changing system configuration.
 - Network services settings. Refer to Configuring network services.
 - Login profile settings. Refer to Setting up login profile.
 - Processing unit power control network identifier. Refer to Changing processing unit power control network identifier.
 - Server firmware. Refer to Server firmware fixes. The system may need to be updated to the latest server firmware code level after you replace the service processor.
 - Also service processor settings that may have been set using operating system commands.
1. If you are removing the system backplane as part of another procedure, continue to the next step. If you are removing the system backplane because it is not operational, verify that it is the failing part. See Identify a failing part.
 2. Perform the following to prepare the system:
 - a. Ensure that the customer has taken appropriate actions to remove the server from normal use.
 - b. Power off the system. For instructions, see Stopping the system.
 - c. Disconnect the power source from the system.

Note: This system might be equipped with a second power supply. Before continuing with this procedure, ensure that the power source to the system has been completely disconnected.

- d. Attach a wrist strap to a metal surface of your hardware to prevent electrostatic discharge from damaging your hardware. If you do not have a wrist strap, touch a metal surface of the system before installing or replacing hardware.

Note: Follow the same precautions that you would use if you were not using the wrist strap. A wrist strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

3. Remove the front cover. For instructions, see Remove the front cover.
4. Label and disconnect all other cables located at the rear of the system.
5. Place the system in the service position. For instructions, see Place the unit in the service position.
6. Remove the service access cover. For instructions, see Remove the service access cover.
7. Remove the media-device enclosure. For instructions, see Remove the media-device enclosure.

Note: If there is a cable from the media-device enclosure to the control panel, unplug the cable as you remove the control panel from the media-device enclosure.

8. Remove the RAID enablement card, if present. For instructions, see Remove the RAID enablement card.

9. Record the slot number and location of each disk drive that is installed in the server.
10. Remove the disk drives. For instructions, see Remove a disk drive.
11. Remove the disk drive backplanes (see Replace a disk drive backplane).
12. Remove the fans. For instructions, see Remove the fans.
13. Record the slot number and location of each adapter that is installed in the server.
14. Remove the PCI adapters. For instructions, see Remove the PCI adapter with the system power off.
15. Remove the PCI adapter dividers. For instructions, see Remove a PCI adapter.
16. Remove both power supplies, if two are present in the system, or remove the power supply and filler. For instructions, see Remove the power supply.
17. Remove both processor assemblies, if two are present in the system, or remove the processor assembly and filler. For instructions, see Remove the processor assembly.
18. Remove the voltage regulator module. For instructions, see Remove the voltage regulator module.
19. Remove the processor and power supply dividers.
20. Remove the screws holding the front support bracket.
21. Remove the front support bracket.
22. Remove the VPD card. For instructions, see Remove the VPD card.
23. Remove the time-of-day battery. For instructions, see Remove the time-of-day battery.
24. Remove the screws holding the rear support bracket.
25. Remove the rear support bracket.
26. Remove the PCI adapter insulator sheet, power supply insulator sheet, and system insulator sheet.
27. To remove the system backplane and mounting plate from the chassis, lift the front edge of the system backplane and mounting plate until it clears the locating pins, then pull it towards the front of the system. Lift the system backplane and mounting plate up and out of the system chassis.
28. Remove the screws holding the system backplane to the mounting plate.
29. To replace the backplane, reverse the steps in the removal procedure.
30. Do not start the system at this time. You will be instructed when to start the system in the procedure to restore service processor settings that follows.
31. After you replace the system backplane assembly, do the following to restore service processor and SPCN settings.
 - a. Enable network access to the service processor by doing one of the following.
 - If the network connection uses the Dynamic Host Configuration Protocol (DHCP) to establish an IP address, and uses a Hardware Management Console (HMC) as the DHCP server, no additional configuration is necessary to enable network access to the service processor. Do the following:
 - 1) Ensure that the service processor is connected to the existing service network by verifying that the HMC cable is connected to the HMC port on the service processor assembly.
 - 2) Connect all system power cables by plugging them into power outlets.

Note: Do not start the system at this time.
 - 3) Can you access the service network?
 - No: Continue with the next step.
 - Yes: Go to step Reset the processing unit power control network identifier.
 - If the network connection uses DHCP to establish an IP address, but does not use an HMC as the DHCP server, do the following:
 - 1) Complete any network configuration necessary to allow the DHCP server to recognize and assign an IP address to the service processor.
 - 2) Ensure that the service processor is connected to the existing service network by verifying that the network cable is connected to the network port on the service processor assembly.

- 3) Connect all system power cables by plugging them into power outlets.

Note: Do not start the system at this time.

- 4) Can you access the service network?
 - No: Continue with the next step.
 - Yes: Go to step Reset the processing unit power control network identifier.
- If the network connection uses static IP address assignments (not HMC managed), do the following:
 - 1) Connect a client with a Web browser directly to the service processor network port using one of the following URLs:
 - <https://192.168.2.147>
 - <https://192.168.3.147>
 - 2) Connect all system power cables by plugging them into power outlets.

Note: Do not start the system at this time.
 - 3) Log on to the Advanced System Management Interface (ASMI) with the user ID `admin` and the default password `admin`.
 - 4) Change the admin user ID's password and the general user ID's password. Refer to Changing the password.
 - 5) Configure network access using the static IP address. Refer to Configuring network access.
 - 6) Can you access the service network?
 - No: Continue with the next step.
 - Yes: Go to step Reset the processing unit power control network identifier.
- b. If you are not able to access the service network, reset the service processor network interfaces (and passwords) by doing the following:
 - 1) Move both service processor reset toggle switches from their current position to the opposite position.
 - 2) Go to step 31.a.
- c. Reset the processing unit power control network identifier using the ASMI. Do the following to set the configuration ID and MTMS values:
 - 1) Follow the instructions in Changing processing unit power control network identifier to update the processing unit power control network ID. Change the identifier to B5.
 - 2) Follow the instructions in Setting the system enclosure type to change the system enclosure type.
- d. The customer must do the following:
 - 1) Change the admin user ID's password and the general user ID's password. Refer to Changing the password.
 - 2) Set the system name. Refer to Viewing system name.
 - 3) Set the time of day. If this server uses an HMC, set the time of day using the ASMI. Refer to Viewing time of day. If this server does not use an HMC, set the time of day using the appropriate operating system command.
 - 4) Reenter any of the following settings that you previously changed through the ASMI, unless you want to use the defaults:
 - System power settings. Refer to Controlling the system power.
 - ASMI service aids settings. Refer to Troubleshooting the system using system service aids.
 - System configuration settings. Refer to Changing system configuration.
 - Network services settings. Refer to Configuring network services.
 - Login profile settings. Refer to Setting up login profile.

- 5) Reenter any service processor settings that you may have set using operating system commands. You recorded these settings before removing the service processor.
- 6) Reactivate any Capacity on Demand devices using the ASMI. Refer to Using on-demand utilities.
- 7) If the system is managed by an HMC and runs logical partitions, restore the logical partition profiles. Refer to Restoring profile data using the HMC.
- 8) Verify the time of day for each partition after the system is powered on and the partitions are activated. If necessary, set the time of day using the appropriate operating system command for each logical partition.
- 9) If your system is managed by an HMC, reset the HMC access password. From the HMC command line, type:

```
chsyspwd -m managed system -t access --passwd --newpasswd newpassword
```

where:

- The value for *managed system* is the new service processor's managed system name.
 - No value for `--passwd` is entered thereby allowing authentication.
 - The value for *newpassword* is the new password value.
- 10) If necessary, update to the latest server firmware level. Refer to Server firmware fixes.
 - 11) Reboot in slow mode.
 - 12) Start the system.

32. If you replaced the system backplane as part of another procedure, return to that procedure now. If you replaced it because it was not operational, verify that the new resource is functional. See "Verifying the repair" on page 561.

Exchanging the VPD card in the model 9133-55A, 9406-550, 9113-550, and OpenPower 720

Provides detailed instructions on exchanging the VPD card.

About this task

Attention: The VPD card contains data which is vital to system operation:

- Machine type, model, and serial number
- System brand
- System unique ID (SUID)
- Activation codes for Capacity on Demand and Virtualization Engine Technologies (if applicable)

If the VPD card is replaced, this data must be programmed into the replacement VPD card. If the system is still functional prior to the replacement of the VPD card, view and record the System unique ID (SUID).

New, replacement activation codes for Capacity on Demand and Virtualization Engine Technologies will have to be generated. The original activation codes for the system cannot be reused. Contact your next level of support for new activation codes.

To exchange the VPD card on the model 9133-55A, 9406-550, 9113-550, and OpenPower 720, perform the following procedure:

1. If you are removing the VPD card as part of another procedure, continue to the next step. If you are removing the VPD card because it is not operational, verify that it is the failing part. See Identify a failing part.
2. If the system is still functional and you are replacing the VPD card with a new VPD card, view and record the System unique ID (SUID). This can be done by using a Hardware Management Console (HMC) or PC to access the ASMI. Refer to Accessing the Advanced System Management Interface

for information about setting up the ASMI, and Managing your server using the Advanced System Management Interface for information about using the ASMI. For further information, see Viewing vital product data.

3. Perform the following to prepare the system:
 - a. Ensure that the customer has taken appropriate actions to remove the server from normal use.
 - b. Power off the system. For instructions, see Stopping the system.
 - c. Disconnect the power source from the system.

Note: This system might be equipped with a second power supply. Before continuing with this procedure, ensure that the power source to the system has been completely disconnected.

- d. Attach a wrist strap to a metal surface of your hardware to prevent electrostatic discharge from damaging your hardware. If you do not have a wrist strap, touch a metal surface of the system before installing or replacing hardware.

Note: Follow the same precautions that you would use if you were not using the wrist strap. A wrist strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

4. Remove the front cover. For instructions, see Remove the model 550 front cover.
5. Remove the media-device enclosure. For instructions, see Remove the 550 and OpenPower 720 media-device enclosure.

Note: If there is a cable from the media-device enclosure to the control panel, unplug the cable as you remove the control panel from the media-device enclosure.

6. Pull the VPD card free by pushing the plastic tab behind the VPD card towards the back of the machine.
7. To insert a VPD card, reverse the steps in this procedure.
8. If you replaced the VPD card as part of another procedure, return to that procedure now.
9. Connect the line cords to each power supply.
10. Use ASMI to set the system identifiers. This can be done by using a Hardware Management Console (HMC) or PC to access the ASMI. Refer to Accessing the Advanced System Management Interface for information about setting up the ASMI, and Managing your server using the Advanced System Management Interface for information about using the ASMI. Update the system configuration settings. For further information, see Programming vital product data.
11. If the customer had Capacity on Demand activation codes, obtain new activation codes from your next level of support and enter the new codes. For more information, see Working with Capacity on Demand.
12. If the customer had Virtualization Engine Technologies activation codes, obtain new activation codes from your next level of support and enter the new codes. For more information, see Entering the activation code for Virtualization Engine technologies.
13. Power on the system. To review the power on procedure, go to Powering on and powering off.
14. If you replaced the VPD card because it was not operational, verify that the new resource is functional. See “Verifying the repair” on page 561. **This ends the procedure.**

Removing and replacing parts in the model 9116-561, 9406-570, and 9117-570

Use this information to remove and replace parts in the model 9116-561, 9406-570, and 9117-570.

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)

Note: For most parts in the model 9116-561, 9406-570, and 9117-570, the removal and replacement procedures are customer tasks and can be found in the Installing hardware topic.

Exchanging the I/O backplane in the model 561 and 570

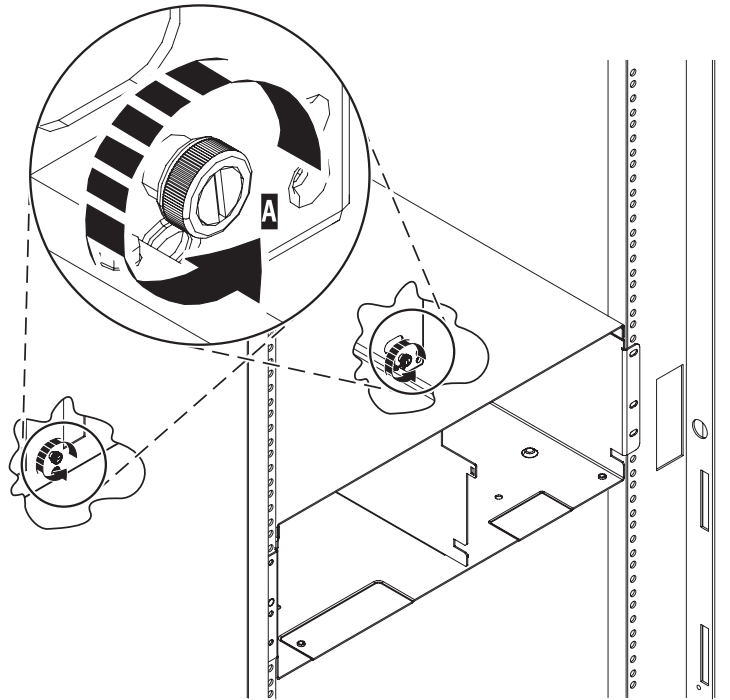
How to remove and replace the I/O backplane.

About this task

To remove the I/O backplane from the model 561 and 570, perform the following procedure.

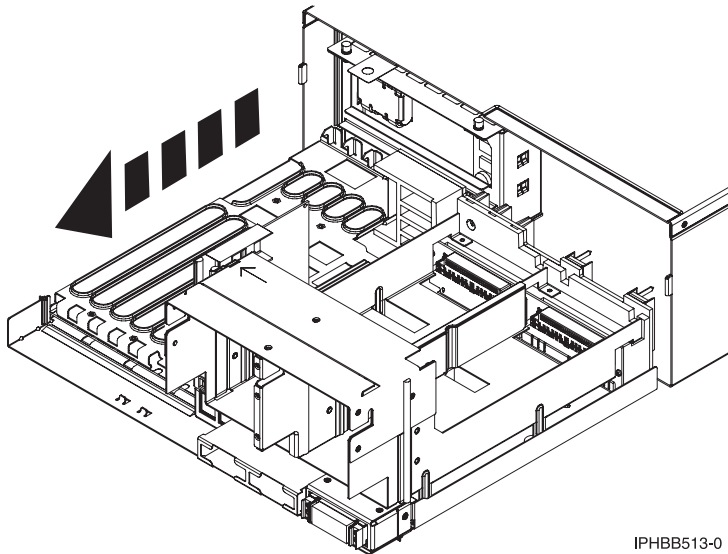
Attention: Before continuing with this procedure, check the SMP processor cable connections and the service processor cable connections. Reference codes, which can be caused by an SMP processor cable or a service processor cable connection, might instruct you to unnecessarily replace the I/O backplane or the service processor card. Before replacing an I/O backplane or a service processor card, check the SMP processor cable and the service processor cable connections (if the cables are installed) by using the following procedure:

1. If the server is started, stop all the system units that are connected by SMP processor cables and service processor cables.
2. Check each connection by removing the cable connectors from the server and checking for any damage to the connectors or cables.
3. Reconnect the SMP processor cables and service processor cables. Ensure that each connector is fully seated and secured into position.
4. Verify the server operation. If the problem is not corrected, continue with this procedure.
 - a. Power off the system (see Powering on and powering off).
 - b. Disconnect the plugs to each power supply.
 - c. Perform the following from the back of the system: 7
 - 1) Remove and label all cables from the back of the system.
 - 2) Remove the PCI adapter cards and empty cassettes from slots 1 through 6 (see model 570 PCI adapters and cassettes).
 - 3) Remove the model 570 power supplies.
 - 4) Remove the RIO/HSL card if it is installed in position -C7 (see RIO/HSL card).
- Note:** When completing the next step, you only need to remove the service processor assembly temporarily. Therefore you do not need to record the service processor settings or remove the time-of-day battery. If you remove the time-of-day battery some of the service processor settings might be lost.
- 5) Remove the model 570 service processor assembly and time-of-day battery.
- 6) Remove the VPD card (see “Exchanging the VPD card in the model 561 and 570” on page 471).
5. Remove the model 570 front cover.
6. Perform the following from the front of the system:
 - a. Model 570 and 9116-561 control panel.
 - b. Remove the fans (see Remove the model 570 system unit fan).
 - c. Remove the model 570 media-device enclosure.
 - d. Remove the model 570 disk drive enclosure.
 - e. Remove the voltage regulator card assembly (see model 570 voltage regulator assembly).
 - f. Remove the model 570 system processor assembly.
7. Loosen the thumbscrews (A) at the front of the backplane.



IPHBB511-0

8. Slide the backplane from the enclosure.



IPHBB513-0

9. To install the new I/O backplane, reverse this procedure.

Note: After installing the backplane securely tighten both thumbscrews. Step 10 must be completed before attempting to power on or IPL the system. If step 10 is not completed before attempting to power on or IPL the system, bus renumbering may occur.

10. Perform the following to set the configuration ID and MTMS values:
 - a. Use the Hardware Management Console (HMC) or PC Web browser to access the ASMI (see Accessing the Advanced System Management Interface).

Note: The machine type-model-serial (MTMS) value must be set to match the original value found on a label affixed to the side of the enclosure. It cannot be left with the new serial number of the newly replaced I/O backplane, if it is the customer's LPAR I/O

assignments will be incorrect. Updating the MTMS value keeps the configuration and error information in sync, and is used by the system when creating the location codes. This must be done using the ASMI, not with the control panel. Refer to Managing the Advanced System Management Interface (ASMI) for information on setting up the ASMI, and Managing your server using the Advanced System Management Interface for information on using the ASMI, for information on using the ASMI, including updating the system configuration settings.

- b. To update the processing unit power control network ID, follow the instructions in Changing processing unit power control network identifier. Change the identifier to one of the following:
 - **B2** for a single enclosure system
 - **B3** for a multiple enclosure system
 - c. To change the system enclosure type, follow the instructions in Setting the system enclosure type.
11. Reactivate any Capacity on Demand devices using the ASMI. Refer to Using on-demand utilities. **This ends the procedure.**

Exchanging the passthrough card in the model 561 and 570

How to remove and replace the passthrough card.

About this task

To remove the passthrough card from the model 561 and 570, perform the following procedure.

1. Remove the I/O backplane assembly from the system unit (see “Exchanging the I/O backplane in the model 561 and 570” on page 467).
2. If the VPD card is still installed on the passthrough card, remove the VPD card now (see “Exchanging the VPD card in the model 561 and 570” on page 471).
3. Remove the passthrough card from the I/O backplane assembly by pulling it straight up and out of the I/O backplane assembly.
4. Note the metal tab on the top edge of the passthrough card. Install the new passthrough card, insert the card into the connector on the I/O backplane.

Attention: As you insert the card, ensure that the metal tab engages the slot on the top edge of the shroud for the power supplies, if the tab does not engage the slot in the shroud, the passthrough card will not connect securely and damage to the pins on the connector could occur.
5. Install the original VPD card in its position on the top of the new passthrough card (see “Exchanging the VPD card in the model 561 and 570” on page 471).
6. Replace the I/O backplane in the system unit, see “Exchanging the I/O backplane in the model 561 and 570” on page 467.

Exchanging the RAID enablement card in the model 561 and 570

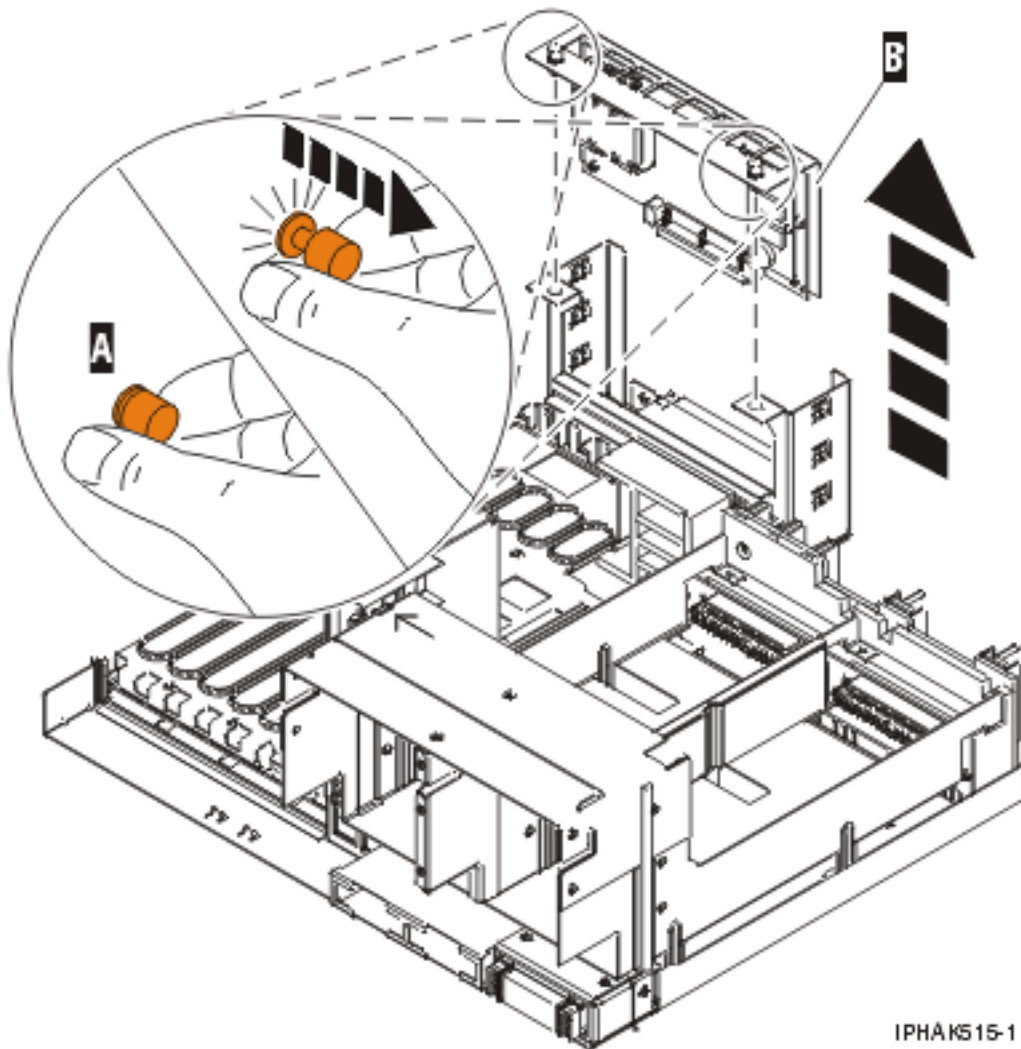
How to remove and replace the RAID enablement card.

About this task

To remove the RAID enablement card, perform the following procedure.

1. Remove the I/O backplane (see “Exchanging the I/O backplane in the model 561 and 570” on page 467).
2. Place the I/O backplane on a flat surface.
3. Unlock the restraining pins (A) located at the top of the RAID enablement card bracket (B).
4. Lift the RAID enablement card and bracket from the enclosure.
5. To replace the RAID enablement card, reverse the steps in this removal procedure. **This ends the procedure.**

Results



Exchanging the VPD card in the model 561 and 570

How to remove and replace the VPD card.

About this task

Attention: The VPD card contains data which is vital to system operation:

- Machine type, model, and serial number
- System brand
- System unique ID (SUID)
- Activation codes for Capacity on Demand and Virtualization Engine Technologies (if applicable)

If the VPD card is replaced, this data must be programmed into the replacement VPD card. If the system is still functional prior to the replacement of the VPD card, view and record the System unique ID (SUID).

New, replacement activation codes for Capacity on Demand and Virtualization Engine Technologies will have to be generated. The original activation codes for the system cannot be reused. Contact your next level of support for new activation codes.

Note: If you plan to replace the VPD card and have the replacement card available, you may contact the following e-mail address from 8 a.m. to 5 p.m. U.S. Central Time M-F to obtain replacement activation codes prior to repair, supply machine type/serial number and the part number/serial number of the replacement VPD card. For System p contact pcod@us.ibm.com, and for System i contact icod@us.ibm.com.

To exchange the VPD card in the model 561 and 570, perform the following procedure:

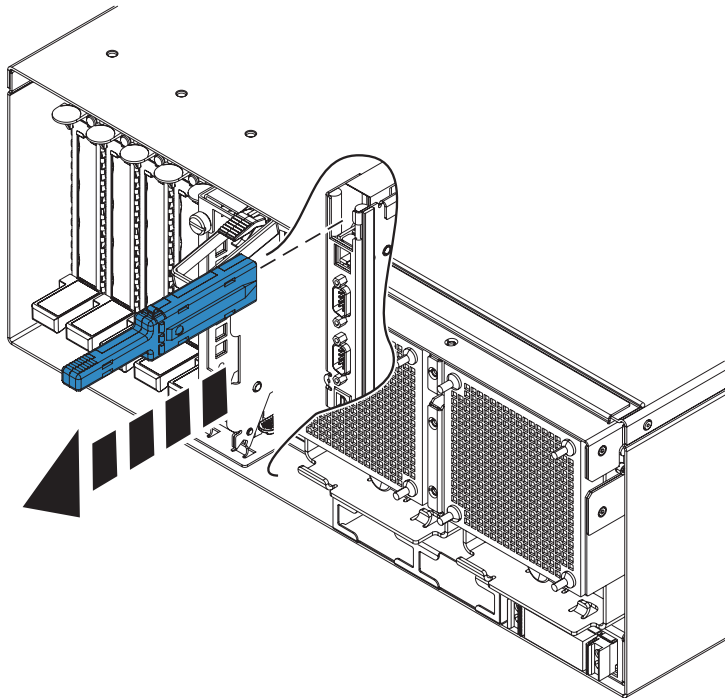


Figure 78. Exchanging the VPD card in the model 561 and 570

1. If you are removing the VPD card as part of another procedure, continue to the next step. If you are removing the VPD card because it is not operational, verify that it is the failing part. See Identify a failing part.
2. If the system is still functional and you are replacing the VPD card with a new VPD card, view and record the System unique ID (SUID). This can be done by using a Hardware Management Console (HMC) or PC to access the ASMI. Refer to Accessing the Advanced System Management Interface for information about setting up the ASMI, and Managing your server using the Advanced System Management Interface for information about using the ASMI. For further information, see Viewing vital product data.
3. Power off the system. To review the power off procedure, go to Powering on and powering off.
4. Disconnect the line cords to each power supply.
5. Pull out the VPD card by the blue handle.
6. To install a VPD card, reverse this procedure. Insert the VPD card with the key oriented to the right as shown and push until fully seated.
7. If you replaced the VPD card as part of another procedure, return to that procedure now.
8. Connect the line cords to each power supply.
9. Use ASMI to set the system brand and system identifiers. This can be done by using a Hardware Management Console (HMC) or PC to access the ASMI. Refer to Accessing the Advanced System Management Interface for information about setting up the ASMI, and Managing your server using the Advanced System Management Interface for information about using the ASMI. Update the system configuration settings. For further information, see Programming vital product data.

10. If the customer had Capacity on Demand activation codes, obtain new activation codes from your next level of support and enter the new codes. For more information, see Working with Capacity on Demand.
11. If the customer had Virtualization Engine Technologies activation codes, obtain new activation codes from your next level of support and enter the new codes. For more information, see Entering the activation code for Virtualization Engine technologies.
12. Power on the system. To review the power on procedure, go to Powering on and powering off.
13. If you replaced the VPD card because it was not operational, verify that the new resource is functional. See “Verifying the repair” on page 561. **This ends the procedure.**

Results

Removing and replacing parts in the model 575

Use the Service Focal Point application on the Hardware Management Console (HMC) to find information on how to remove and replace parts in the model 9118-575.

About this task

Do the following to access the Service Focal Point application:

1. Log into the HMC as the service representative.
2. In the Navigation area, select the **Service Applications** icon.
3. Select the **Service Focal Point** icon.
4. Select **Exchange Parts**. The Exchange Parts window opens. Follow the instructions on the Exchange Parts window until you reach the removal and replacement procedures for the selected part.

Results

Removing and replacing parts in the model 59x

Use the Service focal point application on the Hardware Management Console (HMC) to find information on how to remove and replace parts in the model 9119-590, 9119-595, and 9406-595.

About this task

Do the following to access the Service focal point application:

1. Log into the HMC as the service representative.
2. In the Navigation area, select the **Service Applications** icon.
3. Select the **Service Focal Point** icon.
4. Select **Exchange Parts**. The Exchange Parts window opens. Follow the instructions on the Exchange Parts window until you reach the removal and replacement procedures for the selected part.

Results

Removing and replacing parts in the 5074, 5079, 8079-002, and 8093-002 expansion units

Use this information to replace a part in the 5074, 5079, 8079-002, and 8093-002 expansion units.

Exchanging the ac charger (A01) in the 5074, 5079, 8079-002, and 8093-002 expansion units (single line cord)

Use this procedure to remove or replace the ac charger (A01) in a single line cord expansion unit.

About this task

Use this procedure to remove or replace the ac charger (A01) in a single line cord 5074, 5079, 8079-002, and 8093-002 expansion units.

1. Power off the expansion unit (see Powering off an expansion unit).
2. Open the rear cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
3. Disconnect the incoming ac power cord from the expansion unit.
4. Disconnect all the power cords from the battery charger.
5. Remove the screws that are holding the charger to the frame.
6. Remove the battery charging unit.
7. Install the new ac charger by reversing this procedure. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Results

Exchanging ac modules (A01 and A02) in the 5074, 5079, 8079-002, and 8093-002 expansion units (dual line cord)

Use this procedure to remove or replace the ac module (A01 and A02) in the dual line cord expansion unit.

About this task

Use this procedure to remove or replace the ac module (A01 and A02) in the dual line cord 5074, 5079, 8079-002, and 8093-002 expansion units.

Attention: Because this procedure can be performed concurrently, you do not need to power off the unit if it is already powered on.

1. Open the back cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
2. Trace and disconnect the ac input line cord that connects to the ac module that needs replacing. Refer to “Locations — 5074, 8079-002, and 8093-002 expansion units” on page 88 or “Locations — 5079 expansion unit” on page 94 for location and address information.

Attention: Do not disconnect the other system ac line cord when powered on.

3. Disconnect the power supply jumper cords from the ac module that you are working on.

Attention: Do not disconnect the other system ac module power supply jumper cords.

4. Remove the top and bottom screws that hold the ac module to the frame.
5. Remove the ac module unit.
6. Install a new ac module by reversing this procedure. After exchanging an item, go to “Verifying the repair” on page 561.

This ends the procedure.

Results

Exchanging the air-moving devices in the 5074, 5079, 8079-002, and 8093-002 expansion units

Use this procedure to remove or replace the air-moving device (AMD) (B01 and B02) in the expansion unit.

About this task

Use this procedure to remove or replace the air-moving device (AMD) (B01 and B02) in the 5074, 5079, 8079-002, and 8093-002 expansion unit.

Attention: Since this procedure can be performed concurrently, you do not need to power off the unit if it is already powered on.

1. Open the rear cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
2. Remove the EMC access plate located directly above the PCI card enclosure. Press the surfaces of the two latches together, and tilt the top of the cover away from the frame to remove it.
3. Remove the screw from the AMD door assembly for the AMD that you are replacing.
4. Remove the AMD assembly by sliding it out of the enclosure, while holding the AMD access plate open.
5. Install the new AMD by reversing this procedure. The new AMD will automatically power on after it is installed.
6. After exchanging an item, go to “Verifying the repair” on page 561.

This ends the procedure.

Results

Exchanging the batteries in the 5074, 5079, 8079-002, and 8093-002 expansion units

Use this procedure to remove or replace the batteries (T01, T02, T03, and T04).

About this task

Use this procedure to remove or replace the batteries (T01, T02, T03, and T04) in the 5074, 5079, 8079-002, and 8093-002 expansion units.

Attention: Since this procedure can be performed concurrently, you do not need to power off the unit if it is already powered on. However, removing the battery power unit while the system is running on battery power will cause the system to fail and may damage the battery power unit and the PCI card enclosure. (If the console will accept commands, the system is not running on battery power.)

CAUTION:

This part or unit is heavy but has a weight smaller than 18 kg (39.7 lb). Use care when lifting, removing, or installing this part or unit. (C008)

1. Open the rear cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
2. Remove the screws from the EMC access plate that is covering the batteries.
3. Remove the EMC access plate from the battery enclosure.
4. Remove the top and bottom screws from the battery unit.
5. Remove the battery power unit by using two hands to pull on the ring.

CAUTION:

Lead-acid batteries can present a risk of electrical burn from high, short-circuit current. Avoid battery contact with metal materials; remove watches, rings, or other metal objects, and use tools with insulated handles. To avoid possible explosion, do not burn.

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. (C004)

6. Install the new battery power unit by reversing this removal procedure. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Results

Exchanging cards (concurrent) in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units

Use this procedure to remove or replace cards concurrently in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units.

About this task

Note: The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.

Concurrent/dedicated guidelines

In some cases you do not need to power down the system to change PCI cards. Use the following guidelines to determine if you should use dedicated or concurrent removal and replacement procedures. If you use concurrent maintenance on a partitioned system, follow the procedures from the partition that owns the resource. If the resource is not owned, follow the procedure from the primary partition.

For 5074, 5079, 5094, and 5294 IXS cards:

The IXS cards require dedicated maintenance. Do **not** power down the individual card slot. You can power down the 5074 unit, or the top or bottom half of a 5079, 5294, or 5296 unit. See “Exchanging cards (dedicated) in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 478.

For 5074, 5079, 5094, 5294, 5096, and 5296 cards - except IXS cards:

- Card positions that permit card level concurrent maintenance using HSM:
 - **For 5074 or 5079:** Card positions C01 through C07 and C09 through C15 permit card level concurrent maintenance using HSM. You can power down the individual card slot.
 - **For 5094, and 5294:** Card positions C01 through C09, and C11 through C15 permit card level concurrent maintenance using HSM. You can power down the individual card slot.
 - **For 5096, and 5296:** Card positions C01 through C09, and C11 through C15 permit card level concurrent maintenance using HSM. You can power down the individual card slot.
- If the resource is the load source IOA or the load source IOP, or any other storage IOA/IOP with critical DASD attached for the system, primary, or secondary partition, follow the on-screen instructions when you use HSM to power down the IOP or IOA. Instructions to use functions 68 and 69 on the control panel will be included.
- If the resource is the console IOA or the console IOP for the system or primary partition, you cannot power down the domain.
- If the resource is the console IOA or the console IOP for a secondary partition, then power down the secondary partition and follow the procedure from the primary partition.

CAUTION:

The system contains circuit cards, assemblies, or both that contain lead solder. To avoid the release of lead (Pb) into the environment, do not burn. Discard the circuit card as instructed by local regulations. (C014)

Attention: All cards are sensitive to electrostatic discharge. See Working with electrostatic discharge-sensitive parts.

Remove cards concurrently:

Before you begin

Important: If you are removing, installing or replacing a PCI-X double-wide, quad-channel Ultra320 SCSI RAID controller, you must follow the special instructions in the PCI-X double-wide, quad-channel Ultra320 SCSI RAID controller (FC 5739, 5778, 5781, 5782) (CCIN 571F, 575B) topic.

About this task

To remove cards concurrently:

1. On the command line, enter the Start System Service Tools command:
STRSST
If you cannot get to SST, select DST. See Dedicated Service Tools (DST) for details.
Attention: Do not perform a system IPL to get to DST.
2. Select **Start a Service Tool** → **Hardware Service Manager** → **Packaging hardware resources**.
3. Select **Hardware contained within package** for the Frame ID that contains the IOA or IOP that you are removing.
4. Find the card position for the IOA or IOP that you are removing and select **Concurrent maintenance**.
5. A listing of the power domain is shown. Select the **Power off domain** function key. Everything within the IOA's or IOP's power domain will be powered off .
6. To see the status of the power domain, select the **Display power states** function key.
7. Find the IOA or IOP that you are removing and select **Toggle LED blink off/on**.
8. Remove the cover to access the card that you are removing from the system. See "Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units" on page 479.
9. Remove the EMC access plate that is located directly above the card enclosure. Press the two latching mechanisms together and tilt the top of the cover away from the frame to remove it.
10. Look at the power LED for the card that you are removing to ensure that it is powered off. The power LED is located to the left of and directly above the card slot. If the LED is blinking multiple times per second (rapidly) or it is off, then the card is powered off.

Note: For a double wide adapter, there is only one power LED visible for both slots.
11. Disconnect and label any cables from the card that you wish to remove.
12. Turn the latch counter clockwise and lift upward on the black latch to release the card.
13. Gently pull the card off the backplane. **This ends the procedure.**

Replace cards concurrently:

Before you begin

Important: If you are removing, installing or replacing a PCI-X double-wide, quad-channel Ultra320 SCSI RAID controller, you must follow the special instructions in the PCI-X double-wide, quad-channel Ultra320 SCSI RAID controller (FC 5739, 5778, 5781, 5782) (CCIN 571F, 575B) topic.

About this task

To replace cards concurrently:

1. Install the card in to the system by reversing the card removal procedure above.
2. Select the **Power on domain** function key for the IOA or IOP that you are installing.

Note: To the right of the description field you will see one or both of the following symbols displayed:

* indicates the location to which the system will assign the resource.

> indicates the location to which the resource was last assigned.

3. Press **Enter**. The Work with Controlling Resource display will appear.
4. Determine the location where you want to assign the resource and select **Assign to** for that location.
5. Wait for the Hardware Resource Concurrent Maintenance display to appear with the message indicating that the power on is complete.
6. After exchanging an item, go to “Verifying the repair” on page 561.
7. If you have exchanged a 2766, 2787, or 280E Fibre Channel IOA, the external storage subsystem must be updated to use the world-wide port name of the new IOA. Refer to Updating the world-wide port name for a new 2766 or 2787 IOA for details. **This ends the procedure.**

Exchanging cards (dedicated) in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units

Use this procedure to remove or replace cards using dedicated maintenance in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units.

About this task

Note: The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.

In some cases, you do not need to power down the system to change PCI cards. Use the guidelines in “Exchanging cards (concurrent) in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 476 to determine if you should use dedicated or concurrent exchange procedures.

CAUTION:

The system contains circuit cards, assemblies, or both that contain lead solder. To avoid the release of lead (Pb) into the environment, do not burn. Discard the circuit card as instructed by local regulations. (C014)

Attention: All cards are sensitive to electrostatic discharge. See Working with electrostatic discharge-sensitive parts.

To remove or replace the cards (dedicated):

1. Power off the expansion unit. See Powering off an expansion unit.
2. Remove the ac power cord from the frame that you are working on.
3. Remove the cover to access the card that you are removing from the system. See “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479.
4. Remove the EMC access plate that is located directly above the card enclosure. Press the two latching mechanisms together and tilt the top of the cover away from the frame to remove it.
5. Disconnect and label any cables from the card that you wish to remove.
6. If you are removing an IXS card, then go to (Type 2890 or 2892 — Integrated xSeries Server (IXS) for iSeries).
7. Turn the latch counter clockwise and lift upward on the black latch to release the card.
8. Gently pull the card off the backplane.
9. Reverse this procedure to replace the card. After exchanging a failing item, go to “Verifying the repair” on page 561.

10. If you have exchanged a 2766, 2787, or 280E Fibre Channel IOA, the external storage subsystem must be updated to use the world-wide port name of the new IOA. Refer to Updating the world-wide port name for a new 2766, 2787, or 280E IOA for details. **This ends the procedure..**

Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units

Use this procedure to remove or replace covers. The front and rear covers will swing open slightly more than 90 degrees. This action makes it possible to replace all FRUs without having to remove the covers.

About this task

Note: The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.

Use this procedure to remove or replace covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units.

Note: The front and rear covers will swing open slightly more than 90 degrees. This action makes it possible to replace all FRUs without having to remove the covers.

- To open or remove the front cover, refer to Figure 79 on page 480.
- To open or remove the rear cover, refer to Figure 80 on page 481.

Perform the following steps to open or remove each cover.

1. Unlock the cover (front only).
2. Open the cover by grasping its right side and pulling it towards you.
3. After opening the cover, press down on lever (**B**), which is located inside along the top, left side of the cover.
4. Tilt the top of the cover away from the expansion unit, and lift the cover off. **This ends the procedure.**

Results

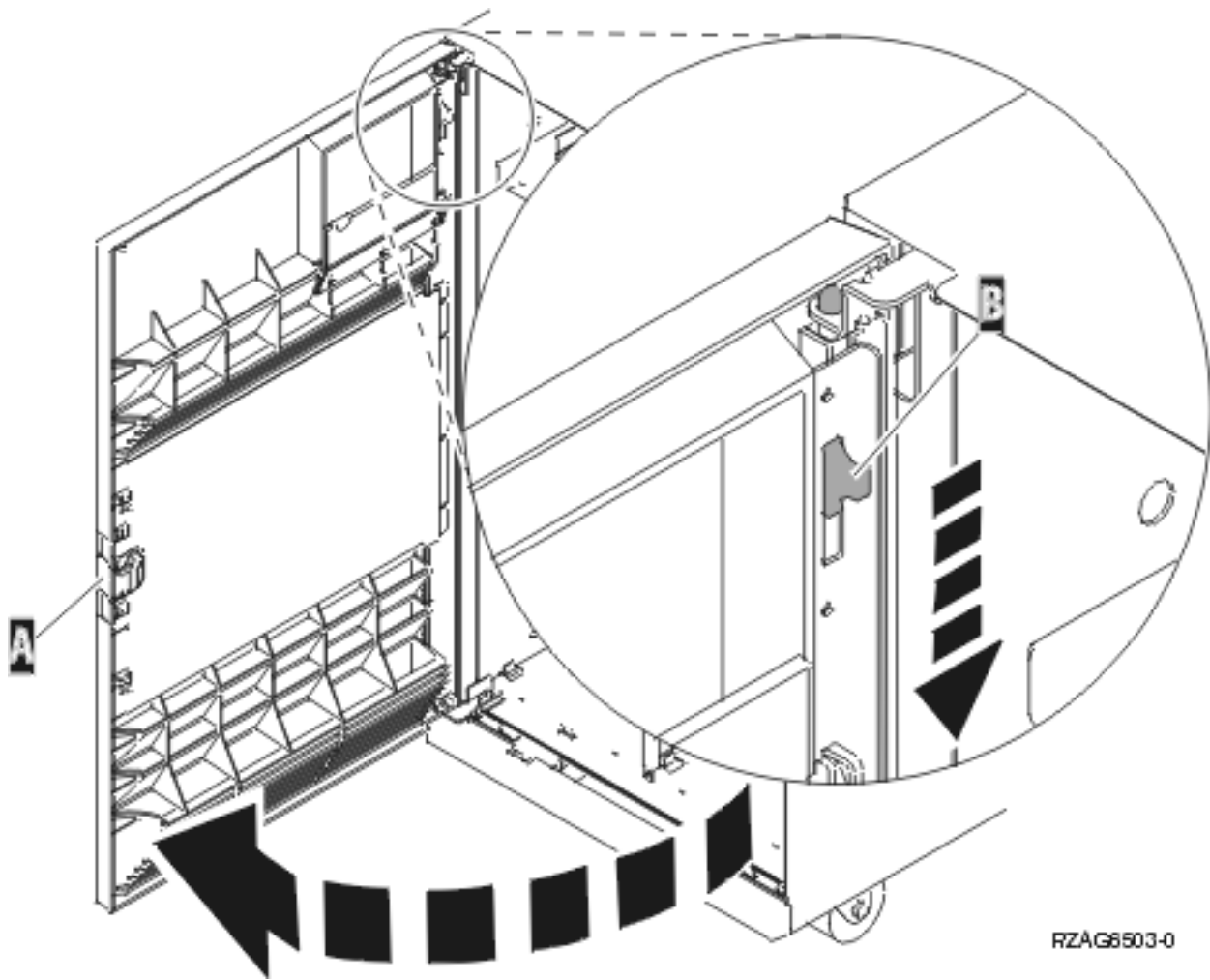


Figure 79. Front cover - removal

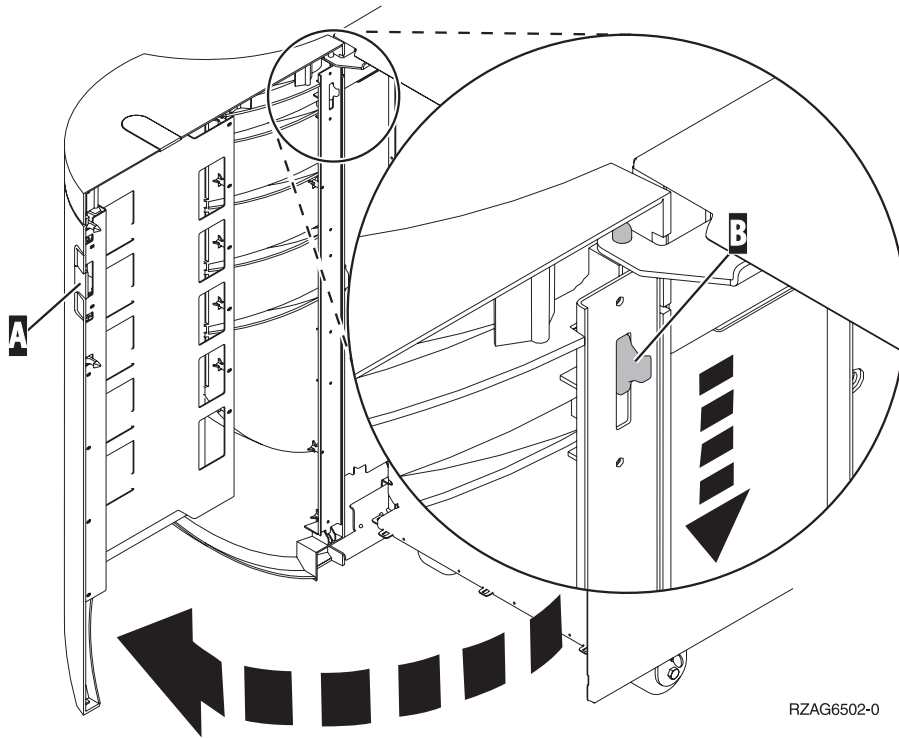


Figure 80. Rear cover - removal

Exchanging the device boards in the 5074, 5079, 8079-002, and 8093-002 expansion units

Use this procedure to remove or replace the device board in the 5074, 5079, 8079-002, and 8093-002 expansion units.

About this task

Use the appropriate procedure depending on the device board you are replacing:

“Removing and replacing the device board DB1 and device board 2”

“Removing and replacing the device board (DB3)” on page 482

Removing and replacing the device board DB1 and device board 2:

1. Power off the expansion unit (see Powering off an expansion unit).
2. Disconnect the power cord from the expansion unit.
3. Open the front cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
4. From the front of the expansion unit, do the following:
 - a. Remove the EMC access plates from the disk unit enclosures that are located in front of the backplane that you are replacing. (For location information, see “Locations — 5074, 8079-002, and 8093-002 expansion units” on page 88.) Press the surfaces of the two latching mechanisms together, and tilt the top of the cover away from the frame to remove it.
 - b. Record the locations of the disk units and then remove them from the disk unit enclosures that you just uncovered.

Attention: The disk units are sensitive to electrostatic discharge (see Working with electrostatic discharge-sensitive parts).
 - c. Remove the screws that hold the disk unit cage assembly to the frame.

- d. Remove the two retaining screws that are located inside of the disk unit cage assembly (the top-right and bottom-left corners).
 - e. Remove the disk unit cage assemblies.
 - f. Remove the screws that hold the DASD shelf to the frame.
 - g. Remove the DASD shelf from the frame.
5. Remove the retaining screw that is holding the DASD board assembly to the frame.
 6. Pull the DASD board assembly out until it slides off the guide pins, then rotate the DASD board assembly 90 degrees. Record the locations of the cables that are located on the backside of the board assembly, and then remove them.

Note: Both ends of the ribbon cables are marked **LH** or **RH**, indicating that one end of the cable is plugged in to either the left-hand device board DB1 or right-hand device board 2 DASD board assembly. The other end of the cable is plugged in to either the left-most (LH) or right-most (RH) DASD controller card. The cables will crisscross in the center of the tower.

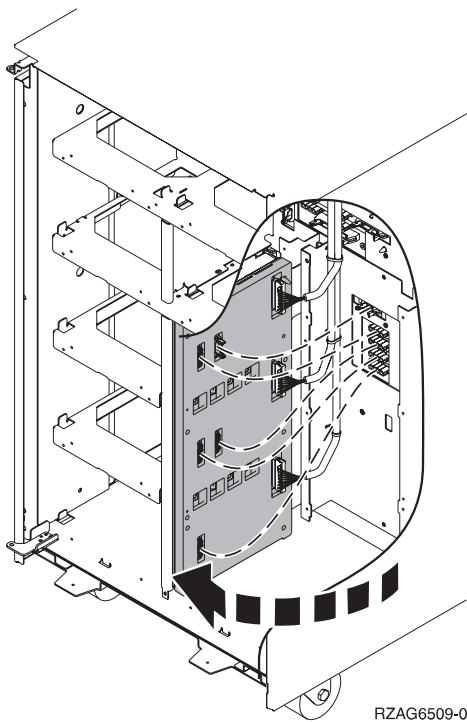


Figure 81. Device board cabling

7. Remove the DASD board assembly.
8. Install the DASD board assembly by reversing the removal procedure. After exchanging an item, go to "Verifying the repair" on page 561. **This ends the procedure.**

Removing and replacing the device board (DB3):

1. Power off the expansion unit (see Powering off an expansion unit).
2. Disconnect the power cord from the expansion unit.
3. Open the rear cover (see "Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units" on page 479).
4. From the rear of the expansion unit, do the following:
 - a. Remove the EMC access plate that is located directly above the card enclosure. Press the surfaces of the two latching mechanisms together, and tilt the top of the cover away from the frame to remove it.

- b. Remove the cables from the disk unit controller cards (IOAs) that are located inside the PCI card enclosure and record their card and port locations.
 - c. Remove the screws that hold the tower card enclosure to the frame.
 - d. Pull the tower card enclosure partially out of the frame while lifting the cables clear of the enclosure.
 - e. Press the release mechanism that is located along the top right side of the enclosure and carefully slide the enclosure towards you. Make sure that the cables are clear of the enclosure.
 - f. Remove the tower card enclosure from the frame.
 - g. Remove the screws from the EMC access plate that is located inside the frame and directly above the power distribution board.
 - h. Remove the EMC access plate.
 - i. Reach through the opening and remove the cables from the backside of the base DASD board assembly (DB3).
5. Open the front cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
 6. From the front of the expansion unit do the following:
 - a. Record the removable media locations and then remove them by pulling out on the handles that are located on each side of the unit.
 - b. Remove the control panel by pulling on the handles that are located on each side of the unit and sliding it partially out of the tower. Then, unplug the cable from the rear of the control panel (see “Exchanging the control panel in the 5074, 5079, 8079-002, and 8093-002 expansion units”).
 - c. Unplug the control panel cable from the base DASD board assembly (DB3).
 - d. Remove the two retaining screws that are located inside of the removable media enclosure (the top right and lower left corners).
 - e. Remove the removable media enclosure.
 - f. Remove the EMC access plates from the disk unit enclosures that are located in front of the backplane (DB3). For location information, see “Locations — 5074, 8079-002, and 8093-002 expansion units” on page 88. Press the surfaces of the two latching mechanisms together and tilt the top of the cover away from the frame to remove it.
 - g. Record the disk unit locations and then remove them from the disk unit enclosures that you just uncovered.

Attention: The disk units are sensitive to electrostatic discharge (see Working with electrostatic discharge-sensitive parts).
 - h. Remove the screws that hold the disk unit enclosures to the frame.
 - i. Remove the retaining screws that are located inside the disk unit enclosure.
 - j. Remove the disk unit enclosures.
 - k. Remove the screws that hold the center support bracket and shelf for the disk unit and removable media enclosure to the frame.
 - l. Remove the support bracket and shelf.
 - m. Remove the base DASD board assembly (DB3).
 7. Install the base DASD board assembly by reversing the removal procedure. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Exchanging the control panel in the 5074, 5079, 8079-002, and 8093-002 expansion units

Use this procedure to remove or replace the control panel (NB1) in the expansion unit.

About this task

Use this procedure to remove or replace the control panel (NB1) in the 5074, 5079, 8079-002, and 8093-002 expansion units.

Attention: The control panel is sensitive to electrostatic discharge (see Working with electrostatic discharge-sensitive parts).

1. Power off the expansion unit (see Powering off an expansion unit).
2. Disconnect the ac power cords from the expansion unit.
3. Open the front cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
4. Pull on the two side fasteners to release the control panel assembly.
5. Slide the panel partially out of the frame.
6. Disconnect the cables that are attached to the back side of the control panel.
7. Remove the control panel from the frame.
8. Reverse this procedure to install the new control panel.
9. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Results

Exchanging the power distribution board in the 5074, 5079, 8079-002, and 8093-002 expansion units

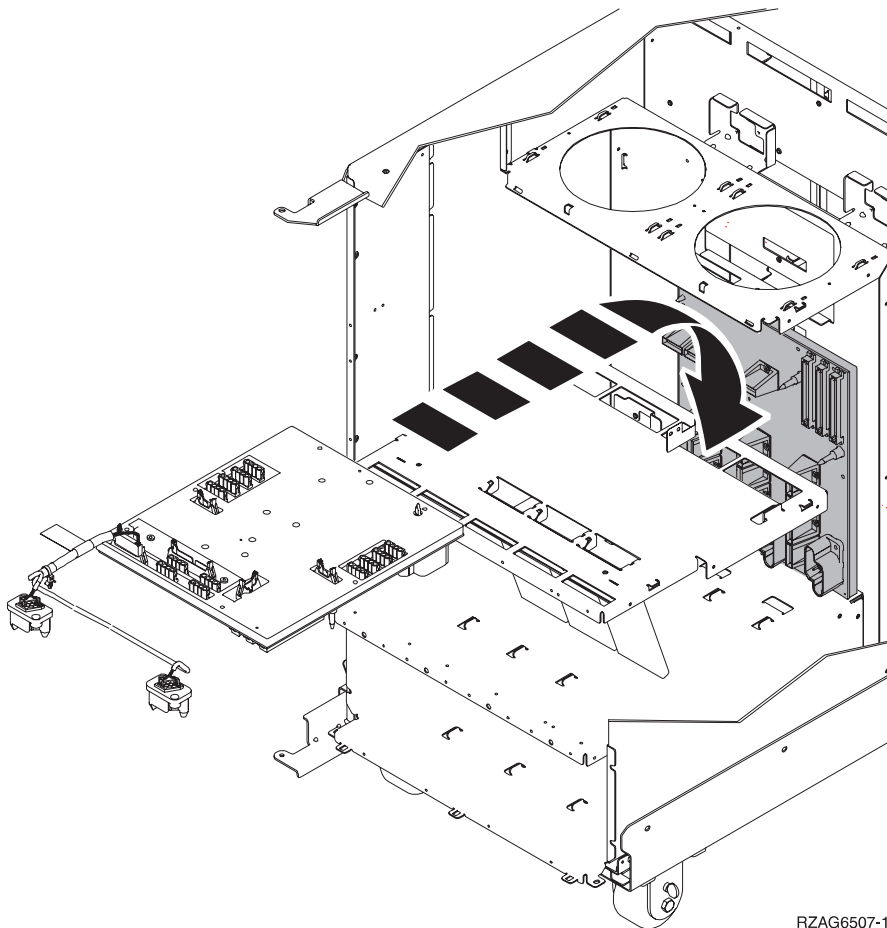
Use this procedure to remove or replace the power distribution board (PB1).

About this task

Use this procedure to remove or replace the power distribution board (PB1) in the 5074, 5079, 8079-002, and 8093-002 expansion units.

1. “Removing and replacing the device board DB1 and device board 2” on page 481. Continue with the next step.
2. From the rear of the expansion unit, do the following:
 - a. Open the rear cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
 - b. Remove the EMC access plate that is located directly above the PCI card enclosure. Press the surfaces of the two latching mechanisms together and tilt the top of the cover away from the frame to remove it.
 - c. Remove the cables from the disk unit controller cards that are located inside the PCI card enclosure and record their card and port locations. All cards are sensitive to electrostatic discharge (see Working with electrostatic discharge-sensitive parts).
 - d. Remove the screws that hold the PCI card enclosure to the frame.
 - e. Pull the PCI card enclosure partially out of the frame while lifting the cables clear of the enclosure.
 - f. Press the release mechanism that is located along the top right side of the enclosure and carefully slide the enclosure towards you. Make sure that the cables are clear of the enclosure. Then continue with the next step.
3. Are you working on a dual line cord unit?
 - **Yes:** Perform the following:
 - a. Remove the ac modules (see “Exchanging ac modules (A01 and A02) in the 5074, 5079, 8079-002, and 8093-002 expansion units (dual line cord)” on page 474).
 - b. Remove the power supplies (see “Exchanging the power supplies in the 5074, 5079, 8079-002, and 8093-002 expansion units” on page 485).
 - c. Remove the blank filler plate(s).

- d. Continue with the next step.
- **No:** Perform the following:
 - a. Remove the ac charger (see “Exchanging the ac charger (A01) in the 5074, 5079, 8079-002, and 8093-002 expansion units (single line cord)” on page 473).
 - b. Remove the power supplies (see “Exchanging the power supplies in the 5074, 5079, 8079-002, and 8093-002 expansion units”).
 - c. Remove the blank filler plate(s).
 - d. Remove the four batteries (see “Exchanging the batteries in the 5074, 5079, 8079-002, and 8093-002 expansion units” on page 475).
 - e. Continue with the next step.
- 4. Remove the screws from the power subframe assembly.
- 5. From the front of the tower, reach through the frame and remove the cables from the back side of the power distribution backplane and note their locations.
- 6. From the rear of the tower, remove the mounting screws that hold the power distribution backplane to the frame.
- 7. Pull the power distribution backplane slightly towards you and lift it up to remove it from the frame.



- 8. Install the power distribution backplane by reversing the removal procedure. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Exchanging the power supplies in the 5074, 5079, 8079-002, and 8093-002 expansion units

Use this procedure to remove or replace the power supply.

About this task

Use this procedure to remove or replace the power supply (P00, P01, P02, and P03) in the 5074, 5079, 8079-002, and 8093-002 expansion units.

1. Is the system powered on?

Yes: Do not power off the system. Continue with the next step.

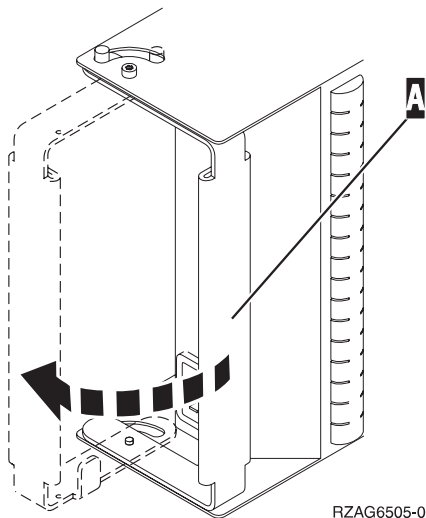
No: Continue with the next step.

2. Open the rear cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
3. Disconnect the power jumper cord from the unit that you are replacing.
4. Remove the bottom screw (if installed).
5. Rotate the handle from right to left to release the power supply from the frame.

CAUTION:

The power distribution outlets provide 200 to 240 V ac. Use these outlets only for devices that operate within this voltage range. (C021)

6. Remove the power supply from the frame.



7. Install the new power supply by reversing this procedure. Do not use excessive force when installing the power supply into the system. Insert it until the power supply engages the frame, then rotate the handle from left to right. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Results

Exchanging the tower card in the 5074, 5079, 8079-002, and 8093-002 expansion units

Use this procedure in conjunction with Powering off an expansion unit to remove or replace the tower card (CB1).

About this task

Use this procedure in conjunction with Powering off an expansion unit to remove or replace the tower card (CB1) in the 5074, 5079, 8079-002, and 8093-002 expansion units.

1. Power off the expansion unit using Powering off an expansion unit, then continue with the next step.
2. Open the rear cover. See “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479.

3. Disconnect the power cords at each power supply from the unit you are working on (if you have not already done so).
4. From the rear of the expansion unit do the following:
 - a. Remove the external cables from the rear of the PCI card enclosure and record their card and port locations.
 - b. Remove the EMC access plate that is located directly above the PCI card enclosure. Press the surfaces of the two latching mechanisms together and tilt the top of the cover away from the frame to remove it.
 - c. Remove the cables from the top of the PCI cards and record their card and port locations.
Attention: All cards are sensitive to electrostatic discharge. See Working with electrostatic discharge-sensitive parts.
 - d. Remove the screws that hold the PCI card enclosure to the frame.
 - e. Pull the PCI card enclosure partially out of the frame while lifting the cables clear of the enclosure.
 - f. Press the release mechanism that is located along the top right side of the enclosure and carefully slide the enclosure towards you. Make sure that the cables are clear of the enclosure.
5. Remove the PCI cards and HSL/RIO bridge adapter from the enclosure and note their locations. See “Exchanging cards (dedicated) in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 478.
6. Install the new PCI card enclosure by reversing the above procedure.
7. Reconnect the power cord(s) and/or the power supply cords that you disconnected earlier.

Note: The tower will power on automatically.

8. Perform Setting expansion unit configuration ID and MTMS value and then continue with the next step of this procedure.
9. Go to “Verifying the repair” on page 561. **This ends the procedure.**

Removing and replacing parts in the 5088 and 0588 expansion units

Use this information to exchange parts in the 5088 and 0588 expansion units.

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)

Exchanging the air-moving device (AMD) in the 5088 and 0588 expansion units

Use this procedure to remove or replace the air-moving device (AMD) (B01 and B02).

About this task

Use this procedure to remove or replace the air-moving device (AMD) (B01 and B02) in the 5088 and 0588 expansion units.

Attention: Since this procedure can be performed concurrently, you do not need to power off the unit if it is already powered on.

1. Remove the front cover (see “Exchanging the covers in the 5088 and 0588 expansion units” on page 492).
2. Remove the upper EMC access plate.
3. Remove the ac line cord from the power supply attached to the AMD being replaced.

4. Remove the power supply that has the defective AMD attached by pulling down on the docking handle, and sliding the power supply with the two AMDs attached out of the expansion unit.
5. Remove the AMD from the power supply by pulling out on the latch knob and sliding the AMD to the left towards the latch.
6. Install the new AMD by reversing this removal procedure.

Attention: Do not use excessive force when installing the new power supply into the system. Insert the power supply until it engages the frame, then lift the docking handle to lock the power supply into place.

7. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Results

Exchanging the AMD controller card in the 5088 and 0588 expansion units

Use this procedure to remove or replace the air moving device (AMD) controller card (BB1).

About this task

Use this procedure to remove or replace the air moving device (AMD) controller card (BB1) in the 5088 and 0588 expansion units.

1. Power off the PCI expansion unit (see Powering off an expansion unit).
2. Disconnect the two ac power cords from the ac box.
3. Remove the rear cover (see “Exchanging the covers in the 5088 and 0588 expansion units” on page 492).
4. Remove the EMC access plate over the card enclosure by loosening the thumbscrews and pulling it toward you.
5. Unclip and remove the cable by pressing down on the cable retainers to eject it.
6. Remove the AMD controller card by pulling out on the latch knob and sliding the card back toward you.
7. Install the new AMD controller card by reversing this removal procedure. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Results

Exchanging cards (concurrent) in the 5088 and 0588 expansion units

Use this procedure to remove or replace cards concurrently in the 5088 and 0588 expansion units.

About this task

Concurrent/dedicated guidelines

In some cases, you do not need to power down the system to change PCI cards. If you choose to power down the expansion unit, see “Exchanging cards (dedicated) in the 5088 and 0588 expansion units” on page 491. If you use concurrent maintenance on a partitioned system, follow the procedures from the partition that owns the resource. If the resource is not owned, follow the procedure from the primary partition.

Important: If you are removing, installing or replacing a PCI-X double-wide, quad-channel Ultra320 SCSI RAID controller, you must follow the special instructions in the PCI-X double-wide, quad-channel Ultra320 SCSI RAID controller (FC 5739, 5778, 5781, 5782) (CCIN 571F, 575B) topic.

For 5088 and 0588 IXS cards:

The IXS cards require dedicated maintenance, see “Exchanging cards (dedicated) in the 5088 and 0588 expansion units” on page 491.

For 5088 and 0588 cards - except IXS cards:

- Card positions C01 through C09 and C11 through C15 permit card level concurrent maintenance using HSM. You can power down the individual card slot.
- If the resource is the load source IOA or the load source IOP, or any other storage IOA/IOP with critical DASD attached for the system, primary, or secondary partition, follow the on-screen instructions when you use HSM to power down the IOP or IOA. Instructions to use functions 68 and 69 on the control panel will be included.
- If the resource is the console IOA or the console IOP for the system or primary partition, you cannot power down the domain.
- If the resource is the console IOA or the console IOP for a secondary partition, then power down the secondary partition and follow the procedure from the primary partition.

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)

Attention: If removing the cover while powered on, errors may occur due to electromagnetic interference.

Attention: All cards are sensitive to electrostatic discharge (see Working with electrostatic discharge-sensitive parts).

1. From the Hardware Service Manager display, select **Packaging hardware resources** → **Hardware contained in packaging** for the frame ID that you are working on.
2. Find the card position for the IOA or IOP that you are removing and select **Concurrent maintenance**.
Attention: If multiple resources are shown with the same card position, one or more of these resources will show a status of *Missing* (“?” after the description). Only one resource will be listed as not missing. Select this resource for the concurrent maintenance operation.
3. A listing of the power domain is shown. Find the IOA or IOP that you are removing and select **Power off domain**. Everything within the IOA’s or IOP’s power domain will be powered off .
4. To see the status of the power domain, select **Display power status**.
5. Find the IOA or IOP that you are removing and select **Toggle LED blink off/on**.
6. Remove the cover to access the card that you are removing from the system (see “Exchanging the covers in the 5088 and 0588 expansion units” on page 492).
7. Look at the power LED for the card that you are removing to ensure that it is powered off. The power LED is located above or in front of the card slot. If the LED is blinking multiple times per second (rapidly) or it is off, then the card is powered off.
8. Remove the rear cover (see “Exchanging the covers in the 5088 and 0588 expansion units” on page 492).
9. Remove the EMC access plate, that is located directly above the card enclosure, by removing the three thumbscrews and pulling the access plate towards you.
10. Disconnect and label any cables from the card that you wish to remove.
11. Turn the latch counterclockwise and lift up on the black latch to release the card.
12. Remove the card by gently pulling it out.
13. Install the card in to the system by reversing the card removal procedure.
14. Select **Power on domain** for the IOA or IOP that you are installing.

Note: To the right of the description field you will see one or both of the following symbols displayed:

* indicates the location to which the system will assign the resource.

> indicates the location to which the resource was last assigned.

15. Press **Enter**. The Work with Controlling Resources display will appear.
16. Determine the location where you want to assign the resource and select **Assign to** for that location.
17. Wait for the Hardware Resource Concurrent Maintenance display to appear with the message indicating power on complete.
18. After exchanging the failing item, go to “Verifying the repair” on page 561.
19. If you have exchanged a 2766, 2787, or 280E Fibre Channel IOA, the external storage subsystem must be updated to use the world-wide port name of the new IOA. Refer to Updating the world-wide port name for a new 2766 or 2787 IOA for details. **This ends the procedure.**

Exchanging cards (dedicated) in the 5088 and 0588 expansion units

Use this procedure to remove or replace cards (dedicated).

About this task

Use this procedure to remove or replace cards (dedicated) in the 5088 and 0588 expansion units.

In some cases, you do not need to power down the system to change PCI cards. Use the guidelines in “Exchanging cards (concurrent) in the 5088 and 0588 expansion units” on page 489 to determine if you should use dedicated or concurrent remove and replace procedures.

CAUTION:

The system contains circuit cards, assemblies, or both that contain lead solder. To avoid the release of lead (Pb) into the environment, do not burn. Discard the circuit card as instructed by local regulations. (C014)

Attention: All cards are sensitive to electrostatic discharge (see Working with electrostatic discharge-sensitive parts).

1. Power off the PCI expansion unit (see Powering off an expansion unit).
2. Disconnect the two ac power cords from the AC box.
3. Remove the rear cover (see “Exchanging the covers in the 5088 and 0588 expansion units” on page 492).
4. Remove the EMC access plate over the card enclosure by loosening the thumb screws and pulling it towards you.
5. Remove the retaining screws from the card enclosure.
6. Disconnect and label the cables that are attached to the back of the card enclosure.
7. Slide the card enclosure partially out of the frame.
8. Disconnect and label any cables from the card that you wish to remove.
9. Turn the latch counter-clockwise and lift up on the black latch to release the card.

Note: If you are removing an FC 2890 or 2892 IXS, then there are two latches that you will have to turn and release.

10. Remove the card by gently pulling it out.
11. Install the new card by reversing this procedure. After exchanging the failing item, go to “Verifying the repair” on page 561.
12. If you have exchanged a 2766, 2787, or 280E Fibre Channel IOA, the external storage subsystem must be updated to use the world-wide port name of the new IOA. Refer to Updating the world-wide port name for a new 2766, 2787, or 280E IOA for details. **This ends the procedure.**

Results

Exchanging the covers in the 5088 and 0588 expansion units

Use this procedure to remove or replace the covers in the 5088 and 0588 expansion units.

About this task

Attention: If you remove the cover while the expansion unit is powered on, errors may occur due to electromagnetic interference.

- **To remove the front cover**, grasp the edges of the front cover and pull it towards you.
- **To open or remove the rear cover** when the expansion unit is mounted either on top of a 5074 or in a 0551 rack, perform the following steps:
 1. Grasp the right side of the cover and pull it towards you to open it.
 2. After opening the cover, press down on the lever that is located inside along the top, left-side of the cover.
 3. Tilt the top of the cover away from the unit and lift the cover off.

Note: Refer to Figure 2. Rear cover - removal in “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479 for details.

This ends the procedure.

Exchanging the control panel in the 5088 and 0588 expansion units

Use this procedure to remove or replace the control panel (NB1).

About this task

Use this procedure to remove or replace the control panel (NB1) in the 5088 and 0588 expansion units.

CAUTION:

The system contains circuit cards, assemblies, or both that contain lead solder. To avoid the release of lead (Pb) into the environment, do not burn. Discard the circuit card as instructed by local regulations. (C014)

Attention: The control panel is sensitive to electrostatic discharge (see Working with electrostatic discharge-sensitive parts).

1. Power down the expansion unit (see Powering off an expansion unit). Pull the power plugs that run from the expansion unit to the AC box of the unit below.
2. Open the front cover (see “Exchanging the covers in the 5088 and 0588 expansion units”).
3. Pull on the two side fasteners to release the control panel assembly.
4. Slide the panel partially out of the unit.
5. Disconnect the cables that are attached to back side of the control panel.
6. Remove the control panel from the unit.
7. Install the new control panel by reversing this procedure. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Results

Exchanging the power distribution board in the 5088 and 0588 expansion units

Use this procedure to remove or replace the power distribution board (PB1).

About this task

Use this procedure to remove or replace the power distribution board (PB1) in the 5088 and 0588 expansion units.

1. Remove the top, front, and rear covers (see “Exchanging the covers in the 5088 and 0588 expansion units” on page 492).
2. Power off the expansion unit (see Powering off an expansion unit). Pull the power plugs that run from the unit to the ac box of the lower unit.
3. Remove the center top plate.
4. Remove the two power supplies (see “Exchanging the power supplies in the 5088 and 0588 expansion units”).
5. From the top of the unit, remove and label the cables that connect to the power distribution board.
6. Remove the screws that secure the power distribution board to the expansion unit.
7. Pull the power distribution board out through the top of the expansion unit.
8. Install the new power distribution backplane by reversing this procedure.
9. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Results

Exchanging the power supplies in the 5088 and 0588 expansion units

Use this procedure to remove or replace the power supplies (P01 and P02).

About this task

Use this procedure to remove or replace the power supplies (P01 and P02) in the 5088 and 0588 expansion units.

Note: Remove and replace only one power supply at a time.

Attention: Do not power off the system if it is powered on. This procedure can be performed concurrently. Also, replace power supply within 4 minutes otherwise tower will shut off.

1. Open the front cover (see “Exchanging the covers in the 5088 and 0588 expansion units” on page 492).
2. Remove the ac line cord from the power supply being replaced.
3. Pull down on the docking handle located in the front of the power supply, to release the power supply from the expansion unit.
4. Remove the power supply.
5. Remove the air moving device (AMD) from the power supply by pulling out on the latch knob and sliding the AMD to the left (towards the latch).
6. Install the new power supply by reversing this procedure.

Attention: Do not use excessive force when installing the new power supply into the system. Insert the power supply until it engages the frame, then lift the docking handle to lock the power supply into place.

7. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Results

Exchanging the tower card in the 5088 and 0588 expansion units

Use this procedure in conjunction with Powering off an expansion unit to remove or replace the tower card (CB1).

About this task

Use this procedure in conjunction with Powering off an expansion unit to remove or replace the tower card (CB1) in the 5088 and 0588 expansion units.

1. Power off the expansion unit (see Powering off an expansion unit).
2. Open the rear cover (see “Exchanging the covers in the 5088 and 0588 expansion units” on page 492).
3. Remove the ac power cord from the expansion unit.
4. From the rear of the expansion unit, remove the external cables from the rear of the PCI card enclosure and note their locations.
5. Remove the airflow baffle that is located directly above the PCI card enclosure. Loosen the three fasteners and slide the airflow baffle out the back side.
6. Remove the cables from the front of the PCI card assembly and note their locations.

Attention: All cards are sensitive to electrostatic discharge (see Working with electrostatic discharge-sensitive parts).

7. Remove the screws that hold the PCI card enclosure to the frame.
8. Pull the PCI card enclosure out of the frame while lifting the cables clear of the enclosure.
9. Remove the PCI cards from the enclosure and note their locations (see “Exchanging cards (dedicated) in the 5088 and 0588 expansion units” on page 491).
10. Remove the HSL/RIO I/O bridge adapter from the enclosure and note its location.
11. Install the new PCI card enclosure by reversing the above procedure.
12. Reconnect the power cord(s) and/or the power supply cords that you disconnected earlier.

Note: The expansion unit will power on automatically.

13. Perform Setting expansion unit configuration ID and MTMS value and then continue with the next step of this procedure.
14. Go to “Verifying the repair” on page 561. **This ends the procedure.**

Results

Removing and replacing parts in the 5094, 5294, 5096,5296, 8094-002, and 8294 expansion units

Use this information to exchange parts in the 5094, 5294, 5096,5296, 8094-002, and 8294 expansion units.

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)

Remember: When servicing a 5096 or a 5296 that any mention of a device board or disk unit in the procedure will not apply to these two expansion unit models.

Note:

- The 5294 expansion unit consists of two stacked 5094 units.
- The 5296 expansion unit consists of two stacked 5096 units.
- The 8294 has a 5074 top enclosure and a 9194 bottom enclosure.

Exchanging ac modules in the 5094, 5294, 5096, 5296 and 8294 expansion units (single line cord)

Use this procedure to remove or replace an ac module (A01 and A02) in the single line cord .

About this task

Use this procedure to remove or replace an ac module (A01 and A02) in the single line cord 5094, 5294, 5096, 5296 , and 8294 expansion units.

Note: The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.

1. Is the system or expansion unit with the failing ac module powered on?
Yes: Continue with the next step.
No: Go to step 3.
2. Is the failing ac module in location A02 (see “Locations — 5094, 5294, 5096, 5296, 8094-002, 8294, and 9194 expansion unit” on page 101)?
No: The failing ac module is in location A01. Power off the system (see Powering on and powering off) and continue with the next step.
Yes: Do not power off the system or expansion unit if it is powered on; this procedure can be performed concurrently. Continue with the next step.
3. Open the rear cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
4. Trace and disconnect the ac input line cord that connects to the ac module that needs replacing (see “Locations — 5094, 5294, 5096, 5296, 8094-002, 8294, and 9194 expansion unit” on page 101).
Attention: Do not disconnect the other nonfailing unit ac line cord when powered on.
5. Disconnect the power supply jumper cords from the ac module that you are working on.
Attention: Do not disconnect the other system ac module power supply jumper cords.
6. Remove the top and bottom screws that hold the ac module to the expansion unit.
7. Remove the ac module unit.
8. Install the new ac module by reversing this procedure.

Note: Do not install power supplies P00 and P01 ac jumper cables on the same ac input module.

9. After exchanging the module, go to “Verifying the repair” on page 561. **This ends the procedure.**

Results

Exchanging ac modules in the 5094, 5294, 5096, 5296, and 8294 expansion units (dual line cord)

Use this procedure to remove or replace an ac module (A01 and A02) in the dual line cord .

About this task

Use this procedure to remove or replace an ac module (A01 and A02) in the dual line cord 5094, 5294, 5096, 5296 , and 8294 expansion units.

Note: Since this procedure can be performed concurrently, you do not need to power down the expansion unit if it is powered on. The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.

1. Open the rear cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
2. Trace and disconnect the ac input line cord that connects to the ac module that needs replacing (see “Locations — 5094, 5294, 5096, 5296, 8094-002, 8294, and 9194 expansion unit” on page 101).
Attention: Do not disconnect the other system ac line cord when powered on.
3. Disconnect the power supply jumper cords from the ac module that you are working on.
Attention: Do not disconnect the other expansion unit ac module power supply jumper cords.
4. Remove the left and right screws that hold the ac module to the expansion unit.

5. Remove the ac module unit.
6. Install the new ac module by reversing this procedure.

Note: Do not install power supplies P00 and P01 ac jumper cables on the same ac input module.

7. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Results

Exchanging the backplane in the 5094, 5294, 5096, 5296, and 8294 expansion units

Use this procedure in conjunction with Powering off an expansion unit to remove or replace the backplane .

About this task

Use this procedure in conjunction with Powering off an expansion unit to remove or replace the backplane in the 5094, 5294, 5096, 5296, and 8294 expansion units.

Note: The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.

1. Power off the expansion unit using Powering off an expansion unit.

Note: The primary I/O unit backplane cannot be replaced concurrently.

2. Open the rear cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
3. Disconnect the plugs to each power supply.
4. From the rear of the expansion unit do the following:
 - a. Remove the external cables from the rear of the PCI card enclosure and note their locations.
 - b. Remove the EMC access plate that is located directly above the PCI card enclosure. Press the surfaces of the two latching mechanisms together and tilt the top of the cover away from the frame to remove it.
 - c. Remove the cables from the top of the PCI cards and note their locations.

Attention: All cards are sensitive to electrostatic discharge (see Working with electrostatic discharge-sensitive parts).
 - d. Remove the screws that hold the PCI card enclosure to the frame.
 - e. Pull the PCI card enclosure partially out of the frame while lifting the cables clear of the enclosure.
 - f. Press the release mechanism that is located along the top right side of the enclosure and carefully slide the enclosure towards you. Make sure that the cables are clear of the enclosure.
5. Remove the PCI cards from the enclosure and note their locations (see “Exchanging cards (dedicated) in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 478).
6. Install the new PCI card enclosure by reversing the above procedure. Then continue with the next step.
7. Reconnect the power cord(s) and/or the power supply cords that you disconnected earlier.

Note: The expansion unit will power on automatically.

8. Perform Setting expansion unit configuration ID and MTMS value and then continue with the next step of this procedure.
9. Go to “Verifying the repair” on page 561. **This ends the procedure.**

Exchanging device board DB1 and device board 2 in the 5094, 5294, and 8294 expansion units

Use this procedure to remove or replace a device board 1 and device board 2 in the 5094 and 8294 expansion units.

About this task

Note:

- This procedure is not applicable to the 5096 or 5296.
- To view the location codes for the 8294 go to The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.

1. Power off the expansion unit (see Powering off an expansion unit).
2. Disconnect the power cord from the expansion unit.
3. Open the front cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
4. From the front of the expansion unit, perform the following:
 - a. Remove the EMC access plates from the disk unit enclosures that are located in front of the board that you are replacing (see “Locations — 5094, 5294, 5096, 5296, 8094-002, 8294, and 9194 expansion unit” on page 101). Press the surfaces of the two latching mechanisms together and tilt the top of the cover away from the frame to remove it.
 - b. Record the locations of the disk units and then remove them from the disk unit enclosures that you just uncovered.

Attention: The disk units are sensitive to electrostatic discharge (see Working with electrostatic discharge-sensitive parts).
 - c. Remove the screws that hold the disk unit cage assembly to the frame.
 - d. Remove the two retaining screws that are located inside of the disk unit cage assembly (the top right and bottom left corners).
 - e. Remove the disk unit cage assemblies.
 - f. Remove the screws that hold the DASD shelf to the frame.
 - g. Remove the DASD shelf from the frame.
5. Remove the retaining screw that is holding the device board assembly to the frame.
6. Pull the device board assembly out until it slides off the guide pins, then rotate the device board assembly 90 degrees. Note the locations of the cables that are located on the backside of the board assembly, and then remove the cables.

Note: Both ends of the ribbon cables are marked **LH** or **RH**, indicating that one end of the cable is plugged in to either the left-hand device board 1 or right-hand device board 2 assembly. The other end of the cable is plugged in to either the left-most (LH) or right-most (RH) DASD controller card. The cables will cross in the center of the tower.

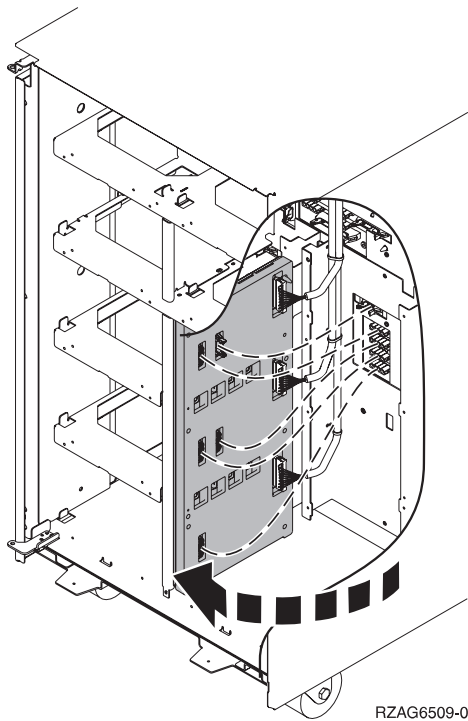


Figure 82. Device board cabling

7. Remove the device board assembly.
8. Install the new device board assembly by reversing this remove procedure.
9. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Exchanging device board (DB3) in the 5094, 5294, and 8294 expansion units

Use this procedure to remove or replace a device board (DB3) in the 5094 and 8294 expansion units.

About this task

Note: The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.

1. Power off the expansion unit (see Powering off an expansion unit).
2. Disconnect the power cord from the expansion unit.
3. Open the rear cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
4. From the rear of the expansion unit do the following:
 - a. Remove the EMC access plate that is located directly above the tower card enclosure. Press the surfaces of the two latching mechanisms together and tilt the top of the cover away from the frame to remove it.
 - b. Remove the cables from the disk unit controller cards (IOAs) that are located inside the PCI card enclosure and note their locations.

Note: Both ends of the ribbon cables are marked **LH** or **RH**, indicating that one end of the cable is plugged into either the left-hand device board DB1 or the right-hand device board 2 DASD board assembly. The other end of the cable is plugged in to either the left-most (LH) or right-most (RH) DASD controller card. The cables will cross in the center of the tower.

- c. Remove the screws that hold the tower card enclosure to the frame.
- d. Pull the tower card enclosure partially out of the frame while lifting the cables clear of the enclosure.

- e. Press the release mechanism that is located along the top right side of the enclosure and carefully slide the enclosure towards you. Make sure that the cables are clear of the enclosure.
 - f. Remove the tower card enclosure from the frame.
 - g. Remove the screws from the EMC access plate that is located inside the frame and directly above the power distribution board.
 - h. Remove the EMC access plate.
 - i. Reach through the opening and remove the cables from the backside of the base device board assembly DB3.
5. Open the front cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
 6. From the front of the expansion unit do the following:
 - a. Note the removable media locations and then remove them by pulling out on the handles that are located on each side of the unit.
 - b. Remove the control panel by pulling on the handles that are located on each side of the unit and sliding it partially out of the unit. Then, unplug the cable from the rear of the control panel (see “Exchanging the control panel in the 5094, 5294, 5096, 5296, and 8294 expansion units” on page 503).
 - c. Unplug the control panel cable from the base device board assembly (DB3).
 - d. Remove the two retaining screws that are located inside of the removable media enclosure (the top right and lower left corners).
 - e. Remove the removable media enclosure.
 - f. Remove the EMC access plates from the disk unit enclosures that are located in front of the device board DB3 (see “Locations — 5094, 5294, 5096, 5296, 8094-002, 8294, and 9194 expansion unit” on page 101). Press the surfaces of the two latching mechanisms together and tilt the top of the cover away from the frame to remove it.
 - g. Record the disk unit locations and then remove them from the disk unit enclosures that you just uncovered.

Attention: The disk units are sensitive to electrostatic discharge (see Working with electrostatic discharge-sensitive parts).
 - h. Remove the screws that hold the disk unit enclosures to the frame.
 - i. Remove the retaining screws that are located inside the disk unit enclosure.
 - j. Remove the disk unit enclosures.
 - k. Remove the screws that hold the center support bracket and shelf for the disk unit and removable media enclosure to the frame.
 - l. Remove the support bracket and shelf.
 - m. Remove the base device board assembly DB3.
 7. Install the new base device board assembly by reversing this removal procedure.
 8. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Exchanging disk units (concurrent) in the 5094 and 8294 expansion units

Use this procedure to remove or replace a disk unit using concurrent maintenance in the 5094 and 8294 expansion units.

About this task

Note:

- This procedure is not applicable to the 5096.
- To view the location codes for the 8294 go to The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.

Attention: If you are removing the cover while the expansion unit is powered on, errors may occur due to electromagnetic interference.

Attention: The disk unit is sensitive to electrostatic discharge (see Working with electrostatic discharge-sensitive parts).

1. Determine if the system has logical partitions before continuing with this procedure (see Determining if the system has logical partitions).
2. Were you directed here from the Disk unit recovery procedures?

No: Go to Disk unit recovery procedures.

Yes: After you have determined the location of the disk unit to replace, remove the front covers for access (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479). Then continue with the next step.

3. Remove the EMC access plate that is at the location of the disk unit that you are removing.
4. To remove the disk unit perform the following:

- a. Select **System Service Tools (SST)**. If you cannot get to SST, select DST.

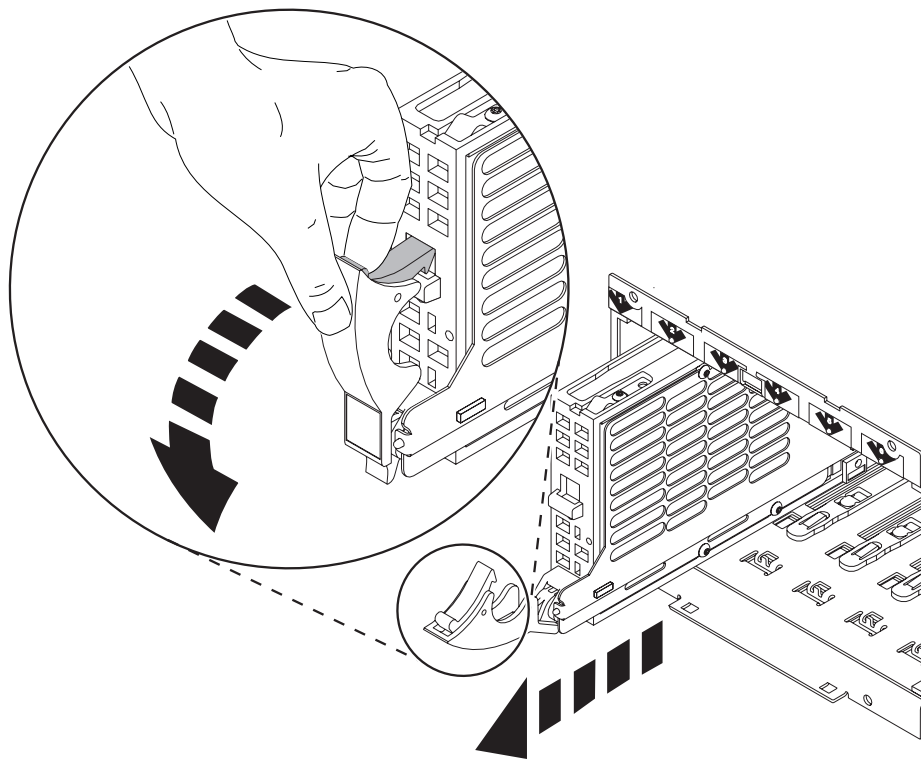
Attention: Do not perform a system IPL to get to DST.

- b. Select **Start a Service Tool** → **Hardware Service Manager**.

- c. Select **Device Concurrent Maintenance** and enter the required information in the information fields.

- d. Press Enter on the console. After the delay time, the light above the device location will begin flashing. You now have 9 seconds to pinch the two surfaces of the latching mechanism together and rotate the handle of the disk unit towards you. Pull the disk unit partially out of the tower. The light above the device location will go off and remain off as soon as the device is no longer making contact with the backplane.

Attention: If you remove the device when the light is not flashing, data might be lost, the disk unit might be damaged, or the backplane might be damaged.



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Wait another 5 seconds to allow time for the disk to stop spinning. Then pull the disk unit the remaining way out of the tower.

5. Are you finished with the repair?
 - No:** Continue with the next step.
 - Yes:** Replace the covers that were removed during this procedure, and return to the procedure that sent you here. **This ends the procedure.**
6. Install the new disk unit by performing the following:
 - a. Select **System Service Tools (SST)**. If you cannot get to SST, select DST.
 - Attention:** Do not perform a system IPL to get to DST.
 - b. Select **Start a Service Tool** → **Hardware Service Manager**.
 - c. Select **Device Concurrent Maintenance** and enter the required information in the information fields.
 - Attention:** Do not press Enter at this time.
 - d. Slide the unit halfway into the tower. Ensure that the device does not make contact with the backplane at this time.
 - e. Press **Enter** on the console. After the delay time, the light above the device location will begin flashing. You now have 9 seconds to insert the disk unit:
 - 1) Put the disk unit part way into the desired slot and rotate the handle of the disk unit towards you.
 - 2) Push the disk unit completely into the slot, and rotate the handle towards the disk unit to latch it into the slot. The light above the device location will go off and remain off for a few seconds when the device contacts the backplane. Then it should go on and remain on.
 - Attention:** If you install the device when the light is not flashing, data may be lost, the disk unit may be damaged, or the backplane may be damaged.
 - f. Replace the covers that were removed during this procedure and return to the procedure that sent you here. **This ends the procedure.**

Exchanging disk units (dedicated) in the 5094, 5294, and 8294 expansion units

Use this procedure to remove or replace a disk unit using dedicated maintenance in the 5094 and 8294 expansion units.

About this task

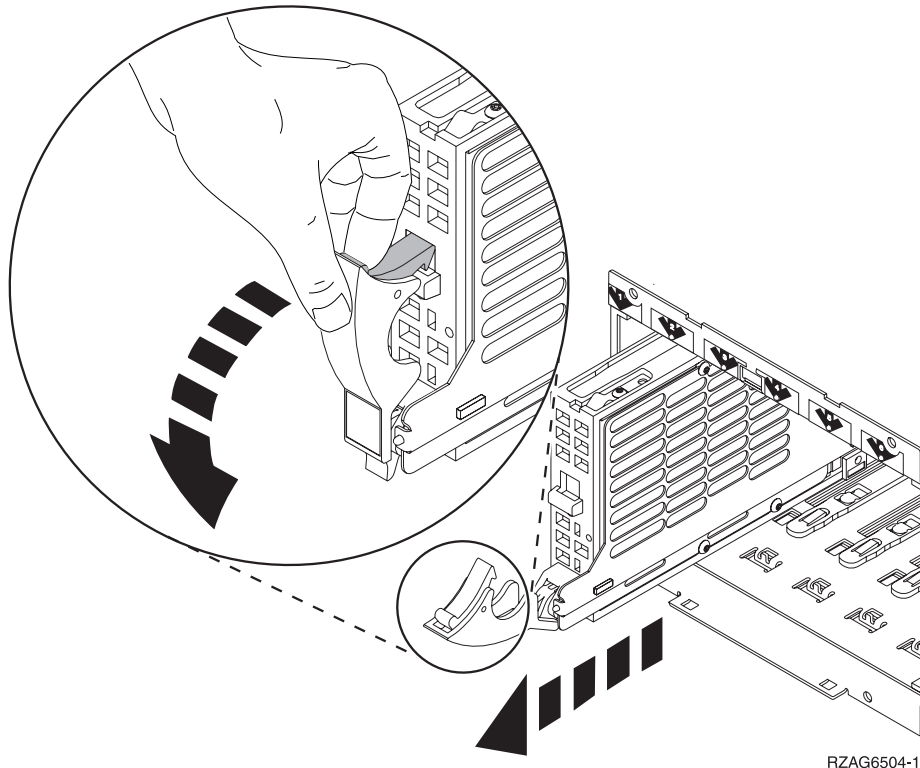
Note:

- This procedure is not applicable to the 5096 or the 5296.
- To view the location codes for the 8294 go to The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.

Attention: The disk unit is sensitive to electrostatic discharge (see Working with electrostatic discharge-sensitive parts).

1. Determine if the system has logical partitions before continuing with this procedure (see Determining if the system has logical partitions).
2. Were you directed here from the Disk unit recovery procedures?
 - No:** Go to Disk unit recovery procedures.
 - Yes:** After you have determined the location of the disk unit to replace, remove the front covers for access (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479). Then continue with the next step.
3. Remove the EMC access plate that is over the location of the disk unit that you are removing (see “Locations — 5094, 5294, 5096, 5296, 8094-002, 8294, and 9194 expansion unit” on page 101).
4. Remove the disk unit by performing the following:
 - a. Power off the system (see Powering on and powering off).

- b. Disconnect the power cord.
- c. Pinch the two surfaces of the latching mechanism together and pull the handle towards you to release the disk unit from the slot.
- d. Remove the disk unit from the tower.



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5. Are you finished with the repair?
 - No:** Continue with the next step.
 - Yes:** Replace the covers that were removed during this procedure and return to the procedure that sent you here. **This ends the procedure.**
6. Install the disk unit by performing the following:
 - a. Power off the system (see Powering on and powering off).
 - b. Disconnect the power cord.
 - c. Put the disk unit partially into the desired slot, and rotate the handle of the disk unit towards you.
 - d. Push the disk unit completely into the slot and rotate the handle towards the disk unit to latch it into the slot.
 - e. Replace the covers that were removed during this procedure and return to the procedure that sent you here. **This ends the procedure.**

Exchanging the control panel in the 5094, 5294, 5096, 5296, and 8294 expansion units

Use this procedure to remove or replace the control panel (NB1).

About this task

Use this procedure to remove or replace the control panel (NB1) in the 5094, 5294, 5096, 5296 , and 8294 expansion units.

Note: The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.

Attention: The control panel is sensitive to electrostatic discharge (see Working with electrostatic discharge-sensitive parts).

1. Power off the expansion unit (see Powering off an expansion unit).
2. Disconnect the ac power cord from the expansion unit. Note that dual line cord units have two power cords.
3. Open the front cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
4. Pull on the two side fasteners to release the control panel assembly.
5. Slide the panel partially out of the frame.
6. Disconnect the cables that are attached to the backside of the control panel.
7. Remove the control panel from the frame.
8. Reverse the above procedure to install the new panel.
9. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Exchanging air moving devices in the 5094, 5294, 5096, 5296, and 8294 expansion units

Use this procedure to remove or replace an air moving device (AMD) (B01 and B02).

About this task

Use this procedure to remove or replace an air moving device (AMD) (B01 and B02) in the 5094, 5294, 5096, 5296 , and 8294 expansion units.

Note: Since this procedure can be performed concurrently, you do not need to power down the expansion unit if it is powered on. The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.

1. Open the rear cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
2. Remove the EMC access plate located directly above the PCI card enclosure. Press the surfaces of the two latches together and tilt the top of the cover away from the rack to remove it.
3. Remove the screw from the AMD door assembly for the AMD that you are replacing.
4. Remove the AMD assembly by sliding it out of the enclosure while holding the AMD access plate open.
5. Install the new AMD by reversing this procedure. The new AMD will automatically power on when it is installed.
6. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Results

Exchanging the power distribution backplane in the 5094, 5294, 5096, 5296, and 8294 expansion units

Use this procedure to remove or replace the power distribution backplane (PB1).

About this task

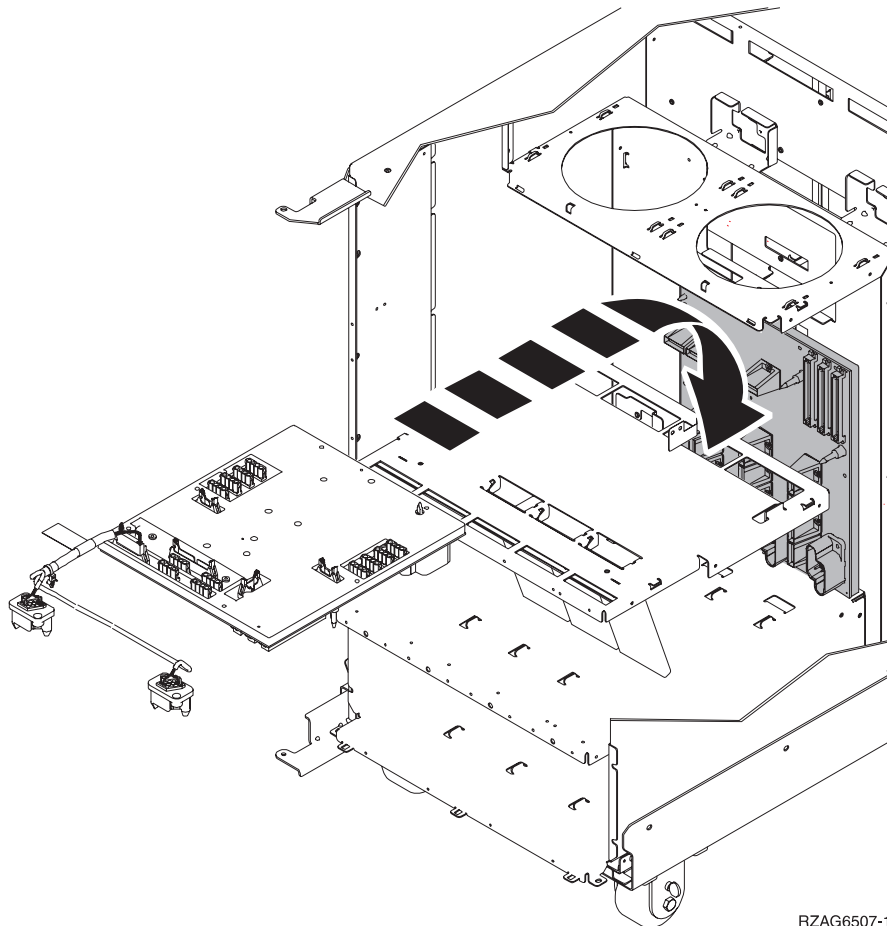
Use this procedure to remove or replace the power distribution backplane (PB1) in the 5094, 5294, 5096, 5296 , and 8294 expansion units.

Note: The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.

1. Go to step 2 if you are servicing a 5096, or a 5296 expansion unit. If you are servicing a 5094, 5294 , or a 8294 expansion unit remove device board DB1 and device board 2 before continuing with this procedure. Perform “Exchanging device board DB1 and device board 2 in the 5094, 5294, and 8294

expansion units” on page 497 for each backplane. After you have removed both device boards, return here and continue with the next step of this procedure.

2. Remove the rear cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
3. Remove the PCI drawer (see “Exchanging the backplane in the 5094, 5294, 5096, 5296, and 8294 expansion units” on page 497).
4. Remove the ac module (see “Exchanging ac modules in the 5094, 5294, 5096, 5296 and 8294 expansion units (single line cord)” on page 495 or “Exchanging ac modules in the 5094, 5294, 5096, 5296, and 8294 expansion units (dual line cord)” on page 496).
5. Remove all power supplies in the unit you are working on (see “Exchanging power supplies in the 5094, 5294, 5096, 5296, and 8294 expansion units” on page 506).
6. Remove the screws from the power subframe assembly.
7. From the front of the unit, reach through and remove the cables from the backside of the power distribution backplane and note their locations.
8. From the rear of the unit, remove the mounting screws that hold the power distribution backplane to the unit.
9. Pull the power distribution backplane slightly towards you and lift it up to remove it from the unit.



10. Install the new power distribution backplane by reversing this procedure.
Attention: Do not install power supplies P00 and P01 ac jumper cables on the same ac input module.
11. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Results

Exchanging power supplies in the 5094, 5294, 5096, 5296, and 8294 expansion units

Use this procedure to remove or replace a power supply (P00, P01, P02, P03).

About this task

Use this procedure to remove or replace a power supply (P00, P01, P02, P03) in the 5094, 5294, 5096, 5296, and 8294 expansion units.

Note: Since this procedure can be performed concurrently, you do not need to power down the expansion unit if it is powered on. The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.

1. Open the rear cover (see “Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units” on page 479).
2. Disconnect the ac power jumper cord from the unit you are replacing.
3. Remove the bottom screw (if installed).
4. Rotate the handle from right to left to release the power supply.

CAUTION:

The power distribution outlets provide 200 to 240 V ac. Use these outlets only for devices that operate within this voltage range. (C021)

5. Remove the power supply.

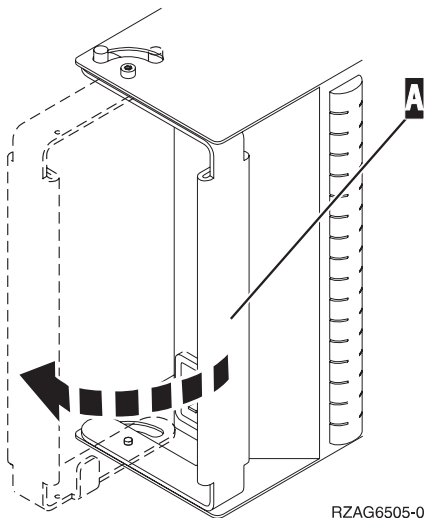


Figure 83. Removing the power supply - P00, P01, P02, P03

6. Install the new power supply by reversing this procedure.

Attention: Do not forcibly insert the power supply in when installing it. Insert it until the power supply engages the unit, then rotate the handle from left to right.

Attention: Do not install power supplies P00 and P01 ac jumper cables on the same ac input module.

7. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Results

Exchanging removable media in the 5094, 5294, and 8294 expansion units

Use this procedure to remove or replace removable media (D41 and D42) in the 5094, 5294, and 8294 expansion units.

About this task

Note:

- This procedure is not applicable to the 5096, or the 5296.
- To view the location codes for the 8294 go to The 8294 consists of a 5074 top enclosure and a 9194 bottom enclosure.

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:

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)

Perform the following to remove the removable media:

1. Determine if the system has logical partitions before continuing with this procedure (see Determining if the system has logical partitions).
2. Remove media (if any) from the device. If the eject button on a tape device is failing, go to "Tape cartridge, manual removal" on page 555, then continue with the next step of this procedure. If the eject button on a DVD-RAM device is failing and will not open, do not attempt manual removal of optical media at this time. For optical devices other than DVD-RAM, go to "Optical media (CD-ROM, DVD-ROM, and DVD-RAM) - manual removal" on page 559, and then continue with the next step of this procedure.
3. Are you removing a unit by using device concurrent maintenance?
 - **Yes:** Continue with the next step.
 - **No:** Perform the following:
 - a. Power off the tower or expansion tower (see Powering on and powering off).
 - b. Disconnect the power cord from the tower or expansion tower.
 - c. Open the front cover (see "Exchanging the covers in the 5074, 5079, 5094, 5294, 5096, 5296, 8079-002, 8093-002, 8094-002, and 8294 expansion units" on page 479).
 - d. Pull on the handles, which are located on each side of the unit, and remove the unit. If the unit is DVD-RAM, and manual removal of optical media is required, go to "Optical media (CD-ROM, DVD-ROM, and DVD-RAM) - manual removal" on page 559.
 - e. Install the new device by reversing this removal procedure. After exchanging an item, go to "Verifying the repair" on page 561.

Notes:

- 1) If you need to remove a tape from the old tape unit, see "Tape cartridge, manual removal" on page 555.

- 2) If you need to remove optical media from an optical device, go to “Optical media (CD-ROM, DVD-ROM, and DVD-RAM) - manual removal” on page 559.

This ends the procedure.

4. Before exchanging a removable media unit, you must ensure that the unit is not in use and is varied off.

Note: If you are removing an optical storage unit, you must ensure that all of the removable media units in the tower or expansion tower are not in use and are varied off.

5. Use the figure to determine the location of the internal removable media unit. Record this location for later use.

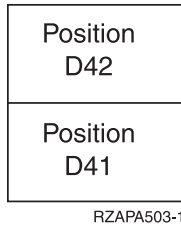


Figure 84. Internal removable media locations

6. Perform the following:
 - a. Select **System Service Tools (SST)**. If you cannot get to SST, select DST.
Do not perform a system IPL to get to DST.
 - b. Select **Start a Service Tool** → **Hardware Service Manager** → **Device Concurrent Maintenance** and enter the required information in the information fields. *Do not press the Enter key at this time.*
 - c. Read the remaining steps of this procedure and ensure that you understand the procedure before continuing.
 - d. Press the **Enter** key on the console. After the delay time, the light at the top right of the device will begin flashing. You now have 9 seconds to pull firmly on the handles and pull the unit partially out of the tower.
Attention: If you remove the device when the light is *not* flashing, data may be lost, the unit may be damaged, or the backplane may be damaged.

Note: The light at the top right of the device will go off and remain off as soon as the device is no longer making contact with the backplane.

- e. Remove the unit from the tower.
 - If you need to remove a tape from the old tape unit, see “Tape cartridge, manual removal” on page 555.
 - If you need to remove optical media from an optical device, go to “Optical media (CD-ROM, DVD-ROM, and DVD-RAM) - manual removal” on page 559.

This ends the procedure.

Replace removable media:

About this task

Perform the following to replace the removable media:

1. Perform the following to install a new unit:
 - a. Select **Device Concurrent Maintenance** and enter the required information in the information fields. *Do not press the Enter key at this time.*
 - b. Read the remaining steps of this procedure and ensure that you understand the procedure before continuing.

- c. Slide the unit partially into the tower. **Ensure that the device does not contact the backplane at this time.**

Attention: If you install the device when the light is **not** flashing, data may be lost, the unit may be damaged, or the backplane may be damaged.

- d. Press the **Enter** key on the console. After the delay time, the light at the top right of the device will begin flashing. You now have 9 seconds to push in firmly on the handles and push the unit completely into the frame.

Note: The light at the top right of the device will go off and remain off for a few seconds when the device contacts the backplane. Then it should go on and remain on.

Did the light on the device go on and remain on?

No: Continue with the next step.

Yes: After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

2. Attempt the device concurrent maintenance procedure again without physically moving the unit.

Did the light above the device go on and remain on?

No: Continue with the next step.

Yes: After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

3. There is a power problem. One of the following is the problem:

- The new unit is defective.
- The backplane was damaged during the device concurrent maintenance procedure.
- There is a new problem with the power subsystem. **This ends the procedure.**

Removing and replacing parts in the 5095, 0595, and 7311-D20 expansion units

Use this information to exchange parts in the 5095, 0595, and 7311-D20 expansion units.

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)

Exchanging the control panel in the 5095, 0595, and 7311-D20 expansion units

Use this procedure to remove or install the control or display panel .

About this task

Use this procedure to remove or install the control or display panel in the 5095, 0595, and 7311-D20 expansion units.

1. Power off the expansion unit (see Powering off an expansion unit).
2. Remove the front cover (see “Exchanging covers in the 5095 and 0595 expansion units” on page 511).
3. Remove the ac power cord from the expansion unit you are working on.
4. Pull the locks on each side of the control panel.
5. Slide the control panel approximately halfway out and remove the cables from the rear of the panel.

6. Remove the control panel.
7. Install a new control panel by reversing this procedure. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Results

Exchanging covers in the 5095 and 0595 expansion units

Use this procedure to remove or replace the covers.

About this task

Use this procedure to remove or replace the covers in the 5095 and 0595 expansion units.

To remove the front cover: Pull the top of the cover away from the frame.

To remove the right side cover: Lift up on the latch and slide the cover to the rear of the unit.

To remove the rear cover: Lift the cover to detach.

Exchanging disk drive backplane in the 5095, 0595, and 7311-D20 expansion units

Use this procedure to remove or replace a disk drive backplane.

About this task

Use this procedure to remove or replace a disk drive backplane in the 5095, 0595, and 7311-D20 expansion units.

1. Power off the expansion unit (see Powering off an expansion unit).
2. Unplug the power cord from the back of the expansion unit.
3. If you are servicing a rack-mounted unit, place the unit in the service position (see Place the rack-mounted system or expansion unit in the service position).
4. Remove the front and right side covers (see “Exchanging covers in the 5095 and 0595 expansion units”).
5. Remove the EMC shield in front of the disk units by pulling out on the two side latches.
6. Remove the disk units from the disk unit enclosure. Label the position of each disk unit.
7. Remove the screws holding the disk unit enclosure to the frame. The screws are located on the front and inside rear of the disk unit enclosure.
8. Unplug and remove the cables plugged into the back of the disk drive backplane.
9. Pull the disk unit enclosure out of the frame.
10. Remove the disk drive backplane from the back of the disk unit enclosure.
11. Install a new disk drive backplane by reversing this removal procedure. **This ends the procedure.**

Exchanging fans in the 5095, 0595, and 7311-D20 expansion units

Use this procedure to remove or replace a fan or air moving device (AMD) in the 5095, 0595, and 7311-D20 expansion units.

About this task

Attention: At least three running fans and two power supplies *must* be installed and powered on to perform this procedure.

1. Are there at least three running fans and two power supplies installed and powered on in the expansion unit?
 - **Yes:** Continue with the next step.

- **No:** Perform the following:
 - a. Power off the expansion unit (Powering off an expansion unit).
 - b. Remove the power cord from the rear of the expansion unit, and continue with the next step.
- 2. If you are servicing a rack-mounted unit, place the unit in the service position (see Place the rack-mounted system or expansion unit in the service position).
- 3. Remove the right or top side cover, depending on expansion unit orientation (see “Exchanging covers in the 5095 and 0595 expansion units” on page 511).
- 4. Pull the fastener on the front of the fan casing.
- 5. Pull open and remove the fan. The power connection will undock automatically.
- 6. Install the new fan by reversing this procedure. After exchanging an item, go to “Verifying the repair” on page 561. **This ends the procedure.**

Exchanging the I/O backplane assembly in the 5095, 0595, and 7311-D20 expansion units

Use this procedure in conjunction with Powering off an expansion unit to remove or replace the I/O backplane assembly.

About this task

Use this procedure in conjunction with Powering off an expansion unit to remove or replace the I/O backplane assembly in the 5095, 0595, and 7311-D20 expansion units.

1. Record the activated firmware level of the server for use in this procedure. The activated firmware level of the server can be found in the upper-right corner of the ASMI utility.
2. If this is a 7311-D20 expansion unit connected to a System p server with an activated firmware level that is earlier than SF235, the partitions that own slots in the expansion unit must be powered off during this procedure. Power the partitions off now. This power-off action can be accomplished by powering off individual partitions, or powering off the server.
3. Power off the expansion unit (see Powering off an expansion unit).
4. Remove the ac power cord(s) from the expansion unit.
5. If you are servicing a rack-mounted unit, place the unit in the service position (see Place the rack-mounted system or expansion unit in the service position).
6. Remove the side cover (see rr5095covers.htm).
7. Remove the PCI card access cover.
8. Remove the PCI cards, RIO/HSL I/O bridge adapter, and the card dividers.
9. Remove the power supplies.
10. Remove the five screws (three from the side and two from the back) that hold the backplane to the expansion unit. Notice the aligning pins near the top of the board, and the power connections near the bottom of the board, for use later when you reinstall the board.
11. Install the new backplane by reversing the procedure described in steps 5 to 10.
12. Reconnect the power cord(s) and/or the power supply cords that you disconnected earlier.

Note: If the server is powered on, the expansion unit will power on automatically.

13. Perform Setting expansion unit configuration ID and MTMS value and then continue with the next step of this procedure.

Note: If this is a 7311-D20 expansion unit connected to a System p server with an activated firmware level that is lower than SF235, and the server is currently powered off, when instructed to power on the server in Setting expansion unit configuration ID and MTMS value it must be powered on to firmware standby, not firmware running.

14. If this is a 7311-D20 expansion unit connected to a System p server with an activated firmware level that is lower than SF235, go to step 15. Otherwise, go to step 17.

15. If the server is HMC-managed, disconnect one of the SPCN cables from the 7311-D20 expansion unit (only one of them). Wait 30 seconds, then reconnect it. For a server that is not managed by an HMC, this step can be omitted.
16. An SPCN microcode download to the 7311-D20 expansion unit may or may not be occurring.
 - If an SPCN microcode download does not occur, go to step 17.
 - If an SPCN microcode download does occur, wait for the download to finish. Then power the server off and back on again. Partitions may be started at this time. Then go to step 17.
 - There are two ways to determine if an SPCN download is occurring:
 - Look at the Error/Event Logs using the ASMI utility
 - Expand **System Service Aids**.
 - Select **Error/Event Logs**.
 - A 1xxx9107 SRC in the informational logs section indicates that an SPCN download was started.
 - A 1xxx91DD SRC in the informational logs section indicates that an SPCN download completed.
 - Look at the expansion unit rack address using the ASMI utility.
 - Expand **System Configuration**.
 - Select **Configure I/O Enclosures**.
 - If the rack address for the 7311-D20 expansion unit is a 1-byte value, an SPCN download is occurring.
 - If the rack address is a 2-byte value, the SPCN download has completed or is not needed.
17. Go to “Verifying the repair” on page 561. **This ends the procedure.**

Results

Exchanging the RIO/HSL card

How to remove and replace the RIO/HSL card.

About this task

Use this procedure in conjunction with Powering off an expansion unit to remove or replace the RIO/HSL card.

Remove the RIO/HSL card:

About this task

To remove the RIO/HSL card from the subsystem, do the following:

1. Open the rack front door.
2. Power off the expansion unit (see Powering off an expansion unit).
3. Put the expansion unit into the service position as described in Place the expansion unit in the service position.
4. Remove the ac power cord from the expansion unit that you are working on.
5. Open the service access cover.
6. Disconnect the RIO/HSL-2 cables from the RIO/HSL connectors located on the rear of the subsystem.
7. Identify, and then disconnect and label all cables that cross over the top of the RIO/HSL card. These cables might interfere with the removal and installation of the RIO/HSL card.
8. Release the release latches located on top of the RIO/HSL card.
9. Simultaneously lift both retention handles.

10. Pivot the release handles up until they are perpendicular (90 degrees) to the top of the RIO/HSL card.

Note: By placing the handles perpendicular to the top of the RIO/HSL card, the base or hinged portion of each handle acts as a cam and will gently pry the RIO/HSL card up, disconnecting it from its docking connector.

11. Remove the RIO/HSL card from the subsystem chassis, and put it in a safe place.

Replace the RIO/HSL card:

About this task

To replace the RIO/HSL bus card, do the following:

1. Grasp the two RIO/HSL card release handles.
2. Pivot both handles upward to 90 degrees, ensuring that the handles are perpendicular to the RIO/HSL card. The handle cams have now been placed into the correct position to assist you when seating the RIO/HSL card into its docking connector.
3. Before inserting the RIO/HSL card into its bay, observe the alignment bracket. The alignment bracket is secured to the power bulkhead.
4. Insert the RIO/HSL card into its bay. Ensure that the power cable receptacle located on the back of the RIO/HSL card is facing the back of the subsystem chassis.
5. Lower the RIO/HSL card through the alignment bracket. The alignment bracket will catch the back edge of the RIO/HSL card closest to it.

The RIO/HSL card should now be resting on the top of its docking connector. The docking connector has two large alignment pins located on each end. These alignment pins will ensure alignment of the RIO/HSL card to its docking connector when seated.

6. Lower the RIO/HSL card locking handles, carefully seating the RIO/HSL card into the docking connector. The plastic latch located beneath each handle clicks when the RIO/HSL card is fully seated. This click also indicates that the handle is locked in the closed position.
7. Reconnect the RIO/HSL-2 cables to the RIO/HSL card connectors located on the back of the chassis.
8. Reconnect the cables that were disconnected during the RIO/HSL card removal.
9. Reconnect the power source to the expansion unit.
10. Close and then secure the service access cover with the three thumbscrews located on its back edge.
11. Return the expansion unit to the operating position.
12. Power on the expansion unit as described in Powering off an expansion unit.
13. Close the rack front door.

Removing and replacing parts in the 5786, 5787, 7031-D24, and 7031-T24 expansion units

Use this information to exchange parts in the 5786, 5787, 7031-D24, and 7031-T24 expansion units.

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)

Notes:

1. For most parts on a 5786, 5787, 7031-D24, and 7031-T24 expansion unit, the removal and replacement procedures are customer tasks and can be found in the Installing hardware topic.
2. Refer to the installation instructions that were provided with the chassis assembly FRU (field replaceable unit) for the chassis assembly FRU removal and replacement procedures.

Exchanging the 5786, 5787, 7031-D24, and 7031-T24 SCSI disk drive enclosure fans

Replace SCSI disk drive enclosure fans for expansion units.

About this task

CAUTION:

This assembly contains mechanical moving parts. Use care when servicing this assembly.

CAUTION:

Servicing of this product or unit is to be performed by trained service personnel only. (C032)

(L008)



Use this procedure to remove and replace the 5786, 5787, 7031-D24, and 7031-T24 SCSI disk drive enclosure fan.

1. This procedure can be done with the power on.
2. Locate the fan assembly on the front of the expansion unit and a slide bar that secures the fans.
3. Unscrew the slide bar's thumbscrew, and slide the slide bar to the side.
4. Pull the fan assembly straight out until it is clear of the expansion unit.
5. To replace the fan assembly, reverse this removal procedure.

Results

Removing and replacing parts in the 5791, 5794, and 7040-61D expansion units

Use this information to exchange parts in the 5791, 5794, and 7040-61D expansion units.

About this task

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)

Note: For some parts in the 5791, 5794, and 7040-61D expansion units, the removal and replacement procedures are customer tasks and can be found in the Installing hardware topic. Use the following links to go directly to these procedures.

Disk drive

PCI adapter

For all other parts, use the Service focal point application on the Hardware Management Console (HMC) to find information about how to remove and replace parts. Do the following to access the Service focal point application:

1. Log into the HMC as the service representative.
2. In the Navigation area, select the **Service Applications** icon.
3. Select the **Service Focal Point** icon.

4. Select **Exchange Parts**. The Exchange Parts window opens. Follow the instructions on the Exchange Parts window until you reach the removal and replacement procedures for the selected part.

Results

Removing and replacing parts in the 5795 expansion unit

Use this information to exchange parts in the 5795 expansion unit.

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)

5795 expansion unit

Remove and replace expansion unit.

1. Perform the following to prepare the system:
 - a. Ensure that the customer has taken appropriate actions to remove the server from normal use.
 - b. Power off the system. For instructions, see Stopping the system.
 - c. Disconnect the power source from the system.

Note: This system might be equipped with a second power supply. Before continuing with this procedure, ensure that the power source to the system has been completely disconnected.

- d. Attach a wrist strap to a metal surface of your hardware to prevent electrostatic discharge from damaging your hardware. If you do not have a wrist strap, touch a metal surface of the system before installing or replacing hardware.

Note: Follow the same precautions that you would use if you were not using the wrist strap. A wrist strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

2. Label and disconnect all cables from the rear of the 5795 expansion unit.
3. Loosen the thumbscrews that hold the 5795 expansion unit to the rack.
4. Slide the 5795 expansion unit out of the rack.
5. To insert the 5795 expansion unit, reverse the steps in this procedure.
6. If you replaced the 5795 expansion unit because it was not operational, verify that the new resource is functional. See “Verifying the repair” on page 561. **This ends the procedure.**

5795 media device

Remove and replace the media device.

1. Perform the following to prepare the system:
 - a. Ensure that the customer has taken appropriate actions to remove the server from normal use.
 - b. Power off the system. For instructions, see Stopping the system.
 - c. Disconnect the power source from the system.

Note: This system might be equipped with a second power supply. Before continuing with this procedure, ensure that the power source to the system has been completely disconnected.

- d. Attach a wrist strap to a metal surface of your hardware to prevent electrostatic discharge from damaging your hardware. If you do not have a wrist strap, touch a metal surface of the system before installing or replacing hardware.

Note: Follow the same precautions that you would use if you were not using the wrist strap. A wrist strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

2. Loosen the thumbscrew of the media device that you want to remove.
3. Slide the media device out of the expansion unit.
4. Disconnect the power cable at the rear of the media device.
5. Disconnect the SCSI cable at the rear of the media device.
6. Remove the screws that attach the media device to the carrier assembly.
7. To insert a media device, reverse the steps in this procedure.
8. If you replaced the media device because it was not operational, verify that the new resource is functional. See “Verifying the repair” on page 561. **This ends the procedure.**

Removing and replacing parts in the 7311-D11 and 5790 expansion units

Use this information to exchange parts in the 7311-D11 and 5790 expansion units.

Note: Refer to the 7311-D10 service guide (SA38-0627) for 7311-D10 removal and replacement information.

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)

Remove the 7311-D11 and 5790 expansion unit front cover

Removal and replacement procedures for expansion unit front cover.

About this task

To remove the expansion unit front cover, do the following:

1. Open the front rack door.
2. Simultaneously press in both cover-release tabs.
3. Pivot the cover out from the top, swing the top forward.
4. Pull the bottom of the cover up, then away from the expansion unit chassis. This action releases the two tab hooks located on the bottom of the expansion unit chassis.
5. To replace the front cover, reverse this removal procedure.

Results

Place the 7311-D11 and 5790 expansion unit in the service position

Instructions for placing the expansion unit in the service position

Place the expansion unit in the service position:

About this task

To place the expansion unit in the service position, do the following:

1. Ensure that the system unit to which the expansion unit is connected is shut down.
2. From the back of the rack, disconnect the expansion unit's power cables from the power distribution bus.
3. Remove the retaining screws located on the back of the expansion unit.
4. Label and disconnect all of the cables connected to the back of the expansion unit.
5. From the back of the rack, pull the expansion unit straight out until the unit stops.
6. Press the stop latch on the side of the enclosure.
7. Support the expansion unit as you pull it out from the back of the rack.
8. Place the expansion unit on a stable work surface.

Return the expansion unit to the operating position:

About this task

To return the expansion unit to the operating position, do the following:

1. From the back of the rack, insert the expansion unit into the rack location from which it was removed. The end of the expansion unit that contains the power supplies goes toward the front of the rack.
2. Support the expansion unit as you push it toward the front of the rack.
3. Install the retaining screws in the back of the expansion unit.
4. Reconnect the cables to the back of the expansion unit.
5. Reconnect the power cables.
6. Restart the system.

Remove the 7311-D11 and 5790 expansion unit service access cover

Removal and replacement procedures for exchanging the expansion unit service access cover

About this task

To remove the expansion unit service access cover, follow these steps:

1. Open the front rack door.
2. Place the expansion unit into the service position as described in "Place the 7311-D11 and 5790 expansion unit in the service position."
3. Loosen the two captive thumbscrews located on the back of the service access cover.
4. From the back of the expansion unit, lift the cover and slide it backwards until the front disengages. Lift the cover off the expansion unit.
5. To replace the expansion unit service access cover, reverse this removal procedure.

Results

Exchange the 7311-D11 and 5790 fan assembly

Replacement procedures for removing the fan assembly

About this task

To remove the fan assembly, do the following:

1. This procedure can be done with the power on.
2. Locate the fan assembly on the front of the expansion unit.
3. Unscrew the thumbscrew that holds the fan into the expansion unit.
4. Pull the fan assembly straight out until it is clear of the expansion unit.
5. To replace the fan assembly, reverse this removal procedure.

Results

Exchange the 7311-D11 and 5790 I/O backplane assembly

Removal and replacement procedures for exchanging the I/O backplane assembly.

About this task

Note: The I/O backplane and the SPCN riser card are replaced as a pair.

Use this procedure in conjunction with Powering off an expansion unit to remove or replace the I/O backplane assembly on 7311-D11 and 5790 expansion units.

1. Power off the expansion unit (see Powering off an expansion unit).
2. Remove the ac power cord from the expansion unit that you are working on.
3. Put the I/O subsystem into the service position. (See "Place the 7311-D11 and 5790 expansion unit in the service position" on page 521).
4. Label and remove the PCI adapters. (See PCI adapter).
5. Remove the service access cover. (See "Remove the 7311-D11 and 5790 expansion unit service access cover" on page 521).
6. Remove the power supplies. (See "Exchange the 7311-D11 and 5790 power supply" on page 523).
7. Remove the RIO bus adapter. (See "Exchange the 7311-D11 and 5790 RIO/HSL card").
8. Remove the screws that hold the line cord tray.
9. Remove the line cord tray.
10. Remove the two screws that hold the SPCN connector card
11. Remove the SPCN connector card from the I/O backplane.
12. Remove the screws that hold the upper PCI adapter-mounting guides, and remove the guides.
13. Remove the screws that hold the lower PCI adapter-mounting guides, and remove the guides.
14. Remove the screws from the bulkhead bracket.
15. Disconnect the fan cable from the bulkhead bracket.
16. Remove the bulkhead bracket.
17. Disconnect the fan cable from the I/O backplane.
18. Remove the screws that secure the I/O backplane to the subsystem chassis.
19. Lift up on the rear of the backplane and slide it towards the rear of the unit, enough to clear the pipe light. Then lift the backplane up and out of the subsystem chassis.
20. Install the new backplane by reversing the above procedure.
21. Perform Setting expansion unit configuration ID and MTMS value and then continue with the next step of this procedure.
22. Go to "Verifying the repair" on page 561. **This ends the procedure.**

Exchange the 7311-D11 and 5790 RIO/HSL card

Removal and replacement procedures for exchanging RIO/HSL card.

About this task

Use this procedure in conjunction with Powering off an expansion unit to remove or replace the RIO/HSL card on 7311-D11 and 5790 expansion units.

To remove the RIO/HSL card, do the following:

1. Power off the expansion unit (see Powering off an expansion unit).
2. Remove the ac power cord from the expansion unit that you are working on.
3. Put the expansion unit into the service position. (See “Place the 7311-D11 and 5790 expansion unit in the service position” on page 521).
4. Remove the service access cover. (See “Remove the 7311-D11 and 5790 expansion unit service access cover” on page 521).
5. Remove the screws that attach the RIO/HSL card to the expansion unit chassis.
6. Carefully pull the RIO/HSL card straight up and out of the slot.
7. To replace the RIO/HSL card, reverse this removal procedure.

Results

Exchange the 7311-D11 and 5790 power supply

Removal and replacement procedures for the power supply.

About this task

To remove the power supply, do the following:

Attention: Do not remove two power supplies at the same time if performing an exchange with power on. Power supplies are considered as replaceable with power on only if you remove one power supply at a time. The power supplies can be removed from the front of the expansion unit.

1. Disconnect the power cord from the power supply.
2. Unlatch the power supply handle and rotate the handle downward to unseat the power supply.

Attention: Do not remove a power supply for more than four minutes. If you cannot replace the power supply in less than four minutes, shut down the system and then remove the power supply.

3. Pull the power supply straight out from the expansion unit.
4. To replace the power supply, reverse this removal procedure.

Results

Exchanging RIO/HSL cables

Use this procedure to replace the RIO/HSL cables concurrently. You will need to perform the following steps for both ends of the cable that you are replacing.

About this task

Attention: When a RIO/HSL cable is disconnected, the connection might be lost between the units even after the cable is reconnected. This happens in rare cases depending on the state of the RIO/HSL hardware at both ends of the cable when the cable is disconnected. To fix this, you will need to cycle power on the unit with the locked RIO/HSL connection. If the system is managed by anHMC, go to the HMC to cycle power to the affected unit. If the system is managed by AIX or Linux interfaces, fully power down the entire system. If the system is managed by i5/OS, follow the “Power off, power on instructions” on page 524 to power off the units, reconnect the RIO/HSL cable, and power the units back on.

Note: You do not need to power off the system or expansion unit. If you are replacing a cable between a system unit and an expansion unit, connect the expansion unit end of the cable first. This will reduce the chances of the problem identified in the previous warning from happening with the system unit however, the problem may still occur with the I/O unit in rare cases.

1. Disconnect the cable at the unit, card location, and port on which you are working. See the previous note.
2. Is the connection an optical link?
No: Wait at least 30 seconds.
Yes: Go to “Failed optical link recovery procedure.”
3. Connect the new cable to the port.

Results

Attention: For copper cables, you must fully connect the cable and tighten the connector’s screws within 30 seconds of when the cable makes contact with the port. If you do not, the link will fail and you must disconnect and reconnect it again. If the connector screws are not tightened, errors will occur on the link and it will fail.

This ends the procedure.

Power off, power on instructions

About this task

If you accidentally removed an RIO/HSL cable and lost RIO/HSL connections to frames that were in a loop, follow these steps.

1. From the Hardware Service Manager screen, select **Packaging hardware resources**.
2. Select the unit that has lost its RIO/HSL connection and select **Concurrent maintenance**. Then press *Enter*.
3. Select **Power off domain** to power off the unit tower.
4. After reconnecting the unit into the RIO/HSL loop, select **Power on domain**. This ends the procedure.

Failed optical link recovery procedure

Guides you through the steps used to recover a disconnected or failed HSL optical (fiber) connection.

About this task

Note:

1. If a HSL optical cable was accidentally removed, check for damage to the cable and replace if needed. Clean the RIO/HSL cable connectors on the new cables and the cable port using the tools and procedures listed in the symbolic FRU OPTCLN
2. If you are attempting to recover from more than 1 removed optical cable, first perform step 1 of this note, then reconnect the first disconnected cable and wait 2 minutes before reconnecting the second cable.

To recover from a failed HSL optical port or link, do the following:

1. Disconnect both ends of the cable between the failed ports. Wait 1 minute, and then reconnect both ends of the cable. After reconnecting both ends of the cable wait another five minutes before determining if the HSL optical link recovered.
2. If you determine that the HSL optical link did not recover, do the following:
 - a. Disconnect both ends of the cable between the failed ports.
 - b. Power off the I/O subsystem.

Note: For HSL Opticonnect loops, the switchable I/O subsystem *must* be set to "private mode" before powering down the subsystem. If you are unable to change the subsystem from a switchable subsystem to a private subsystem mode the subsystem's power cable *must* be disconnected from its power source and then reconnected in order to power cycle the subsystem.

- c. After powering off the subsystem, wait 1 minute, and then power on the subsystem.
 - d. After powering on the subsystem, wait 1 minute, and then reconnect the HSL optical cable.
 - e. After reconnecting the HSL optical cable, wait five minutes, and then determine if the HSL optical link has recovered.
 - f. If the HSL optical link did not recover repeat substeps a through e before proceeding to step 3.
 - g. If after repeating the procedure in substeps a through e a second time did not recover the HSL optical link, go to step 3.
3. If the HSL optical link did not recover after performing substeps a through e twice, do the following:
- a. Power off the system unit to "service processor standby".

Note: If the link being disconnected is not a cluster link and goes to a switchable subsystem, then the subsystem *must* be switched to "other system" before the system unit is powered off.

- b. Disconnect both ends of the HSL optical cable.
- c. Power on the system unit to "PHYP standby".
- d. After the system unit is in "PHYP standby", reconnect the HSL optical cable and wait 5 minutes to determine if the HSL optical link has recovered. If the HSL optical link did not recover, call your next level of support or authorized service representative to correct the problem. **This ends the procedure.**

Results

HMC parts removal and replacement procedures

Provides link to Removing and replacing parts on the HMC.

Customers can perform the removal and replacement procedures for most of the parts on their HMC personal computers. For more information about removing and replacing parts on the HMC, see Removing and replacing parts on the HMC.

Removing and replacing parts on type 2748, 2757, 2763, 2778, 2780, 2782, 4758, 4764, 5703, 5708, 5709, 571B, 571E, 571F, 573D, 574F, 575B

Use this information to exchange parts on type 2748, 2757, 2763, 2778, 2780, 2782, 4758, 4764, 5703, 5708, 5709, 571B, 571E, 571F, 573D, 574F, 575B cards, only when directed from another procedure.

Replacing the cache battery pack on type 2748, 2757, 2763, 2778, 2780, 2782, 5703, 5708, 5709, 571B, 571E, 571F, 573D, 574F, 575B cards

Use this procedure to remove or replace the cache battery pack from type 2748, 2757, 2763, 2778, 2780, 2782, 5703, 5708, 5709, 571B, 571E, 571F, 573D, 574F, 575B cards.

About this task

Important: Removing the cache battery with the system/partition in a powered off state may result in the loss of customer data. If the system has been powered down prior to the battery service action, you must IPL to DST and continue this procedure before replacing the battery.

The following safety notice pertains to the 2748 cache battery pack.

CAUTION:

The battery is a nickel-cadmium battery. To avoid possible explosion, do not burn. 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. (C005)

The following safety notice pertains to the following cache battery packs: 2763, 2778, 2782, 5703, 5709, and 573D.

CAUTION:

The battery is a nickel metal hydride battery. To avoid possible explosion, do not burn. 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. (C006)

The following safety notice pertains to the following cache battery packs: 2757, 2780, 5708, 571B, 571E, 571F, 574F, 575B.

CAUTION:

The battery is a lithium ion battery. To avoid possible explosion, do not burn. 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. (C007)

Attention: All cards are sensitive to electrostatic discharge. See Working with electrostatic discharge-sensitive parts.

Note: When replacing the cache battery pack, the battery must be disconnected for at least 60 seconds before connecting the new battery. This is the minimum amount of time needed for the card to recognize that the battery has been replaced.

To remove or replace the cache battery pack:

1. Is the cache battery pack on one of the following type cards: 2757, 2780, 5708, 571B, 571E, 571F, 574F, or 575B?
 - Yes:** Go to RAID disk controller cache battery pack, and select the appropriate procedure.
 - No:** Continue with the next step.
2. To replace a cache battery pack and prevent possible data loss, force the cache battery pack into an error state before replacing it. This will ensure all cache data is written to disk before battery replacement. To force the cache battery pack into an error state, perform the following:
 - a. Select System Service Tools (SST). If you cannot get to SST, select DST. Do not perform a system IPL to get to DST.
 - b. Select **Start a Service Tool** → **Hardware Service Manager**.
 - c. Select **Work with resources containing cache battery packs** → **Force battery pack into error state** for the I/O card you are working with.
 - d. On the Force Battery Packs Into Error State screen, verify the correct I/O adapter has been selected and choose the function key to confirm your choice.
 - e. Continue with the next step.
3. Is the cache battery pack on a type 5709 or 573D card?
 - **No:** Continue with the next step.
 - **Yes:** Remove the RAID enablement card using one of the following procedures, then go to step 5 on page 527:
 - For model 520: Remove the model 520 RAID enablement card

- For model 570: "Exchanging the RAID enablement card in the model 561 and 570" on page 470
4. Remove the card using the concurrent card removal and replacement procedure for the model or expansion unit that you are working on (see "Removing and replacing parts" on page 437). Then continue with the next step.

Note: If the concurrent card removal and replacement procedure fails, then power the system down normally prior to replacing the cache battery pack (see Powering on and powering off).

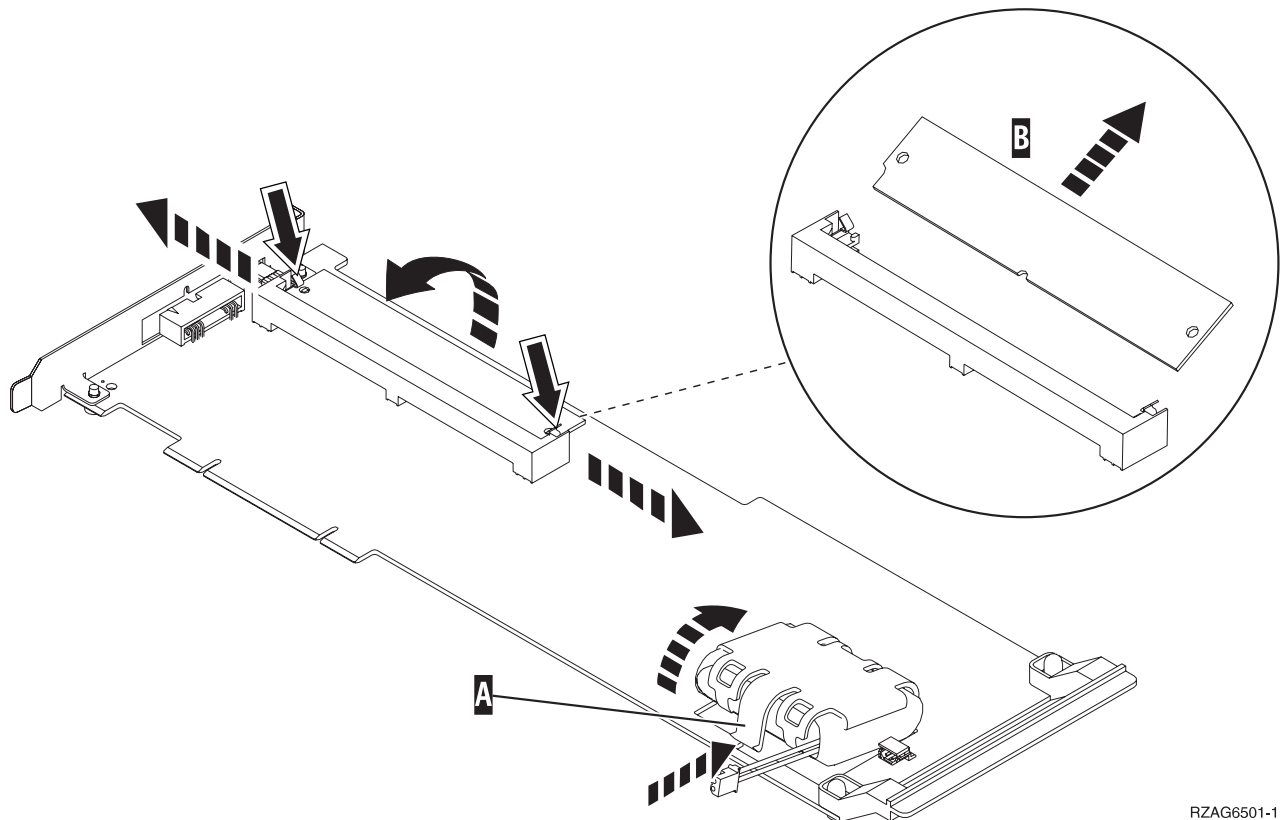
5. Locate the casing **A** that holds the battery pack (see Figure 85, Figure 86 on page 528, or Figure 87 on page 528 below).
6. Squeeze the casing **A** to remove battery unit from the card.
7. Remove the plug that connects the battery unit and the card.

Note: The plug fits in the board only one way so it cannot be inserted incorrectly during the replacement phase.

8. Remove the battery unit from the battery casing. Save the battery casing, because the replacement battery pack is not equipped with a casing.

Note: Ensure that the cache battery pack is disconnected for at least 60 seconds before connecting the new battery. This is the minimum amount of time needed for the card to recognize that the battery has been replaced.

9. Install the new cache battery pack by reversing this procedure. If necessary, refer to the replace the card using the concurrent card removal and replacement procedure for the model or expansion unit that you are working on (see "Removing and replacing parts" on page 437). **This ends the procedure.**



RZAG6501-1

Figure 85. Cache battery pack (A) and cache directory card (B) for type 2748, 2763, and 2778

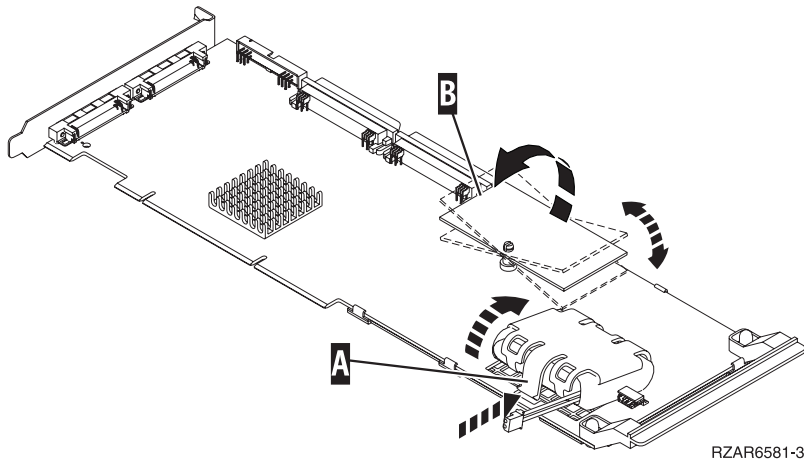


Figure 86. Cache battery pack (A) and cache directory card (B) for type 2782, 5703

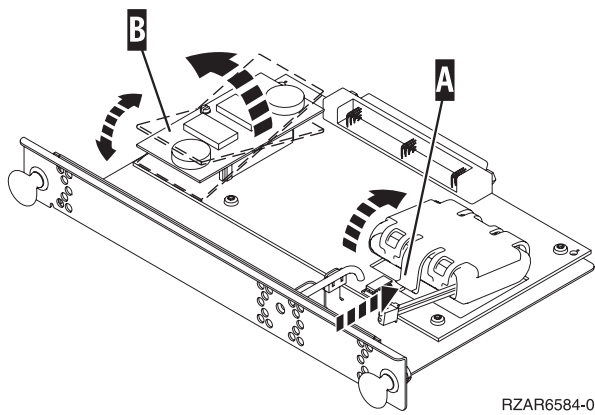


Figure 87. Cache battery pack (A) and cache directory card (B) for type 5709, 573D

Separating the removable cache card from the base card on type 2780 and 571E cards

Covers how to avoid loss of cache data.

Before you begin

To complete this procedure, you will need a T-10 TORX tool.

About this task

Attention: To avoid loss of cache data, *do not* disconnect the cache battery during this procedure.

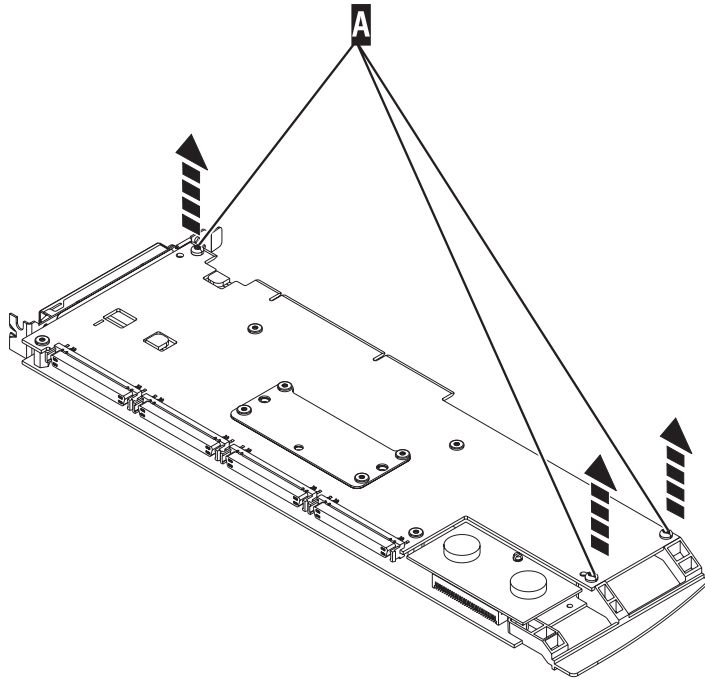
To separate the removable cache card from the base card, do the following:

Important: All cards are sensitive to electrostatic discharge. See Working with electrostatic discharge-sensitive parts.

1. Label both sides of the card before separating the cache card from the base card.
2. Are you servicing a 2780 adapter or a 571E adapter?
 - If you are servicing a 2780 adapter, go to step 3.
 - If you are servicing a 571E adapter, go to step 9.

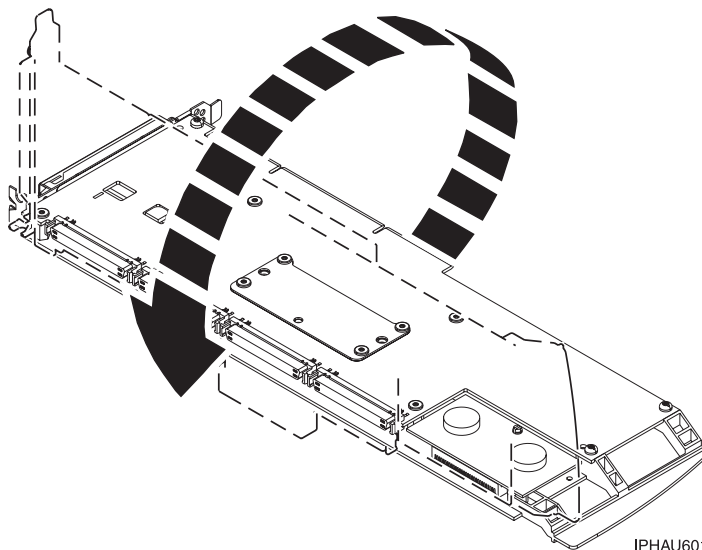
- Place the 2780 adapter on an ESD protective surface and orient it as shown in the following graphic. Note the position of the card handle.
- Remove the three screws **A** from the base card as shown.

Tip: Note the thread differences of the screws for correct screw replacement. The two screws that were secured into the plastic handle have a different thread pattern from the machine thread screw that was removed from the front of the card.



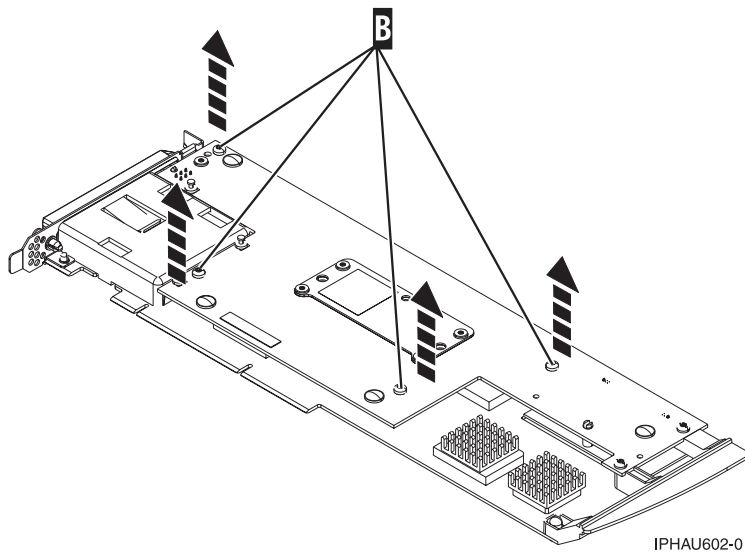
IPHAU600-1

- Turn the card over.

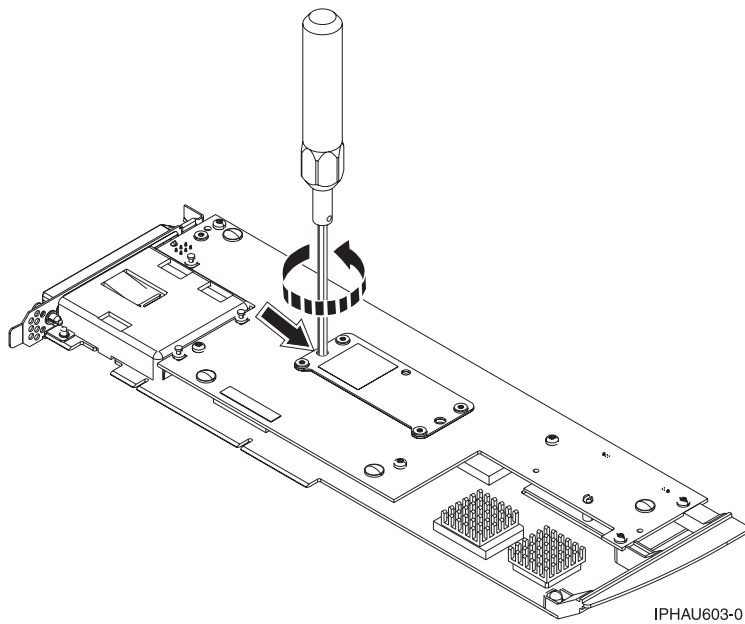


IPHAU601-1

- Remove the four screws **B** from the removable cache card as shown.



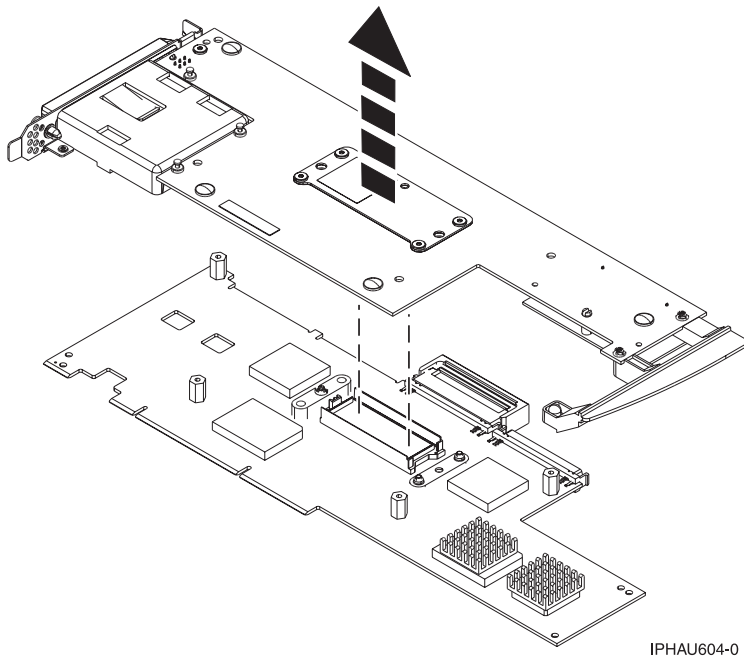
7. To separate the cards, turn the jack screw counterclockwise until you feel the cards separate.



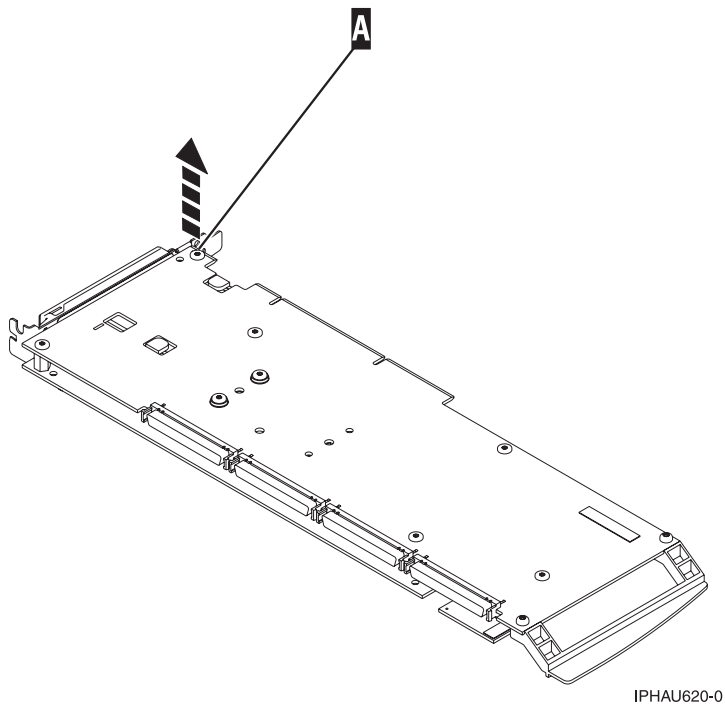
8. Separate the base card from the removable cache card.

Important: After separating the base card from the cache card, turn the jack screw clockwise to reset it.

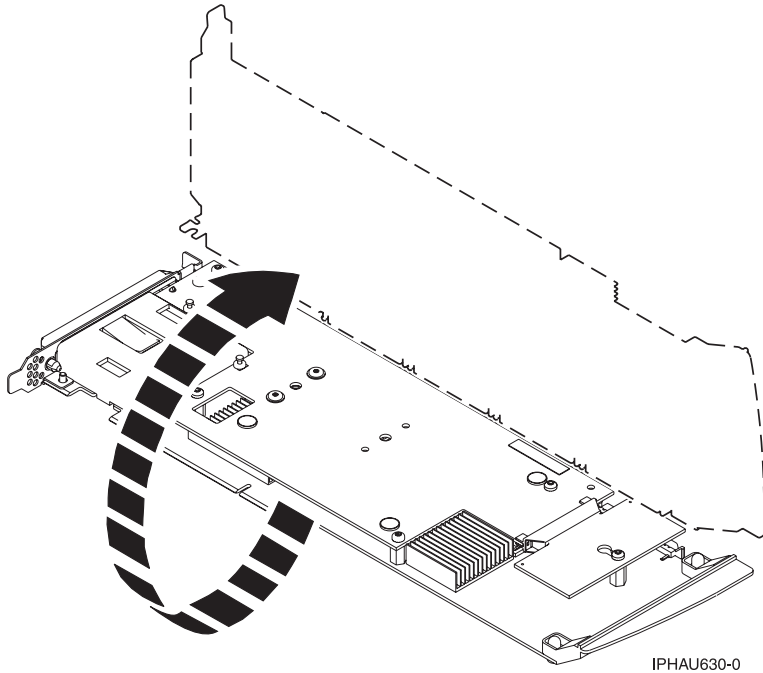
After you have reset the jack screw, go to “Attach the removable cache card to the base card” on page 534.



9. Place the 571E adapter on an ESD protective surface and orient it as shown in the following graphic. Note the position of the card handle.
10. Remove screw **A** from the base card as shown.

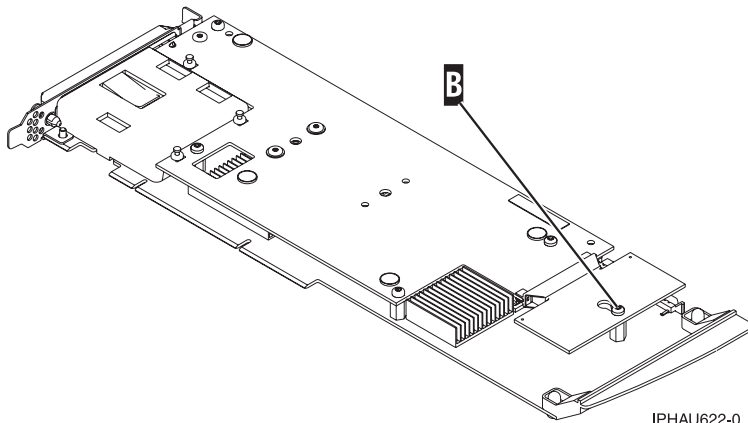


11. Turn the card over.



IPHAU630-0

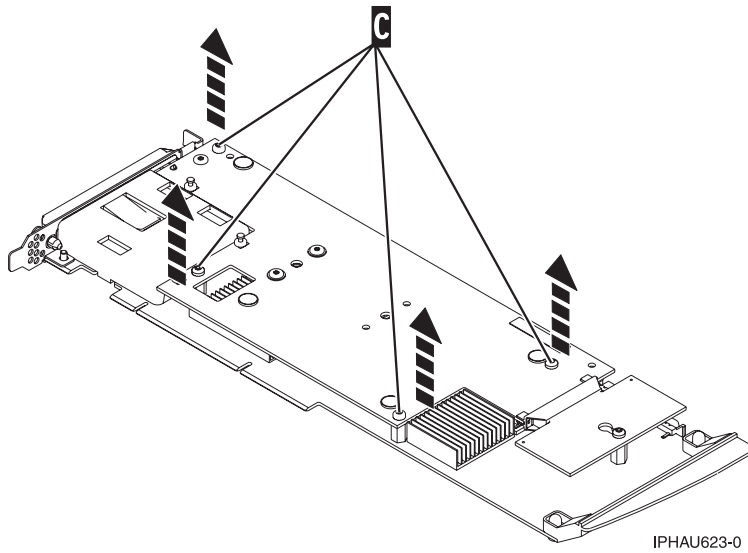
12. Loosen screw **B** one full turn. *Do not* remove this screw.



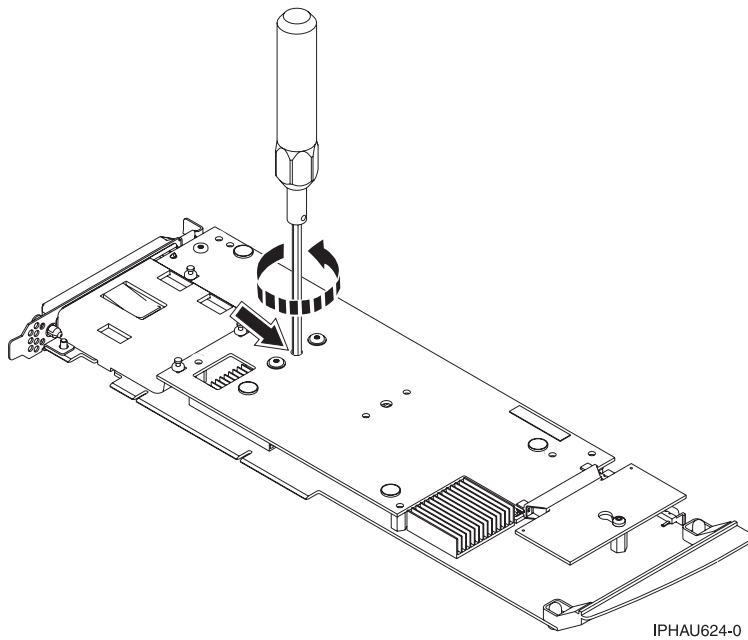
IPHAU622-0

13. Remove the four screws **C** from the removable cache card as shown.

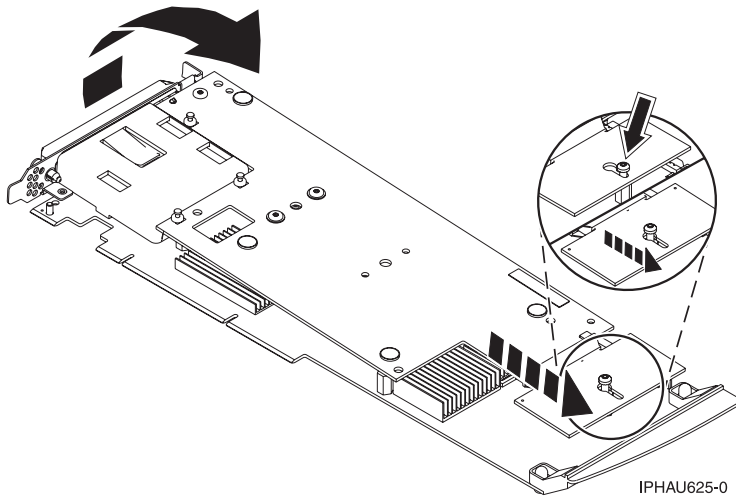
Note: Observe the keyhole slot located below screw **B**. In step 15 when asked to separate the cache card, you will need to have the keyhole slot clear the retaining screw.



14. Turn the jack screw counterclockwise to begin separating the cards. Continue turning the jack screw until you feel the cards separate.

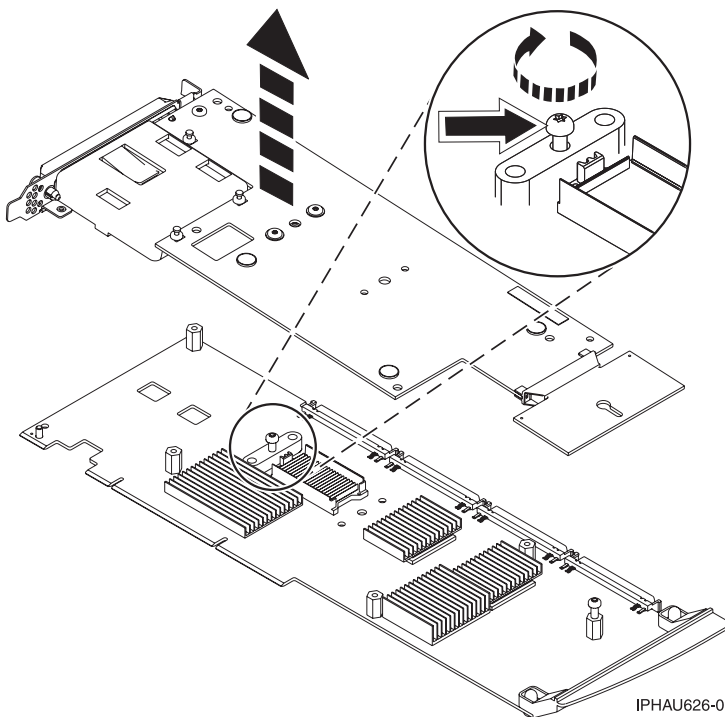


15. Carefully slide the removable cache card towards the plastic handle. Slightly lift up the back portion of the cache card freeing the cache directory card's keyhole slot from its retaining screw.



16. Separate the base card from the removable cache card.

Important: After separating the base card from the cache card, turn the jack screw clockwise to reset it.

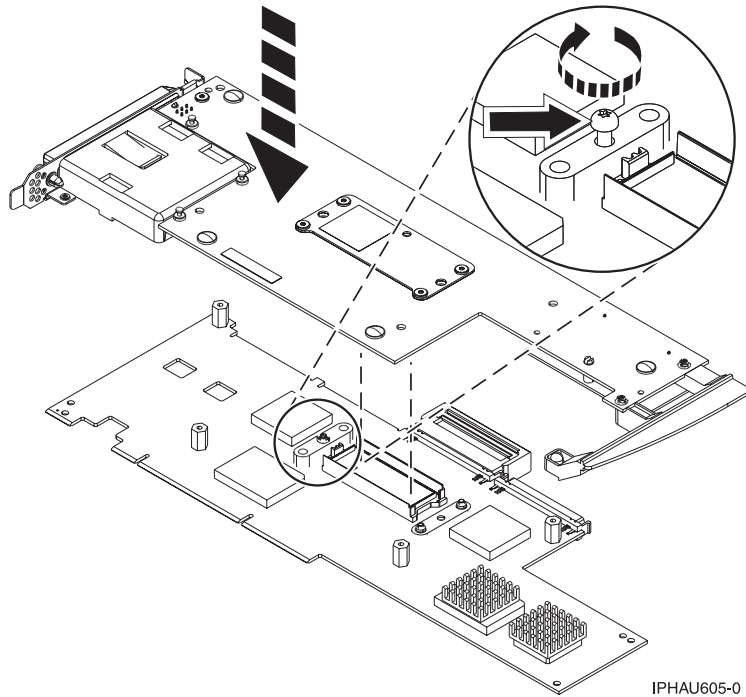


**Attach the removable cache card to the base card:
About this task**

To attach the removable cache card to the base card, do the following:

1. Make sure the jack screw is turned clockwise until it is fully seated.

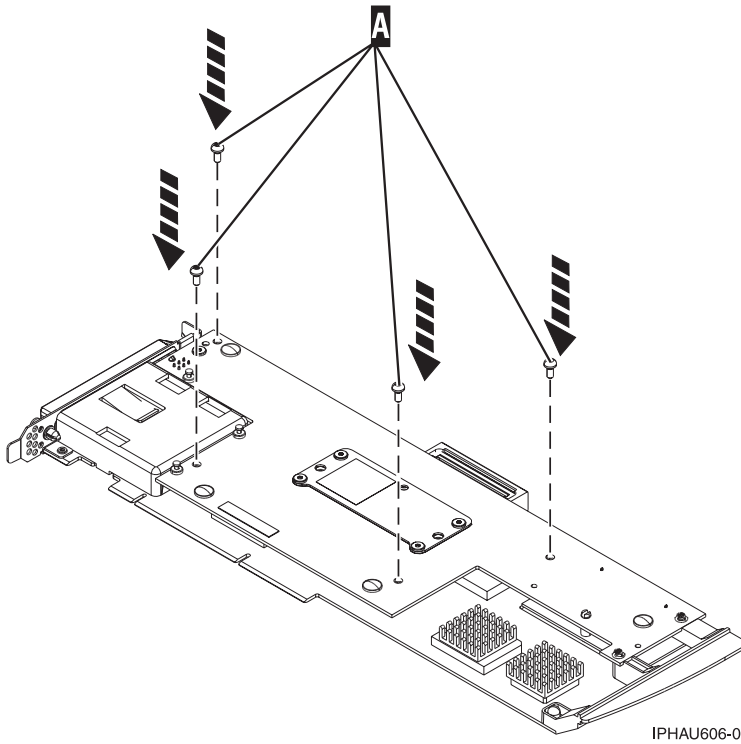
Attention: If the jack screw is not fully seated, the cards will not connect properly and damage may occur.



IPHAU605-0

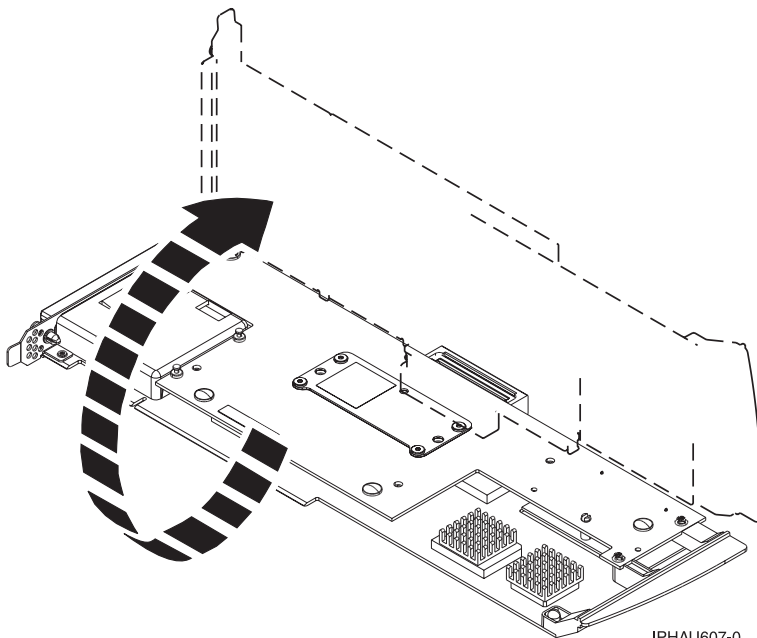
2. Are you servicing a 2780 adapter or a 571E adapter?
If you are servicing a 2780 adapter, go to step 3.
If you are servicing a 571E adapter, go to step 7.
3. Align then attach the 2780 base card to the removable cache card by doing the following:
 - a. Align the card connector.

Note: To help align the card connector, view the jack screw through the hole.
 - b. Press down on the stiffener plate to fully seat the connector.
4. Attach the four screws **A** to the removable cache card as shown.



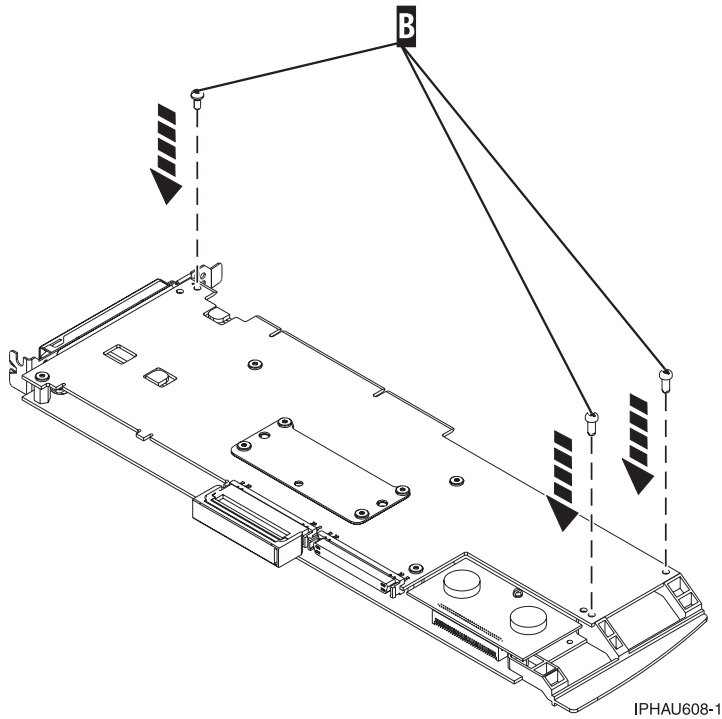
IPHAU606-0

5. Turn the card over.

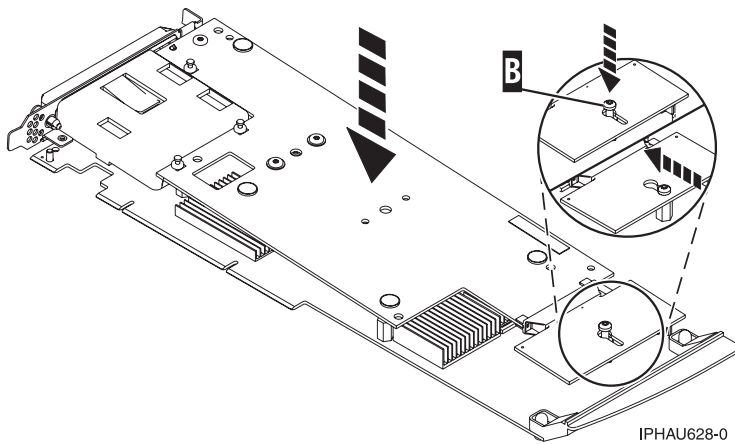


IPHAU607-0

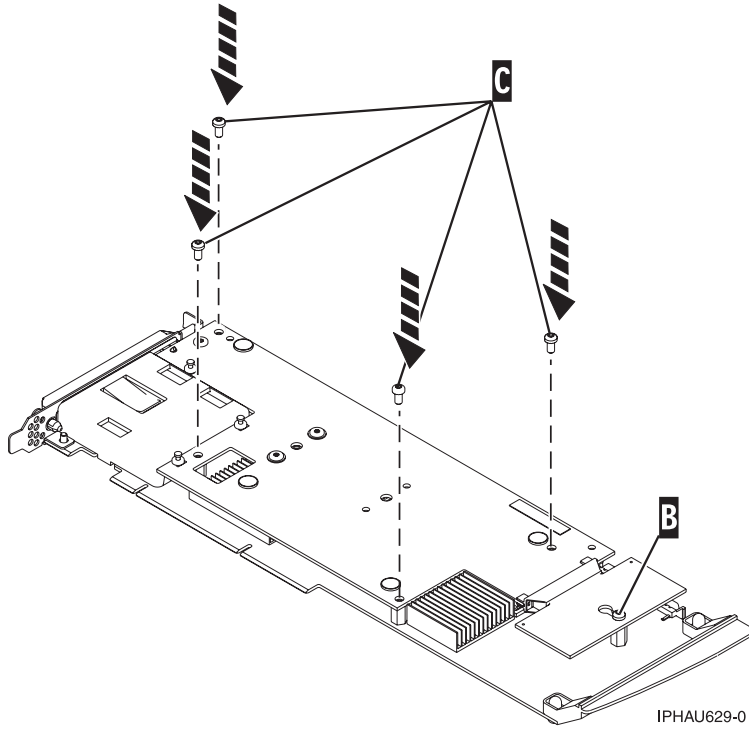
6. Attach the three screws **B** to the base card as shown. Note the thread differences in the screws as described in step 4 of the previous separation procedure. **This ends this procedure.**



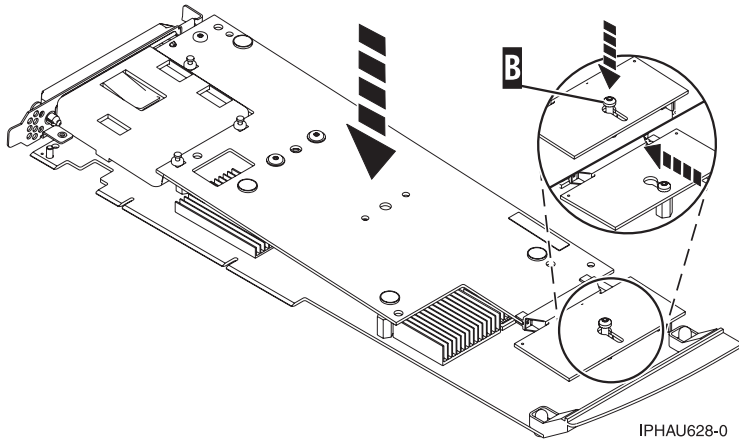
7. Attach the 571E base card to the removable cache card by doing the following:
 - a. Align the removable cache card with the base card and place the hole in the cache directory card over the screw **B**.
 - b. Slide the removable cache card away from the plastic handle to line up the card connector. (view the jack screw through the hole to help alignment).



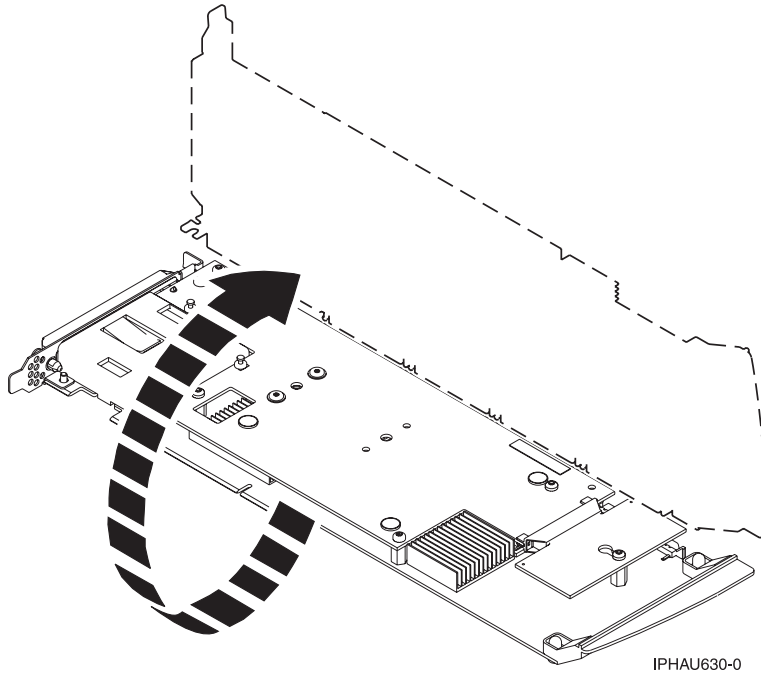
- c. Press down on the area of the card over the connector to fully seat the connector.
8. Attach the four screws **C** to the removable cache card as shown.



9. Tighten screw **B** on the cache directory card.

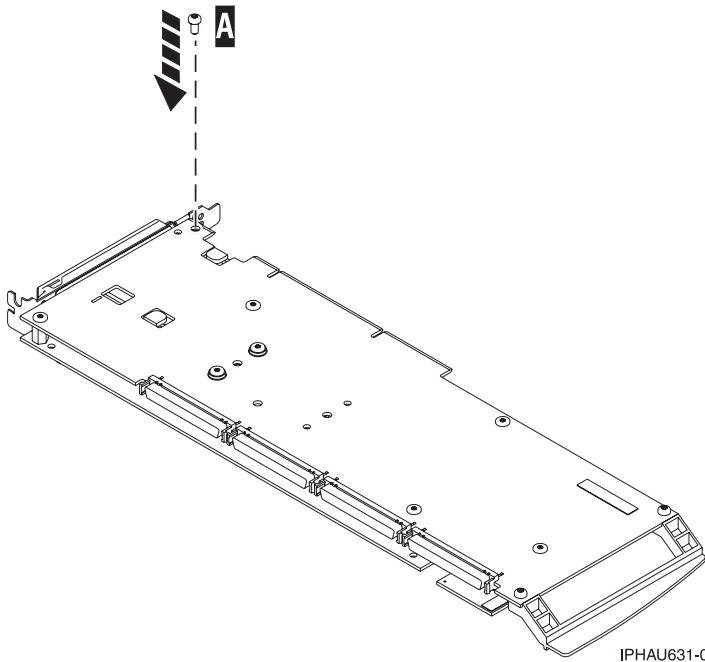


10. Turn the card over.



IPHAU630-0

11. Attach the screw A to the base card.



IPHAU631-0

Separating the 571F/575B card set and moving the cache directory card

Provides detailed instructions for separating the card set and moving the cache directory card . To avoid loss of cache data, you *must not* remove the cache battery during this procedure.

Before you begin

To complete this procedure, you will need a T-10 TORX bit or driver.

About this task

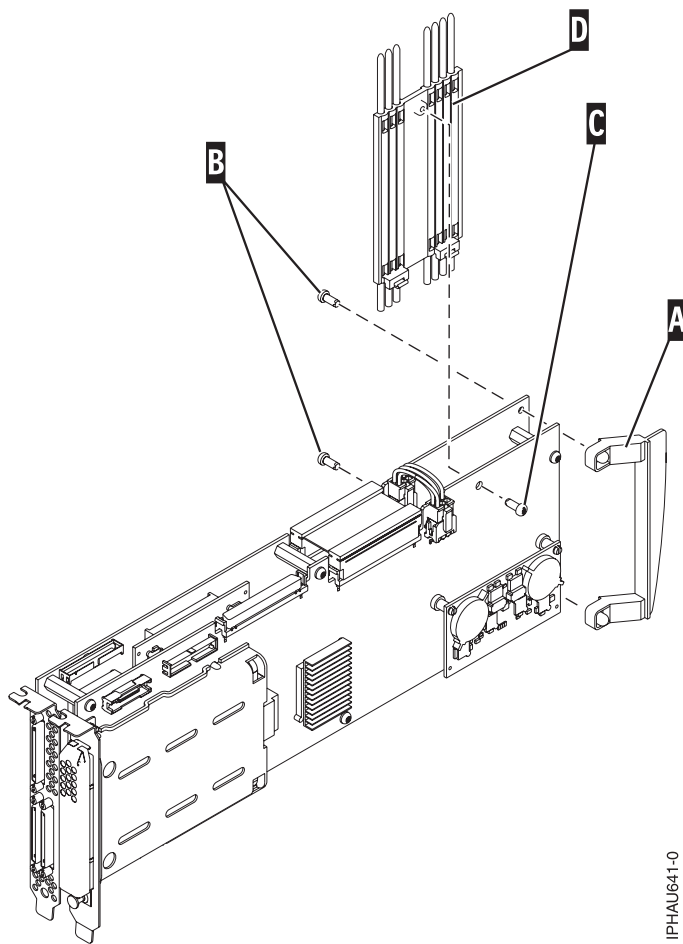
Attention: To avoid loss of cache data, you *must not* remove the cache battery during this procedure.

To separate the 571F/575B card set and move the cache directory card, do the following:

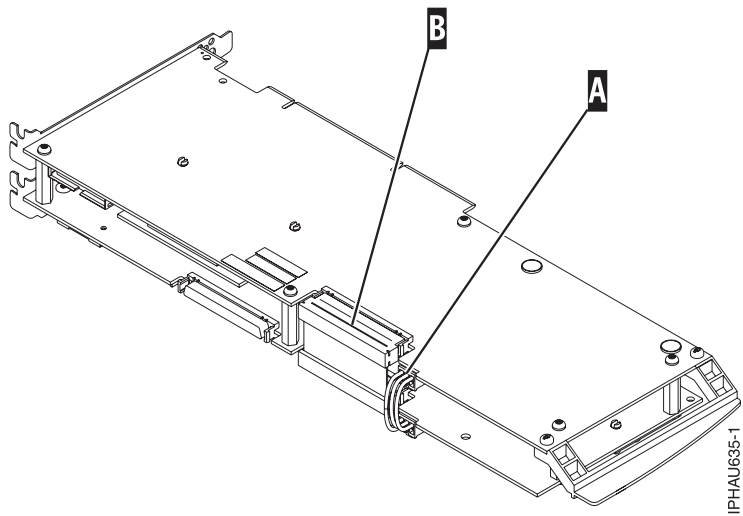
Important: All cards are sensitive to electrostatic discharge. Read about Working with electrostatic discharge-sensitive parts before beginning this procedure.

Note: If you are removing the adapter from a double-wide cassette, go to Remove an adapter from the PCI adapter double-wide cassette

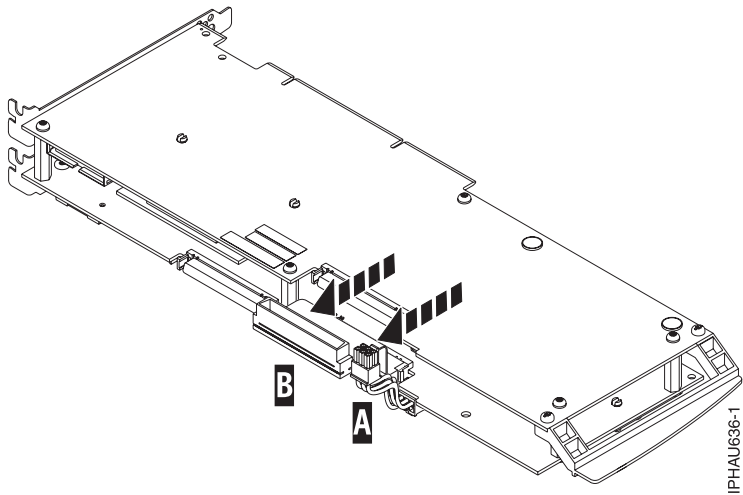
1. Label both sides of the card before separating.
2. Go to the next step if you are not servicing a 571F/575B card set containing a light pipe assembly. If you are servicing a 571F/575B card set that contains a light pipe assembly, you will need to remove the light pipes. To remove the light pipes, do the following:
 - a. Place the 571F/575B card set adapter on an ESD protective surface.
 - b. Remove the light pipe retaining screw **C** from the 571F/575B card set.
 - c. Slide the light pipe assembly **D** from between the 571F/575B cards.
 - d. Put both the screw and the light pipe assembly in a safe place.



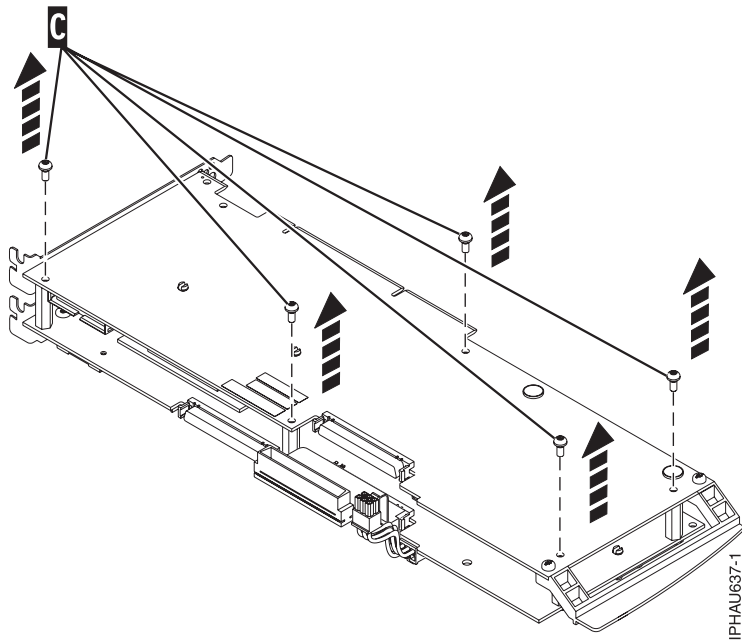
3. Place the 571F/575B card set adapter on an ESD protective surface and orient it as shown.



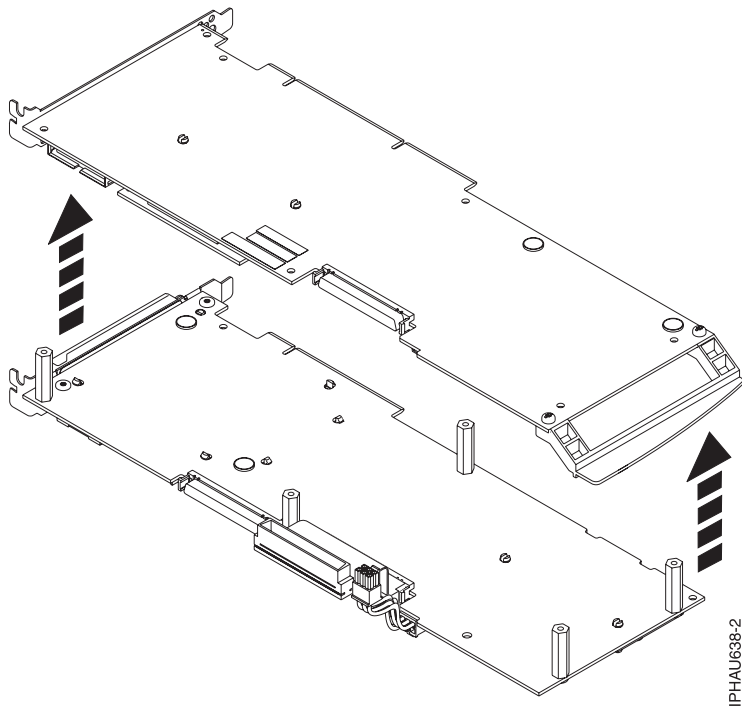
4. Disconnect battery cable **A** and SCSI cable **B** from the 571F storage adapter. Leave the other end of the cables attached to the 575B auxiliary cache adapter.



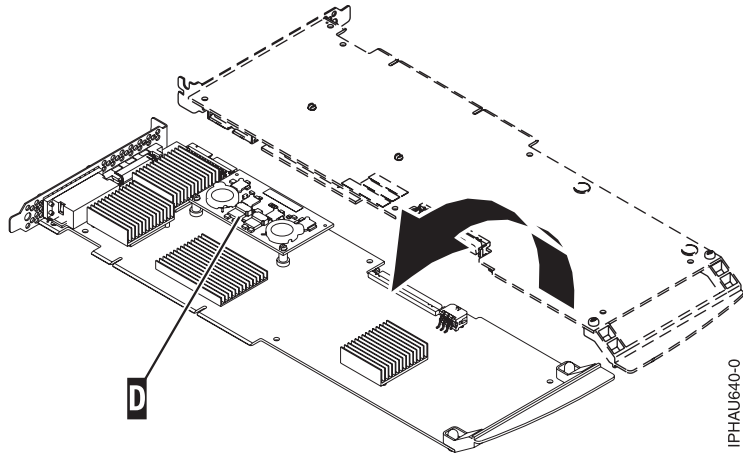
5. To prevent possible card damage, first loosen all 5 retaining screws **C** BEFORE removing them. After all five retaining screws have been loosened, remove the screws **C** from the 571F storage adapter.



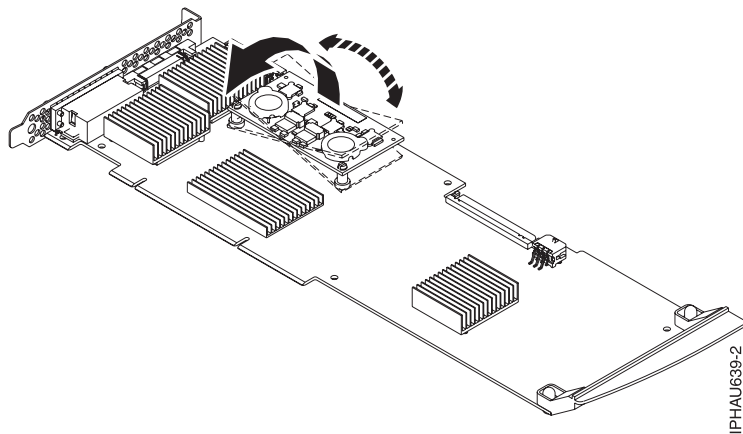
- Carefully lift the 571F storage adapter off the standoffs and set it on the ESD protective surface.



- Turn the 571F storage adapter over so the components are facing up and locate the cache directory card **D** on the 571F storage adapter. It is the small rectangular card mounted on the I/O card.



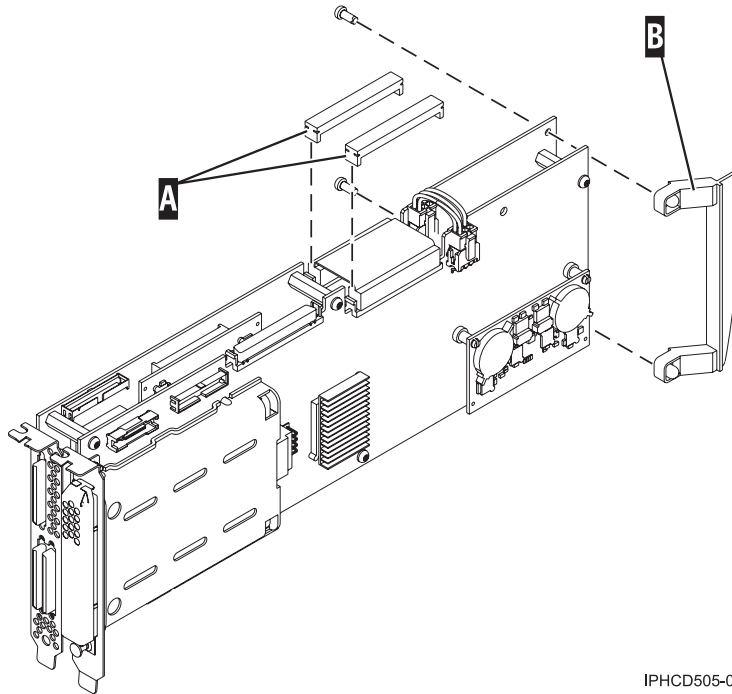
8. Unseat the connector on the cache directory card by wiggling the two corners that are farthest from the mounting pegs. To disengage the mounting pegs, pivot the cache directory card back over the mounting peg.



9. Move the cache directory card to the replacement 571F storage adapter and seat it on the connector and mounting pegs.
10. To reassemble the cards do the above procedure in reverse order. To prevent possible card damage, insert all 5 screws **C** before tightening any of them.

Note: If you are installing the 571F/575B card set adapter into a cassette, do the following:

- a. Remove the adapter handle **B** as shown in the following illustration.
- b. If applicable, remove the light-pipe assembly.
- c. Remove the two plastic covers from the SCSI jumper cable **A** as shown in the following figure:



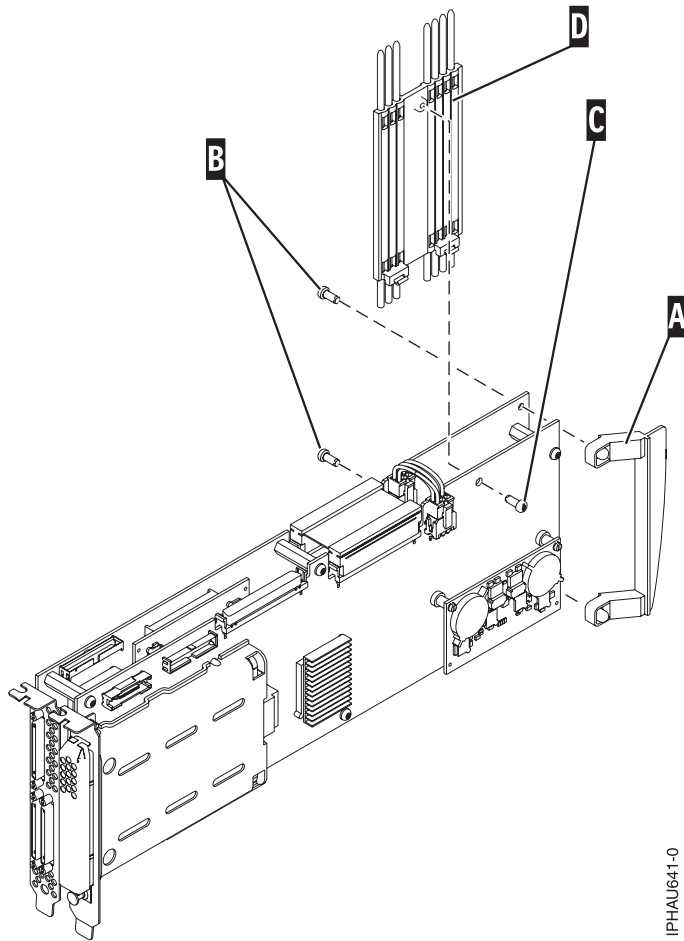
- d. Ensure that battery cable **A** and SCSI cable **B** are reconnected to the 575B auxiliary cache adapter.
- e. Go to Place an adapter in the PCI adapter double-wide cassette to complete the installation.

11. If applicable, to replace the light pipes, do the following:

- a. Ensure that the 571F/575B cards are correctly assembled.
- b. If necessary, remove the 571F/575B card handle **A** from the back of the card set.

Tip: If you misplace the light-pipe retaining screw **C**, use either of the screws that secure the card handle **B** to the card.

- c. Slide the light pipe assembly **D** between the 571F/575B cards. Ensure that the threaded screw hole located on the light pipe assembly is aligned with the screw clearance hole located on the card .



IPHAU641-0

12. Return to the procedure that sent you here. **This ends this procedure.**

Remove / Install the cache directory card on type 2748, 2757, 2763, 2778, 2780, 2782, 5703, 5709, 571B, 571E, and 573D cards

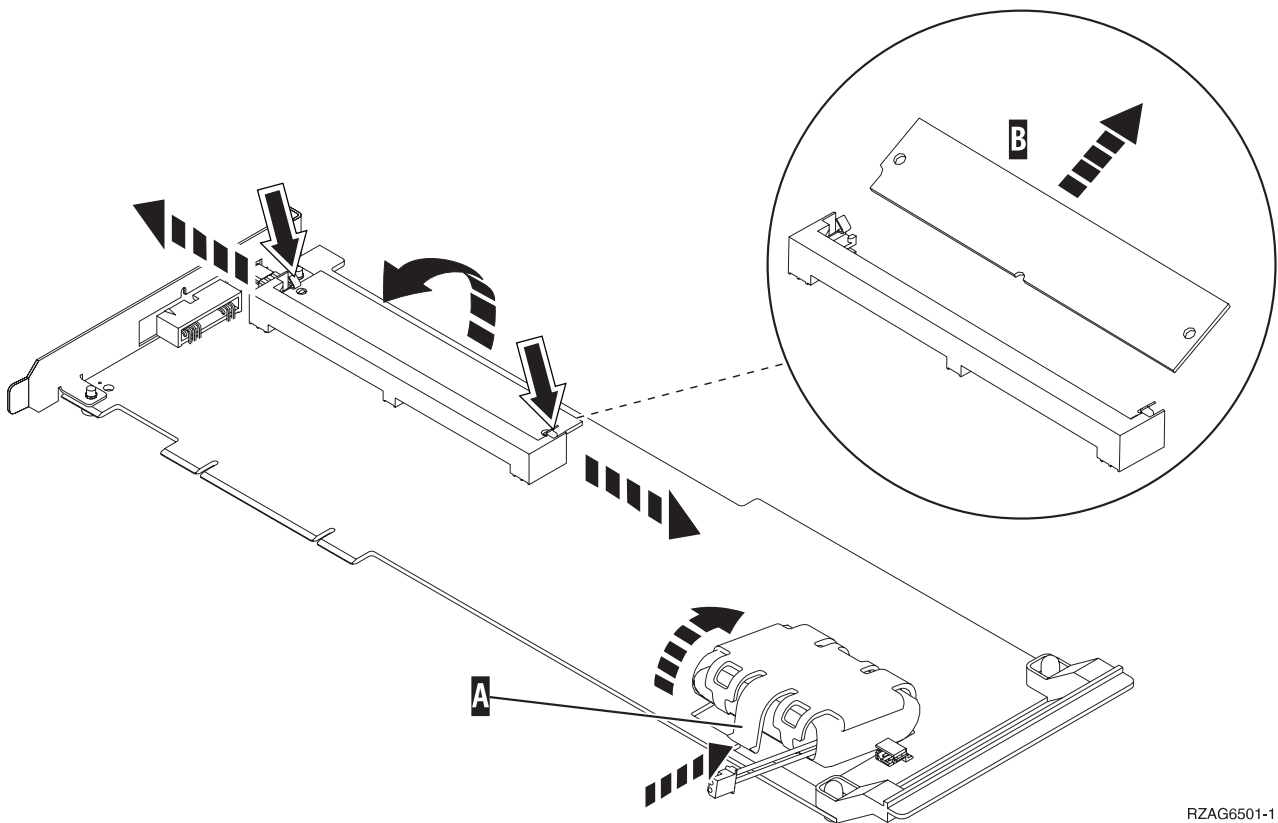
How to remove and replace the cache directory card.

About this task

Important: All cards are sensitive to electrostatic discharge. Read Working with electrostatic discharge-sensitive parts before performing this procedure. This procedure should only be performed if directed from an isolation procedure.

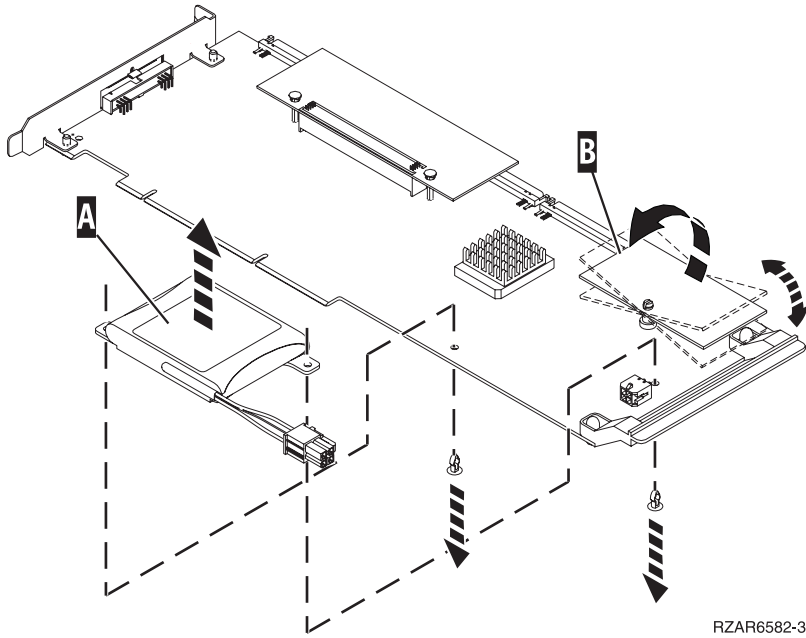
1. Is the cache directory card on a type 5709 or 573D (RAID enablement) card?
 - **No:** Continue with the next step.
 - **Yes:** Remove the RAID enablement card using one of the following procedures, then go to step 7:
 - For model 520: Remove the model 520 RAID enablement card
 - For model 570: Exchanging the RAID enablement card in the model 561 and 570
2. Remove the card using the concurrent card removal and replacement procedure for the model or expansion unit that you are working on (see Removing and replacing parts).
3. Choose one of the following:
 - For type 2748, 2763, and 2778 cards, continue with the next step.
 - For type 2757, 2780, 2782, 5703, 5709, 571B, and 573D cards, go to step 7.
 - For type 571E cards, go to step 10.

4. Locate the cache directory card **B**. It is a small rectangular card mounted on the I/O card (see Figure 88).
Spread the tabs on each side of the cache directory card, and raise the back of the cache directory card **B** up and away from the I/O card. The cache directory card will pivot up about 20 degrees.
 5. Pull the cache directory card out.
 6. Install the replacement cache directory card by wiggling it into place at a 20-degree angle before pushing it down and locking the tabs. Be sure that the holes on each side of the cache directory card are filled by the pegs on the cache card to ensure proper seating. **This ends the procedure.**
 7. Locate the cache directory card **B**. It is a small rectangular card mounted on the I/O card (see Figure 89 on page 547, Figure 90 on page 547, Figure 91 on page 548, Figure 92 on page 548 or Figure 93 on page 548).
 8. Unseat the connector on the cache directory card by wiggling the two corners that are farthest from the mounting peg by using a rocking motion. Then, pivot the cache directory card back over the mounting peg to disengage the cache directory card from the mounting peg.
- Note:** For the type 2757 card, do not remove the larger card with the two mounting pegs.
9. Install the replacement card by seating it on the connector and mounting peg. **This ends the procedure.**



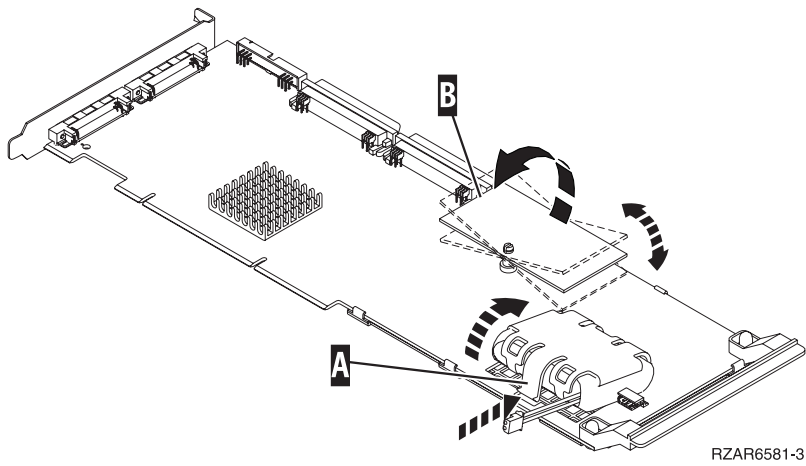
RZAG6501-1

Figure 88. Cache battery pack and cache directory card for type 2748, 2763, and 2778



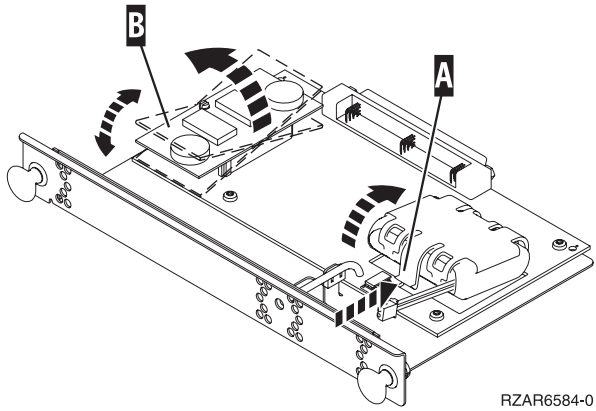
RZAR6582-3

Figure 89. Cache battery pack and cache directory card for type 2757



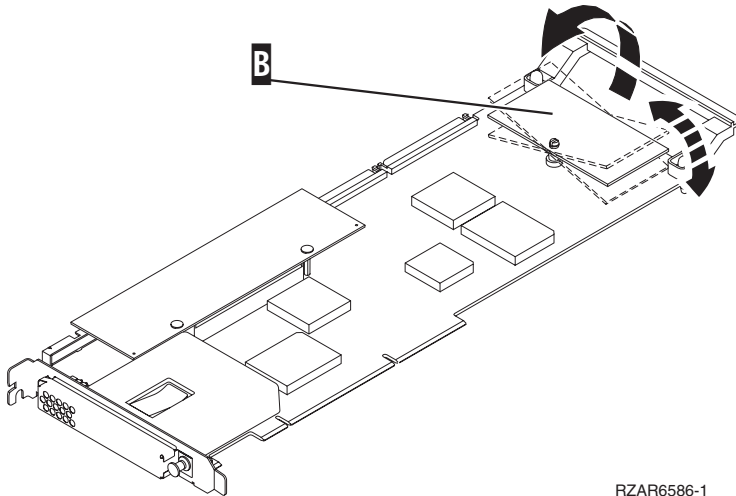
RZAR6581-3

Figure 90. Cache battery pack and cache directory card for type 2782, and 5703



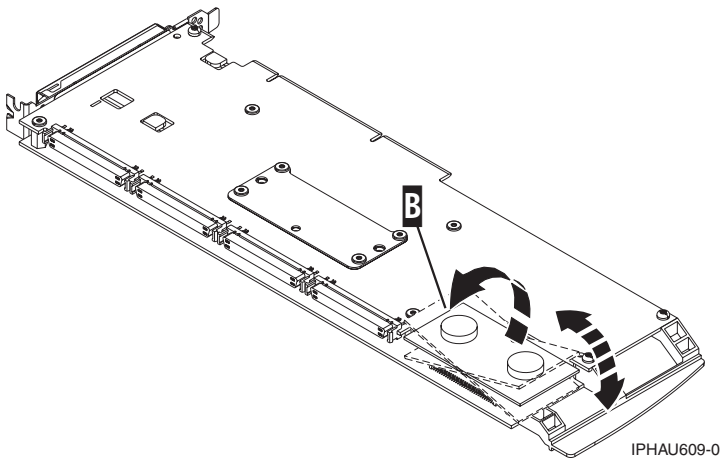
RZAR6584-0

Figure 91. Cache battery pack and cache directory card for type 5709 and 573D



RZAR6586-1

Figure 92. Cache battery pack and cache directory card for type 2780 (style A)



IPHAU609-0

Figure 93. Cache battery pack and cache directory card for type 2780 (style B)

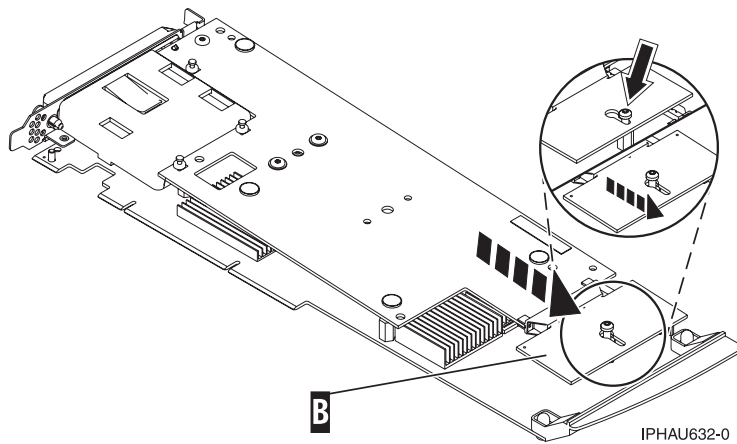


Figure 94. Cache battery pack and cache directory card for type 571E

10. Locate the cache directory card **B**. To locate the cache directory card for your card type, refer to the graphics listed in step 9. In the graphics the **B** designation is always the cache directory card.
11. Loosen the retaining screw located on the cache directory card one full turn. *Do not* remove the retaining screw.
12. Unseat the cache directory card from the connector. To unseat and remove the cache directory card, wiggle the card back and forth toward the plastic card handle, then lift the cache directory card up and off the retaining screw.
13. Install the replacement cache directory card. To install the replacement cache directory card, place it down over the retaining screw, then slide it away from the plastic card handle to fully seat it in the connector.
14. Tighten the retaining screw. **This ends the procedure.**

Replacing the battery on a type 4758 card

Use this procedure to remove or replace the PCI cryptographic coprocessor card batteries in type 4758.

About this task

Note: Two battery replacement kits (see “Part number catalog” on page 160) are required to replace the batteries in the 4758-023 card, since the card contains four batteries, and each battery replacement kit contains two new batteries. Other 4758 cryptographic adapter cards contain only two batteries, and therefore require only one battery replacement kit.

CAUTION:

Only trained service personnel may replace this battery. 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 degrees C (212 degrees 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. (C002)

Attention: Any loss of battery power erases data stored in the card’s protected memory and renders the card useless.

To remove or replace the PCI Cryptographic coprocessor card's batteries:

1. Remove the cryptographic coprocessor card using the concurrent remove and replace procedure for cards on the system or expansion unit in which the card is located (see "Removing and replacing parts" on page 437).
2. Locate the lithium batteries, which are located in adjacent holders, with the battery 2 holder above the J3 connector. Refer to the following illustration.

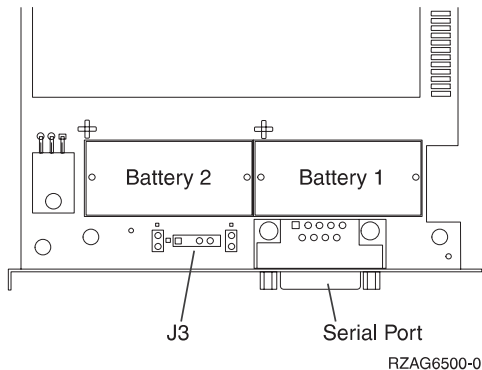


Figure 95. Battery Locations on the 4758 PCI Cryptographic Coprocessor

Note: The 4758-023 card contains four batteries, even though only two batteries are shown in the previous figure. Battery 3 is directly above battery 1, and battery 4 is directly above battery 2.

3. Is the card you are working on a 4758-023 card?
 - **Yes:** The card has four batteries. Go to step 11.
 - **No:** The card has two batteries. Continue with the next step.
4. Open the battery replacement kit. Insert one of the new batteries into the battery tray provided with the kit. The '+' on the battery must be oriented in the battery tray with the same polarity matching the '+' on the tray.
5. Connect the battery tray's cable to the J3 connector on the card. This maintains battery power to the card while the new batteries are installed.
6. Replace the battery in the battery 1 position with a new battery. The '+' on the battery must be oriented in the holder with the same polarity matching the '+' on the holder.
7. Replace the battery in the battery 2 position with the battery in the battery tray. The '+' on the battery must be oriented in the holder with the same polarity matching the '+' on the holder.
8. Remove the battery tray from the J3 connector and discard it.
9. Place the new battery warning label (part number 04K9421) over the two new batteries in battery positions 1 and 2.
10. Reinstall the card. **This ends the procedure.**
11. The card is a 4758-023 card. Open both of the battery replacement kits. Insert one of the new batteries into the battery tray provided with the kit. The '+' on the battery must be oriented in the holder with the same polarity matching the '+' on the holder.
12. Connect the battery tray's cable to the J3 connector on the 4758 card. This maintains battery power to the card while the new batteries are installed.
13. Remove and discard the two battery warning labels which cover both sets of batteries.
14. Replace the battery in the battery 1, 2, and 3 positions with a new battery. The '+' on the battery must be oriented in the holder with the same polarity matching the '+' on the holder.
15. Replace the battery in the battery 4 position with the battery in the battery tray. The '+' on the battery must be oriented in the holder with the same polarity matching the '+' on the holder.
16. Remove the battery tray from the J3 connector and discard it.

17. Place one of the new battery warning labels (PN 04K9421) over the two new batteries in battery positions 1 and 2. Place the other new battery warning label over the two new batteries in battery positions 3 and 4.
18. Reinstall the card. **This ends the procedure.**

Disabling the cryptographic coprocessor on a type 4758 card

Use this procedure to properly and permanently disable the Type 4758 PCI cryptographic coprocessor card.

About this task

Note: For security, use the following procedure when replacing the cryptographic coprocessor.

Use this procedure to properly and permanently disable the Type 4758 PCI cryptographic coprocessor card.

Attention: During disablement, the contents of the coprocessor's protected memory will be set to zeros. The cryptographic master key and other data stored in the protected memory will be lost.

CAUTION:

The battery is a lithium ion battery. To avoid possible explosion, do not burn. 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. (C007)

1. Remove the cryptographic coprocessor card using the Cards (concurrent) remove and replace procedure for the system unit or tower in which the card is located. See "Removing and replacing parts" on page 437, choose the correct model, and then the Cards (concurrent) procedure.
2. Locate the lithium batteries, which are located in adjacent holders, with the battery 2 above the J3 connector. Refer to the following illustration.

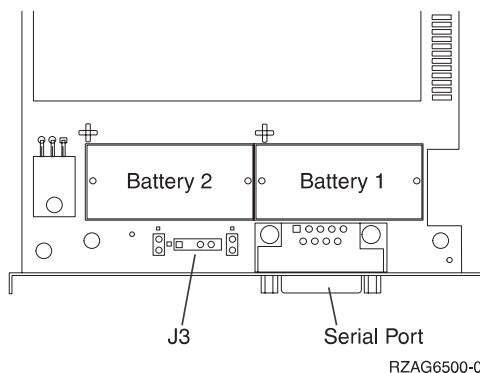


Figure 96. Battery locations on the PCI cryptographic coprocessor

Note: The 4758-023 card contains four batteries, even though only two batteries are shown in the preceding figure. Battery 3 is directly above battery 1, and battery 4 is directly above battery 2.

Attention: The loss of battery power erases data stored in the card's protected memory and renders the card useless.

3. Remove the battery from each battery holder in sequential order. If this is a 4758-023 card, remove the batteries in the following order: battery 1, battery 2, battery 3, battery 4. For all other cards, remove battery 1 and then battery 2.
4. The PCI cryptographic coprocessor card has been disabled. You can now install the new card. **This ends the procedure.**

Results

Replacing the battery on a type 4764 card

Use this procedure to remove or replace the type 4764 PCI cryptographic coprocessor card batteries.

About this task

Two lithium batteries mounted on the card supply power to the card's components, including protected memory. Your support software or application software can query the card to determine whether the batteries need to be replaced.

When shipped from the factory, the protected memory contains a certified device key. If your coprocessor has been initialized by support software, the protected memory contains secret data, including a master cryptographic key, user profiles, and user passwords.

Attention: If you remove either of the batteries without first backing up the power with a fresh battery, the data in protected memory can be lost. The Replacement Battery Kit (part 41V1061) provides the battery tray needed to provide backup power while you replace the batteries.

To order the kit, contact your local representative or IBM Business Partner

CAUTION:

Only trained service personnel may replace this battery. 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 degrees C (212 degrees 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. (C002)

The Replacement Battery Kit should include:

- Two replacement batteries
- A battery tray with connecting wires
- Two sets of spare battery attention labels

To replace the batteries, follow these steps:

1. Turn off the computer and all attached devices.
2. Disconnect all cables, including the power cable.

CAUTION:

The battery is a nickel-cadmium battery. To avoid possible explosion, do not burn. 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. (C005)

3. Remove the cover from the expansion slots according to the directions provided with your computer.
4. Open the Battery Replacement Kit.

Attention: Electrostatic discharge (ESD) can damage the card and its components. Wear an ESD wrist strip while handling and installing the card, or take the following precautions:

- Limit your movements, this helps prevent static electricity building up around you.
- Prevent others from touching the card or other components.

- Handle the card by its edges only. Do not touch exposed circuitry and components.
5. Remove the card from the bus slot in the host computer.
 6. Insert one of the new batteries into the battery tray provided with the kit. Align the + on the battery with the + on the battery tray (the end with the red wire). Connect the tray wires to the J10 connector located near the RS-232 serial port, as shown below. The connector is polarized to ensure a proper connection.

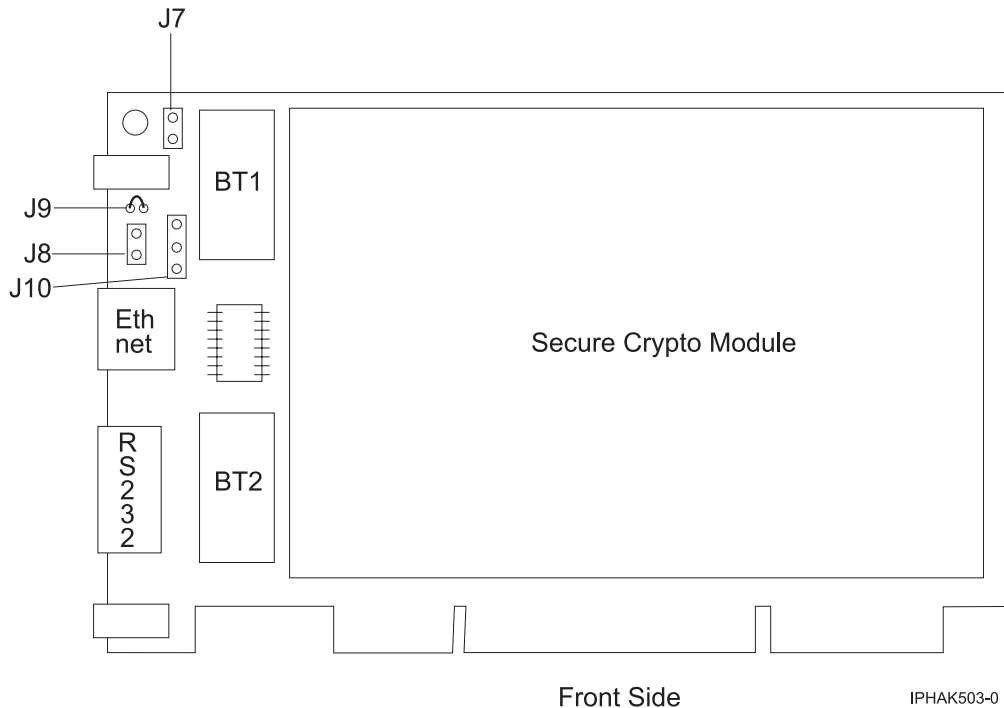


Figure 97. Battery locations on the PCI cryptographic coprocessor

Attention: Any loss of power erases data stored in the card's protected memory. To prevent loss, ensure that the battery tray contains a fresh battery and is attached to the J10 connector.

7. Remove the battery attention labels from the battery holders on the card. These labels can be torn off and discarded. They are to be replaced by the spare labels included in the kit.
8. Remove the battery from the BT1 position. To eject the battery, turn the coprocessor over and insert a small object, such as a screwdriver, through the hole to eject the battery.
9. Replace the battery in the BT1 position with a new battery.
10. Replace the battery in the BT2 position with the battery in the battery tray. The new battery already installed in the BT1 position provides power to the adapter while you perform this step.
11. Remove the battery holder from the J10 connector.
12. Reapply the spare battery attention labels onto the holders on the card covering the batteries.
13. Reinstall the coprocessor into the PCI-X bus slot, and be sure the card is fully seated.
14. Replace the host computer's cover.
15. Reconnect the power cable and any other cables you disconnected.
16. Power on the computer. The card runs its power on self-test (POST).
17. Reinstall the adapter.

This ends the procedure.

Disabling the cryptographic coprocessor on a type 4764 card

During disablement, the contents of the coprocessor's protected memory will be set to zeroes. The cryptographic master key and other data stored in the protected memory will be lost.

About this task

Attention: For security, use the following procedure when replacing the cryptographic coprocessor.

Use this procedure to properly and permanently disable the Type 4764 PCI cryptographic coprocessor card. During disablement, the contents of the coprocessor's protected memory will be set to zeroes. The cryptographic master key and other data stored in the protected memory will be lost.

CAUTION:

The battery is a lithium ion battery. To avoid possible explosion, do not burn. 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. (C007)

1. Remove the cryptographic coprocessor card using the Cards (concurrent) remove and replace procedure for the system unit or tower in which the card is located. See "Removing and replacing parts" on page 437, choose the correct model, and then the Cards (concurrent) procedure.
2. Find the location of the lithium batteries. They are located in adjacent holders, with the battery 2 above the J10 connector. Refer to the illustration below.

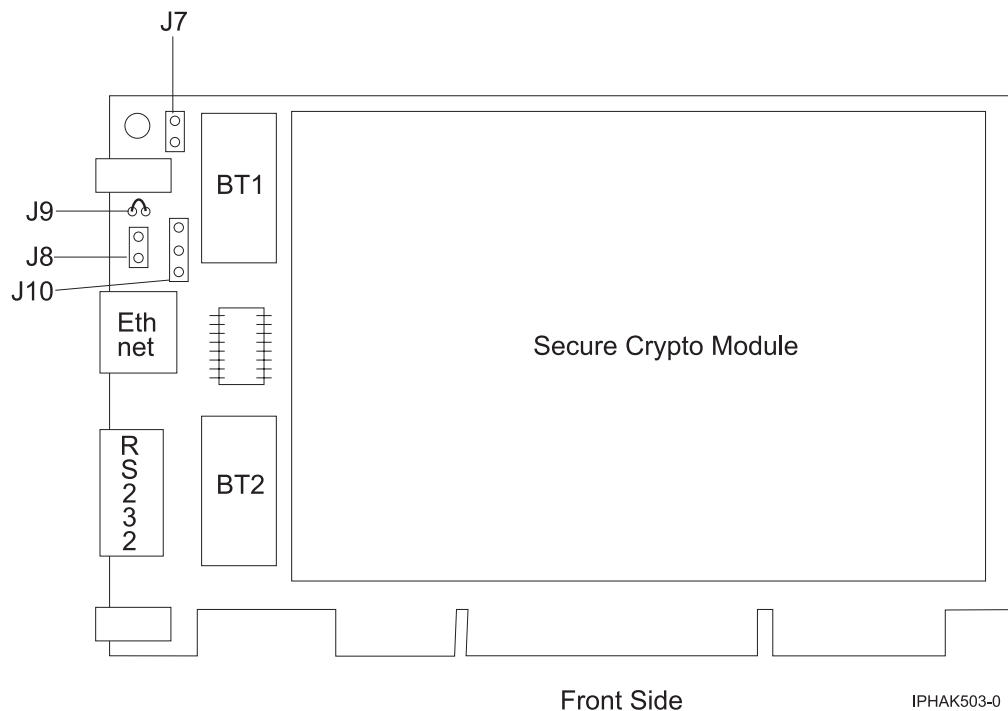


Figure 98. Battery locations on the PCI cryptographic coprocessor

Attention: The loss of battery power erases data stored in the card's protected memory and renders the card useless.

3. Remove battery 1 and then battery 2.
4. The PCI cryptographic coprocessor card has been disabled. You can now install the new card. **This ends the procedure.**

Results

Tape cartridge, manual removal

Use this information to remove a tape cartridge from a tape unit.

4685 - tape cartridge

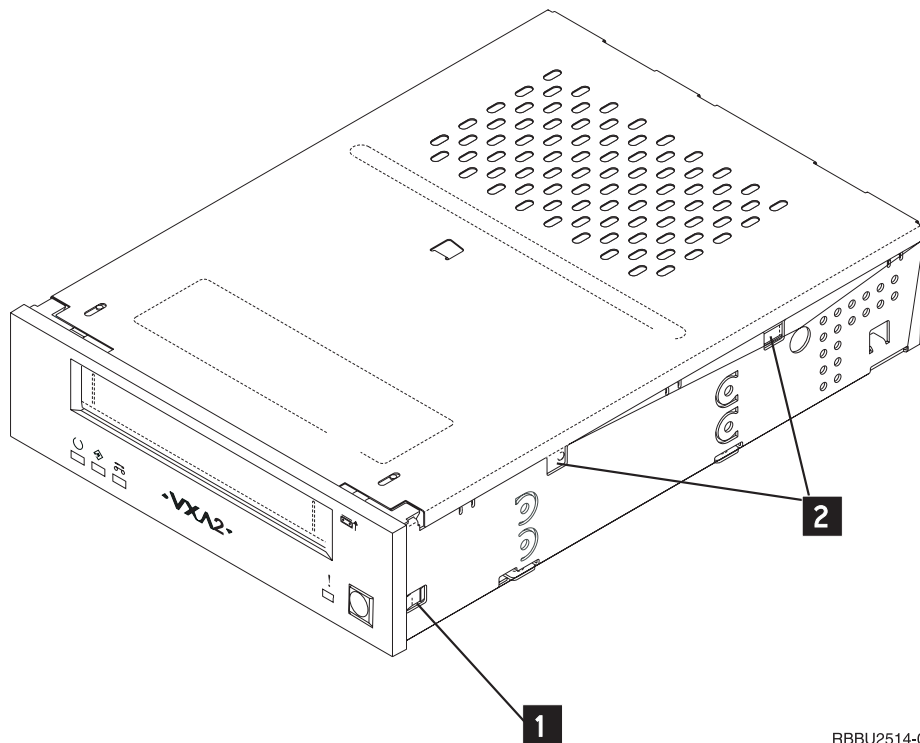
Use this procedure to remove a tape cartridge manually from a 4685 tape unit.

About this task

This procedure may be required if a defective tape cartridge or tape unit has caused the cartridge ejection function to fail, or if the data on the tape cartridge is either critical or sensitive and the customer cannot afford its loss.

Attention: This procedure is very delicate and may damage or destroy the tape cartridge. Use this procedure only when you are not able to unload the cartridge by pressing and holding the unload button.

1. Remove the 4685 tape drive tray from the frame.
2. Remove the 4685 tape drive from the tray.
3. Remove the front bezel (the bezel snaps on) by doing the following:
 - a. Use a small screwdriver to press the bezel tabs (see 1 in Figure 99) on each side of the drive.
 - b. Rotate the bottom of the bezel toward the front to release the bezel attachments on the top of the drive.
 - c. Lift the bezel off the top locating tabs.
 - d. Remove the bezel from the unit.

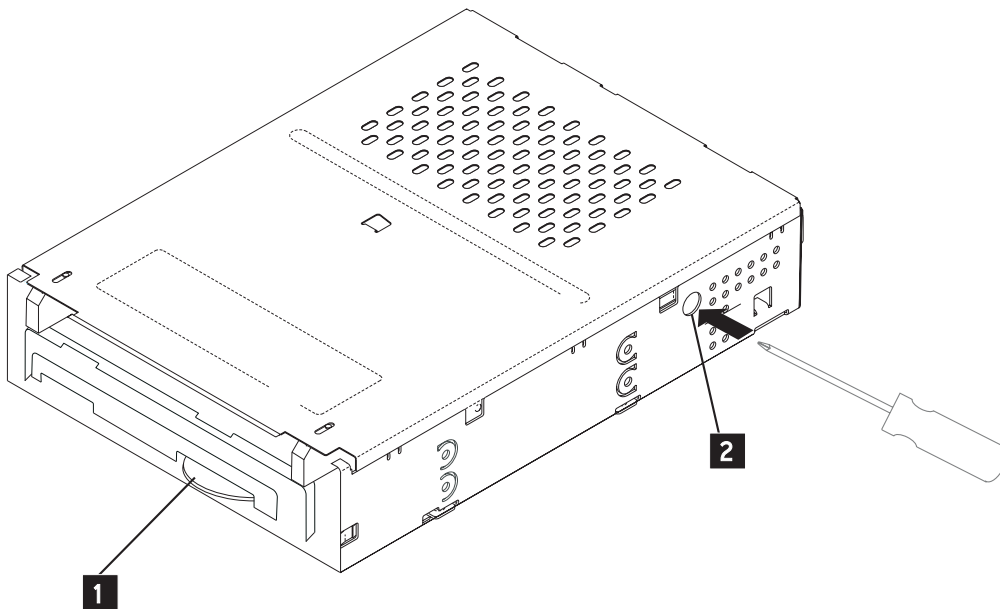


RBBU2514-0

Figure 99. Remove the bezel and top cover from the tape drive

4. Remove the top lid of the drive mechanism by doing the following:

- a. Use a small screwdriver to press the top tabs (see 2 in Figure 99 on page 555) on each side of the drive.
- b. Slide the cover approximately 5mm to the rear, and then lift the cover off.
5. Locate the large thumbwheel below the right side of the data cartridge.
6. Gently rotate the thumbwheel (see 1 in Figure 100) counterclockwise to remove slack from the tape by winding the media onto the take-up reel.



RBBU2511-0

Figure 100. Rotate the thumbwheel counterclockwise to remove slack from the tape and turn the load motor to release the cartridge

7. Insert a Phillips screwdriver in the load motor access hole (see 2 in Figure 100). Rotate the load motor clockwise to unwind the tape path. Unwind the mechanism until tape slack appears.
8. After tape slack appears, gently rotate the thumbwheel again to remove the slack from the tape by winding the media onto the take-up reel.
9. Repeat steps 7 and 8 until all of the tape media is wound onto the cartridge take-up wheel.
10. When the tape is completely rewound into the cartridge, turn the load motor clockwise until the tape cartridge is lifted out of the drive mechanism and ejected.
11. Remove the tape cartridge, install the bezel, and attach the top cover.
12. Reassemble the drive in reverse order. **This ends the procedure.**

6335 - 1/4 inch tape cartridge

Use this procedure to remove a tape cartridge manually from an internal 1/4 inch tape unit.

About this task

Use this procedure to remove a tape cartridge manually from an internal 1/4 inch tape unit. This procedure may be required if a defective tape cartridge or tape unit has caused the cartridge ejection function to fail, or if the data on the tape cartridge is either critical or sensitive and the customer cannot afford its loss.

Attention: This procedure is very delicate, and if not performed correctly, can damage or destroy the tape cartridge. Use this procedure only when you have attempted the other options for removing the tape cartridge.

1. Power off the tape unit.
2. Carefully lift and turn the manual tape cartridge unload lid **A**.

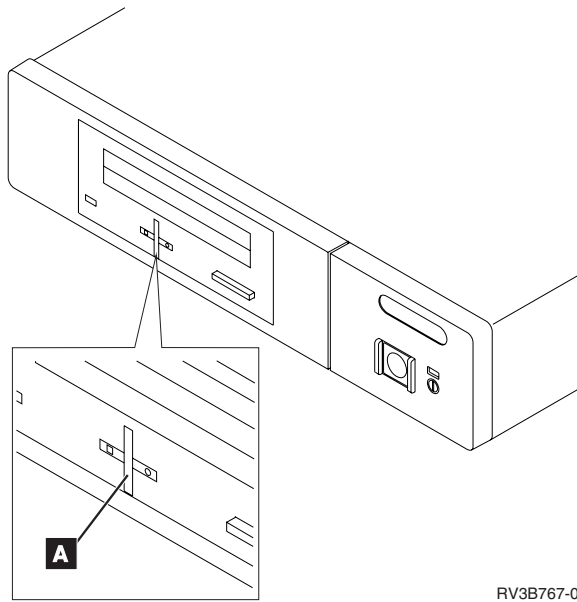


Figure 101. Manual tape cartridge unload lid

3. Insert a solid metal rod (such as a Bristol wrench) into the manual tape cartridge unload hole, and push in until it stops and the arm appears.

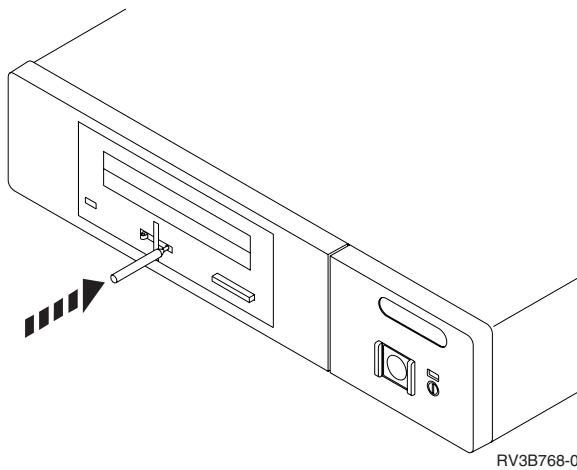


Figure 102. Metal rod being inserted into the manual tape cartridge unload hole

4. Pull the arm out until it stops. Insert the solid metal rod into the hole of the arm, and pull out until the tape cartridge comes out.

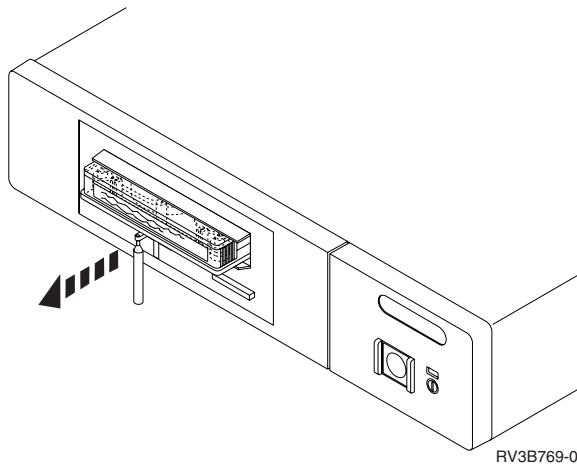


Figure 103. Removing the tape cartridge

5. Remove the tape cartridge.
6. Push the arm back in until it stops, turn the manual tape cartridge lid back to the starting position and push it back in place. **This ends the procedure.**

Results

6383, 6384, 6385, 6386, 6387 - tape cartridge

Use this procedure to manually remove a tape cartridge from a 6383, 6384, 6385, 6386, or 6387 tape unit. You may need this procedure if a power failure or tape unit failure prevent the tape cartridge from ejecting.

About this task

Attention: This procedure is very delicate and may damage or destroy the tape cartridge. Use this procedure only when you have tried the other options for removing the tape cartridge.

1. Open the tape unit door and check the location of the bridge.
2. If the bridge is engaged to the cartridge, go to the Locked position procedure.
3. If the bridge is moved away from the cartridge, go to the Standby position procedure

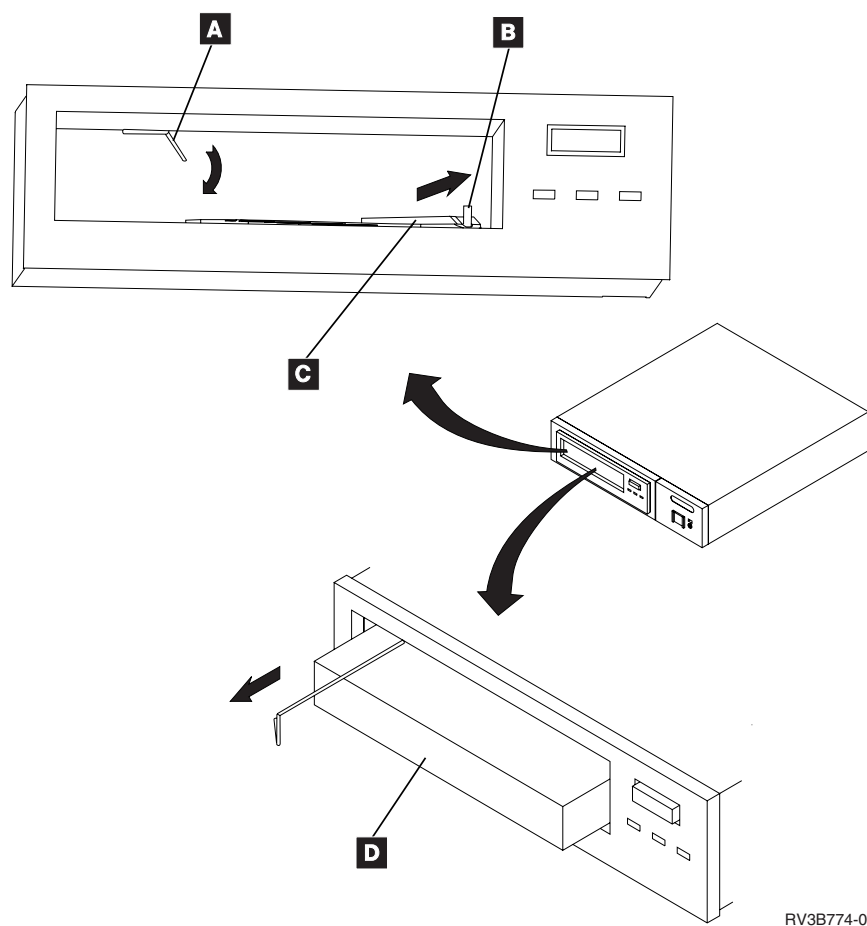
Locked position:

1. Power off the tape unit.
2. Open the tape unit door.
3. Locate the metal axle **B** inside the tape unit. Look toward the lower-right corner.
4. Insert a pointed object (such as a pen or screwdriver) into the tape unit and push the axle inward.
5. Push the bridge **C** to the right. The tape unit is now in standby position.
6. Continue with the Standby position procedure.

Standby position:

1. Power off the tape unit.
2. Open the tape unit door.
3. Locate the hook shaped metal rod **A** inside the tape unit in the upper-left corner.
4. Insert a pointed object (such as a pen or screwdriver) into the tape unit and push the metal rod downward.
5. Pull the metal rod forward until the cartridge ejects. The cartridge **D** is pushed out of the tape unit door and can be removed.

Results



RV3B774-0

Figure 104. Tape cartridge manual removal

This ends the procedure.

Optical media (CD-ROM, DVD-ROM, and DVD-RAM) - manual removal

Use this procedure to manually remove optical media (CD-ROM, DVD-ROM, or DVD-RAM) from the disc tray.

About this task

Note: If the device power is lost due to a power failure or other reason while the disc tray is closed in the device and it is necessary to open the disc tray, the eject pin (see the following specifications) can be inserted into the emergency eject hole on the front bezel, causing the disc tray to open, allowing you to remove the media.

Attention: Damage to a DVD-RAM device can result if the manual ejection function is used while the device is powered on. Remove the device before manually ejecting the media.

1. Insert the eject pin that is approximately 1.5 mm in diameter and at least 60 mm (DVD-RAM) or 35 mm (CD-ROM) in length into the manual eject hole and push firmly. The front edge of the tray will push open approximately 1/4 of an inch. Push until the disc tray opens far enough to remove the media.

Note: If an eject pin is not easily obtainable, you can use a long paper clip.

2. Grasp the tray and slowly pull it out far enough to remove the media. **This ends the procedure.**

Removing and replacing parts in the OpenPower

Use this information to exchange parts in the OpenPower systems.

Verifying the repair

Verifying the repair topics.

Use this information to verify hardware operation after making repairs to the system. Choose the operating system that you are working with:

Verifying the repair in AIX and Linux

End of call procedure for servers with Service Focal Point.

About this task

Choose from the following:

- If you were sent here after completing a service action on an AIX server or partition, go to Repair Checkout.
- If you were sent here after completing a service action on a Linux server or partition, go to Verify the installed part.

End of call procedure for servers with Service Focal Point

1. For future reference, record the SRC or symptom and the location code of the FRU you replaced.
2. On the HMC, open Service Focal Point and examine the service action event log for any open service action events.
3. Are there any service action events that are open?
No If the system attention LED is still on, turn off the LED as described in Activating and deactivating LEDs. This completes the repair; return the system to the customer.
Yes Go to step 4.
4. Record the list of open service action events.
5. From the list of serviceable events recorded in step 4, perform step 6 through step 32 on page 563 for each open service action event.
6. Determine the error class of the serviceable event. Record for future use.
7. Examine the details of the open service action event.
Is the error code associated with this service action event the same as recorded in Step 1322-1?
No Go to step 27 on page 562.
Yes Go to step 11 on page 562.
8. Examine the FRU list of the service action event. Are there any FRUs listed for the service action event?
No Go to step 11 on page 562.
Yes Go to step 9.
9. Is the FRU list identical (same FRUs, same number of FRUs, and same order of FRUs) to the FRU list of the error code recorded in step 1?
No Go to step 10.
Yes Go to step 11 on page 562.
10. The FRU list is different.
Is the FRU you replaced and recorded in step 1 in the list of FRUs for this service action event?

No Go to step 32 on page 563.

Note: There are service action events that will remain open when you leave this MAP.
Further service actions may be required to complete the repair.

Yes Go to step 11.

11. Examine the details of this service action event, and record the partitions involved in this service action event for use in a later step.
12. Is the error code associated with this service action event of the form A11-xxx or A01-xxx?
 - No** Go to step 17.
 - Yes** Go to step 13.
13. Have you begun a list of "Axx" partitions from prior service action events that you processed in this MAP?
 - No** Go to step 14.
 - Yes** Go to step 15.
14. Begin a new list of "Axx" partitions by copying the list of partitions obtained in step 11. Go to step 16.
15. Add the partition list obtained in step 11 to the existing list of "Axx" partitions obtained from processing previous service action events in this MAP.
16. Remove all entries in the list of all partitions you recorded in step 11. If you are referred to the list of partitions obtained in step 11 in future steps, the list is empty. Go to step 17.
17. Select and highlight the service action event from the Error Associated With This Serviceable Event window.
18. Click **Close Event**.
19. Add comments for the serviceable event. Include any unique additional information. Click **OK**.
The following steps will add or update FRU information.
20. Did you replace, add, or modify a FRU of the open service action event?
 - No** Go to step 22.
 - Yes** Go to step 21.
21. From the FRU list, select a FRU that you need to update. Double-click on the FRU, and update the FRU information. Go to step 23.
22. Select the **No FRU Replaced for this Serviceable Event** option.
23. Click **OK** to close the service action event.
24. Is the list of all partitions you recorded in step 11 empty?
 - No** Go to step 25.
 - Yes** Go to step 32 on page 563.
25. Does the list of all partitions you recorded in step 11 contain more than one entry?
 - No** Go to step 32 on page 563.
 - Yes** Go to step 26.
26. Is the error class recorded in step 25 AIX?
 - No** Go to step 32 on page 563.
 - Yes** Go to step 27.
27. Perform the following steps for each entry in the list of all partitions you recorded in step 11, except the partition you were using to debug the original problem.
28. From the HMC virtual terminal window of a partition in the list of all partitions, type `diag` at the AIX command prompt.

29. When the diagnostic operating instructions are displayed, do the following:
 - a. Press Enter.
 - b. Select the **Task Selection** option.

Note: If the terminal type is not defined, you are prompted to define it before you can proceed.
 - c. Select the **Log Repair** option.
 - d. Select the resource associated with the repair action. If the repair action was reseating a cable or adapter, select the resource associated with that repair action. If the resource associated with your repair action is not displayed on the Resource List, select **sysplanar0**.
 - e. Click **Commit** after you have made your selection.
30. Exit from diagnostics in this partition and return to the AIX prompt.
31. Have all the partitions in the list of all partitions you recorded in step 11 on page 562 been processed?

No Go to step 27 on page 562 to process the next partition in the list you recorded in step 11 on page 562.

Yes Go to step 32.
32. Have all the serviceable events recorded in step 4 on page 561 been processed?

No Go to step 5 on page 561 and process the next service action event in the list of serviceable events recorded in step 4 on page 561.

Yes Go to step 33.
33. While processing all service action events, were you directed to step 14 on page 562?

No If the system attention LED is still on, turn off the LED as described in Activating and deactivating LEDs. This completes the repair. Return the system to the customer.

Note: If during the processing of the list of open service action events, some service action events remained open, further service actions may be required to complete the repair.

Yes Go to step 34.
34. Perform the following steps for each entry in the list of "Axx" partitions you began recording in step 14 on page 562, except the partition you were using to debug the original problem.
35. From the HMC virtual terminal window of a partition in the list of "Axx" partitions, type `diag` at the AIX command prompt.
36. When the diagnostic operating instructions are displayed, do the following:
 - a. Press Enter.
 - b. Select the **Task Selection** option.

Note: If the terminal type is not defined, you are prompted to define it before you can proceed.
 - c. Select the **Log Repair** option.
 - d. Select the resource associated with the repair action. If the repair action was reseating a cable or adapter, select the resource associated with that repair action. If the resource associated with your repair action is not displayed on the Resource List, select **sysplanar0**.
 - e. Click **Commit** after you have made your selection.
37. Exit from diagnostics in this partition and return to the AIX prompt.
38. Have all the partitions in the list of "Axx" partitions you began recording in step 14 on page 562 been processed?

No Go to step 34 to process the next partition in the list you recorded in step 14 on page 562.

Yes If the system attention LED is still on, turn off the LED as described in Activating and deactivating LEDs. This completes the repair. Return the system to the customer.

Note: If during the processing of the list of open service action events, some service action events remained open, further service actions may be required to complete the repair.

Verifying the repair in i5/OS

Verifying the repair topics.

Depending on whether you were sent here after completing a concurrent maintenance procedure or a dedicated maintenance procedure, choose one of the following:

Verifying a concurrent repair

Use this procedure to verify a repair that was performed by using concurrent maintenance. Perform this procedure from the partition on which you performed the service action.

1. Was concurrent maintenance just performed on an optical storage unit?
 - **No:** Continue with the next step.
 - **Yes:** The Product Activity Log (PAL) and Service Action Log (SAL), in most cases, contain a reference code for the optical storage unit when concurrent maintenance is performed. You may ignore this reference code. Perform the following:
 - Perform the Verification procedures in the Service functions to verify that the problem is corrected.
 - Return the system to the customer and have the customer verify the system date and time. **This ends the procedure.**
2. Use the SAL to look for any new reference codes (see Using the Service Action Log). Are there any new reference codes?
 - No:** Go to step 5.
 - Yes:** Continue with the next step.
3. Is the new reference code the same as the original reference code?
 - No:** A new symptom may have occurred. Go to Start of call procedure to determine the cause of the problem. **This ends the procedure.**
 - Yes:** Continue with the next step.
4. Are there any other failing items that remain to be exchanged?
 - Yes:** Exchange the next failing item listed for reference code. **This ends the procedure.**
 - No:** Contact your next level of support for assistance. **This ends the procedure.**
5. Are you working with a tape device?
 - **No:** Continue with the next step.
 - **Yes:** Perform the Verification procedures in the Service functions to verify that the problem is corrected. After the verification test has completed, the tape device description will be set to the *failed* state because a resource change was detected. Perform the following:
 - Vary the tape device description off and then on.
 - Return the system to the customer and have the customer verify the system date and time. Then go to “Verifying the repair from the HMC” on page 565. **This ends the procedure.**
6. Are you working with an IOP or an IOA?
 - **No:** Perform the Verification procedures in the Service functions to verify that the problem is corrected. Resources that usually vary on automatically during IPL, or that were previously varied on manually, may need to be varied back on after the verification procedures have been completed. Return the system to the customer and have the customer verify the system date and time. **This ends the procedure.**
 - **Yes:** Use the display hardware configuration service function to check for any missing or failed hardware:

- a. On the command line, enter the Start System Service Tools command (STRSST). If you cannot get to SST, select DST (see Dedicated Service Tools (DST) in the Service functions).
Attention: Do not IPL the system or partition to get to DST.
- b. On the Start Service Tools Sign On display, type in a user ID with service authority and password.
- c. Select **Start a service tool** → **Hardware service manager** → **Logical hardware resources** → **System bus resources**.
- d. Select the function key for **Include non-reporting resources**.
- e. If the IOP or IOA that you just replaced is a *failed* or *non-reporting* resource, the problem has not been fixed. Continue to the next failing item in the failing item list. **This ends the procedure.**

Verify a dedicated repair

Use this procedure to verify a repair that was performed by using dedicated maintenance.

1. Perform the following:
 - a. Verify that the power cable is plugged into the power outlet.
 - b. Verify that power is available at the customer's power outlet.
2. Select the IPL type and mode for the system or partition that the customer uses (see IPL type, mode, and speed options in the Service functions).
3. Start an IPL by powering on the system or partition (see Powering on and powering off). Did the system complete the IPL?

Yes: Continue with the next step.

No: This may be a new problem, go to Start of call procedure. **This ends the procedure.**
4. Use the SAL or serviceable event view (if the system is managed by an HMC) to look for any reference codes that are related to this IPL (see Using the Service Action Log). Are there any reference codes that are related to this IPL?

Yes: Continue with the next step.

No: If the problem was related to removable media or communications, perform the Verification procedures in the Service functions to verify that the problem is corrected. Then return the system to the customer and have the customer verify the system date and time. **This ends the procedure.**
5. Is the new reference code the same as the original reference code?

Yes: Continue with the next step.

No: A new symptom may have occurred, go to Start of call procedure. **This ends the procedure.**
6. Are there any other failing items that remain to be exchanged?

Yes: Exchange the next failing item listed for this reference code. **This ends the procedure.**

No: Contact your next level of support for assistance. **This ends the procedure.**

Verifying the repair from the HMC

Perform these procedures to close problem numbers, clear hardware messages, and prepare the server to return to the customer.

About this task

Perform these procedures to close problem numbers, clear hardware messages, and prepare the server to return to the customer.

Follow this checklist before performing the procedures:

- You return the server to the state that the customer normally uses such as IPL type, IPL mode, and the way the system is configured or partitioned.

Attention: Before returning the system to the customer, remove the system from service mode. If the system is left in service mode, it automatically places a call for service every two hours.

- While you were performing the problem analysis on the original serviceable event, other serviceable-event numbers might have been opened. Close all serviceable events that were opened as a result of your service activity.
- Server verification has been performed and there are no problems that require additional service actions.
- If the repair was done using the HMC online repair procedures, ensure that the original serviceable event is now closed.

1. Is an HMC used to manage the server that you are servicing?

No: Return to the Verifying the repair. **This ends the procedure.**

Yes: Continue with step 2.

2. Are you closing a service event that was a repair on the HMC personal computer?

No: Go to step 4.

Yes: Continue with step 3.

3. Power on the HMC. Did the power-on process complete without errors?

No: Go to the HMC isolation procedures. **This ends the procedure.**

Yes: Ensure that the HMC can be used to perform server management tasks, and return the HMC to normal operations. **This ends the procedure.**

4. Log into the HMC as the service representative. If invalid user or invalid password displays, get the correct login information from the system administrator.

a. If logged on the System Manager, select Exit from the Console, located on the System Manager window.

b. Login to the System Manager with the following: User identification service Password service mode

5. View Serviceable Event Details.

Note: Only the events that match all of the criteria you specify are shown.

a. In the Navigation area, select the **Service Applications** icon.

b. In the Navigation area, select the **Service Focal Point** icon.

c. In the Contents area, select **Manage Serviceable Events**.

d. Designate the set of Serviceable Events you want to view. When you are finished, click OK. The **Service Event Overview** window opens.

6. Close open or delayed events.

a. Select the problem to close, on the **Service Event Overview** window.

b. Select the menu Selected, located on the menu bar.

c. Click **Close Event**.

d. Enter your comments in the **Serviceable Event Comments** window, and click **Close Event**.

e. Close all events associated with the problem on which you were working.

7. Did the Service Event Overview window contain the event or events on which you were working?

No: Go to Detecting problems. **This ends the procedure.**

Yes: Return the HMC to normal operations. **This ends the procedure.**

System safety inspection

Provides instructions for performing a safety inspection on the system.

About this task

A safety inspection for the system should be performed:

- when it is inspected for an IBM maintenance agreement,
- when IBM service is requested and no service has recently been performed by IBM,
- when an alterations and attachments review is performed, or
- when changes have been made to the equipment that might affect its safety.

If the inspection indicates safety conditions that are not acceptable, the conditions must be corrected before IBM services the machine.

Note: The correction of any unsafe condition is the responsibility of the system owner.

While performing this inspection, special attention must be given to these areas:

- Feature and model changes and engineering change (EC) upgrades
- Additions of non-IBM power supplies or attachments
- Missing safety covers
- Removed, faded, or painted-over safety labels
- Replacement requirements concerning parts for primary power
- Any other items relating to the product's safety

Before you start, you must have completed the *Electrical Safety Education Course for IBM Service Representatives* (self-study course 77170 or equivalent).

You will need these items:

- An IBM service representative tool kit (or equivalent)
- A copy of Service Memorandums (SMs), which include engineering change announcements (ECAs) and service aids (SAs) documents for the system
- Latest machine history, if possible
- *Electrical Safety for IBM Service Representatives*, S229-8124
- A Fluke** 8060A digital voltmeter (part 8496278) or equivalent

Perform the following safety checks:

Covers

1. Check for any missing or damaged covers.
2. Check the covers for any sharp edges.

AC power cords

1. With the machine powered off, remove the power cord from the electrical outlet.
2. Check the power cord and power plug for visible cracks, wear, or damage.
3. Check for 1.0 ohm or less of resistance between the power cord ground and the power supply frame.
4. Ensure that the power cord is fully inserted and secured into position on the machine end.
5. Ensure that the power cord required for your country or region, and system, is installed. See Determine power cord, plug, and receptacle type) in the Planning topic.

AC safety grounds

1. Ensure that all power supply mounting screws are tight.
2. Ensure that the mounting screws of the ac module or internal uninterruptible power supply are tight.

Safety labels

About this task

Ensure that all the safety labels are visible and readable:

- Main power rating attached to the right side frame at the back of the machine.
- 240 V AC attached to each 23 pin connector (J2 and J3) on AC modules that have SPCN connectors (J15 and J16) (46G3576).
- Danger up to 240 V AC attached to the bottom frame under the power supplies (46G3575).
- Weight restriction label attached under the handle on the cover of the External Battery Backup Unit (74F9976).
- Main power rating attached to the left side frame at the back of the machine.
- Danger up to 240 V AC attached to the bottom frame under each power supply (90H6275).
- Caution Lead Acid battery attached to side of internal battery unit (21H7089).
- Weight restriction label attached to top of internal battery (74F9976).
- Weight restriction label attached to top of power sub-frame assembly (74F9976).
- Models 640, 730 and S30 only: Two weight restriction labels attached to SPD/DASD cage sub-frame assembly (74F9976).
- Two weight restriction labels attached to active back plane assembly (74F9976).
- Main power rating attached to back plate on external battery unit.
- Caution lead Acid battery label attached to back plate on external battery unit (21H7089).
- Weight restriction label attached to base at rear of external battery unit (74F9978).

Power off and on (system unit)

1. Ensure that the system powers off correctly.
2. Ensure that the system powers on correctly.

Internal mechanical inspection

1. Ensure that air moving device (AMD) shields are installed on the AC module AMD assembly.
2. Ensure that the electromagnetic compatibility (EMC) access plate is installed over the power supplies.
3. Ensure that the card retainers are installed on the front and back of the card enclosure.
4. Ensure that the latch to lock the bottom adapter card is installed on all Magnetic Storage IOP (2624) cards with part number 86G8317.
5. Ensure that the safety shield is installed over the left side of the expansion unit AMD assembly.

6. Check the external battery backup power supply cable (if present) for visible cracks, wear, or damage.

Models 640, 730, and S30 only:

1. Ensure that the retainer that holds the vertical SPD card separators is in place.
2. Ensure that the vertical rods between DASD units are in place (model 640, 730 and S30 only).
3. Ensure that the EMC access plate is installed over the charger and internal battery unit.
4. Ensure that the EMC access plates are installed over all cages.

Appendix. Notices

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Regulatory notices

Class A Notices

The following Class A statements apply to the IBM System i models and IBM System p servers with the exception of those that are specifically identified as Class B.

Federal Communications Commission (FCC) statement

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the 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 A digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe A respecte 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 89/336/EEC 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 A Information Technology Equipment according to European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

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

VCCI Statement - Japan

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The following is a summary of the VCCI Japanese statement in the box above.

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

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：

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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

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Radio Protection for Germany

Dieses Gerät ist berechtigt in Übereinstimmung mit Dem deutschen EMVG vom 9.Nov.92 das EG-Konformitätszeichen zu führen.

Der Aussteller der Konformitätserklärung ist die IBM Germany.

Dieses Gerät erfüllt die Bedingungen der EN 55022 Klasse A. Für diese von Geräten gilt folgende Bestimmung nach dem EMVG:

Geräte dürfen an Orten, für die sie nicht ausreichend entstört sind, nur mit besonderer Genehmigung des Bundesministers für Post und Telekommunikation oder des Bundesamtes für Post und Telekommunikation betrieben werden. Die Genehmigung wird erteilt, wenn keine elektromagnetischen Störungen zu erwarten sind.

(Auszug aus dem EMVG vom 9.Nov.92, Para.3, Abs.4)

Hinweis

Dieses Genehmigungsverfahren ist von der Deutschen Bundespost noch nicht veröffentlicht worden.

Class B Notices

The following Class B statements apply to model 9111-520 (stand-alone version), 9131-52A (stand-alone version), 7047-185 and the 9111-285.

Federal Communications Commission (FCC) statement

Note: 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 using other than recommended cables or connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the 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 interferences, and (2) this device must accept any interferences 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 EC Council Directive 89/336/EEC 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 CISPR 22 / 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 devices.

Properly shielded and grounded cables and connectors must be used in order to reduce the potential for causing interference to radio and TV communications and to other electrical or electronic equipment. Such cables and connectors are available from IBM authorized dealers. IBM cannot accept responsibility for an interference caused by using other than recommended cables and connectors.

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The following is a summary of the VCCI Japanese statement in the box above.

This is a Class B product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

IBM Taiwan Product Service 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

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(Auszug aus dem EMVG vom 9.Nov.92, Para.3, Abs.4)

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