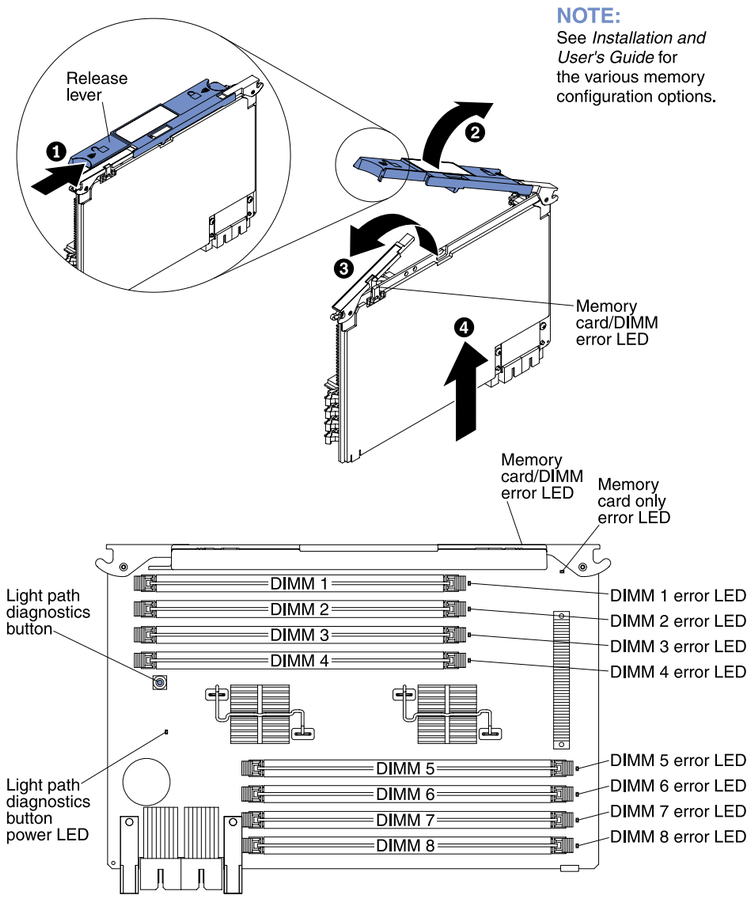
ATTENTION: For proper cooling, do not leave top cover off for more than 2 minutes at a time while system is running.

System Service Information

P59Y4648

Memory

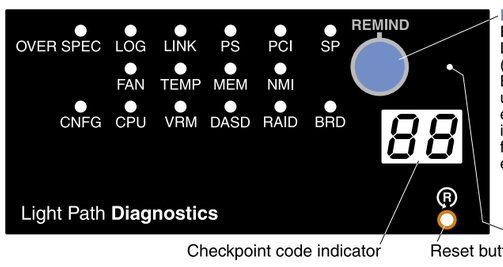


NOTE: See *Installation and User's Guide* for the various memory configuration options.

DIMM Installation Order

Order	DIMM Slots Populated
1st pair	1 and 8
2nd pair	3 and 6
3rd pair	2 and 7
4th pair	4 and 5

Light Path Diagnostics

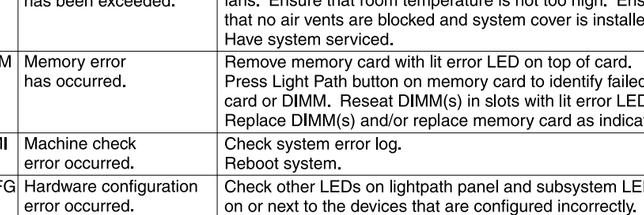


Remind Button: Press to put the system error LED into the Remind mode (flashes every 2 seconds). By pressing the button, the user acknowledges a system error but does not take immediate action. If a new failure occurs, the system error LED will turn on again.

LED	Description	Action
OVER SPEC	Power supplies are over their max rating.	Add power supply option if only one is installed. Replace failed power supply. Use 220V AC input power. Remove optional devices.
LOG	Information is present in the System Event Log.	Read information in the System Event Log and take appropriate action. The Remind Button also turns off the System Information LED and the LOG LED.
LINK	QPI Expansion port or cable fault. (scaled systems only)	Check QPI Expansion port link LEDs to identify failed port or cable (LED above QPI port off = problem). Reseat cable. Replace cable.
PS	Power supply has failed.	Check power supply AC, DC, and Error LEDs. Reseat installed power supplies. Replace failed power supply.
PCI	Error on indicated PCI bus.	Check system error log and I/O board LEDs to identify failing bus. Replace failed card.
SP	Service processor error.	Update firmware on uEFI and IMM. Power down, disconnect AC power, then restart system.
FAN	Fan failure.	Check LEDs on hot swap fans. Ensure indicated fan is seated properly. Replace indicated fan. Ensure all fans are installed.
TEMP	Temperature threshold has been exceeded.	Ensure all fans are seated properly and replace any failed fans. Ensure that room temperature is not too high. Ensure that no air vents are blocked and system cover is installed. Have system serviced.
MEM	Memory error has occurred.	Remove memory card with lit error LED on top of card. Press Light Path button on memory card to identify failed card or DIMM. Reseat DIMM(s) in slots with lit error LEDs. Replace DIMM(s) and/or replace memory card as indicated.
NMI	Machine check error occurred.	Check system error log. Reboot system.
CNFG	Hardware configuration error occurred.	Check other LEDs on lightpath panel and subsystem LEDs on or next to the devices that are configured incorrectly. Check that the microprocessors installed match each other in clock speed, cache size and type, and have identical internal and external clock frequencies. Check that adapter cards are only installed in slots 5-7 if no CPUs are in socket 3 or 4. Check system error log. Check memory configuration.
CPU	Microprocessor has failed.	Check microprocessor board LEDs to identify failed CPU. Reseat CPU. Replace failed CPU.
VRM	Reserved.	Reserved.
DASD	Hard disk drive error.	Replace drive with lit error LED. Drive is missing and should be reinserted in the same location. Replace DASD backplane.
RAID	Reserved.	Reserved.
BRD	Indicated board error detected.	Check system error log. Reboot system. Check PCIe and CPU board error LEDs. Replace indicated board.

NOTE: Light Path buttons on the memory cards will light LEDs for failed components after card is removed from the system.

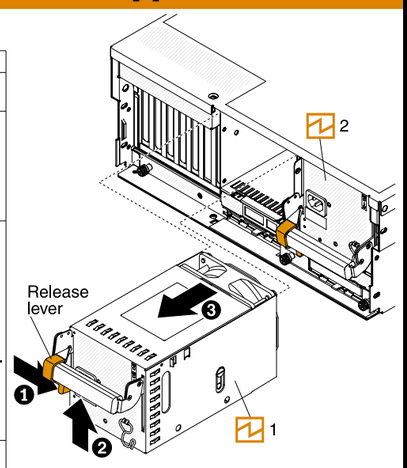
Operator Information Panel



Hot-Swap Power Supplies

Power Supply Indicators

AC	DC	!	Description and Action
On	On	Off	The power supply is on and operating correctly.
On	Off	---	There is a DC power problem. Possible causes: 1) The power supply has failed. *Action:* Replace the power supply. If the problem persists, have the system serviced.
Off	Off	---	There is an AC power problem. Possible causes: 1) There is no AC power to the power supply. *Actions:* Verify that: • The power cord is properly connected to the server. • The power outlet functions properly. 2) The power supply has failed. *Action:* Replace the power supply. If the problem persists, have the system serviced.
---	---	On	The power supply has failed. *Action:* Replace the power supply.



Microprocessors

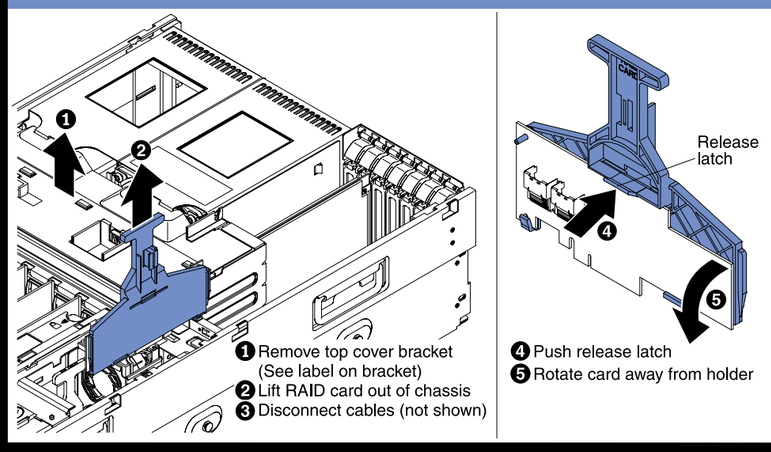
Microprocessor Installation Order

Order	Microprocessor #
1st	1
2nd	4
3rd	2
4th	3

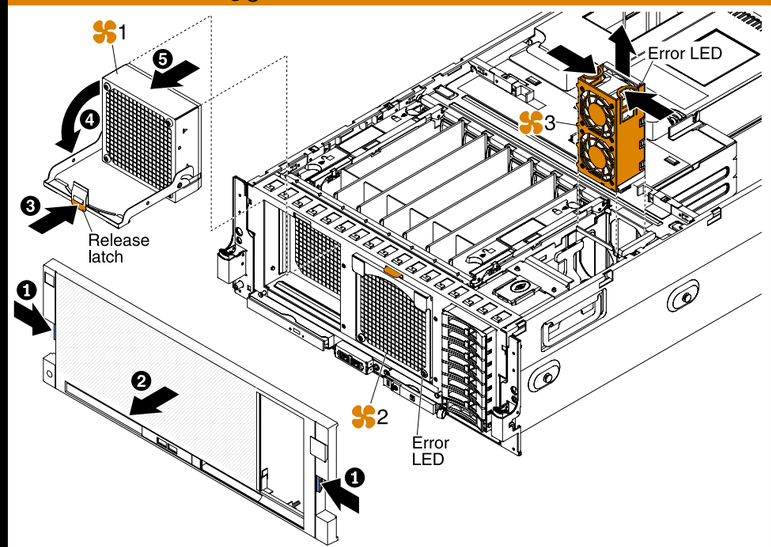
Memory Cards and Microprocessor Connections

Microprocessor #	Memory Cards
1	1 and 2
2	3 and 4
3	5 and 6
4	7 and 8

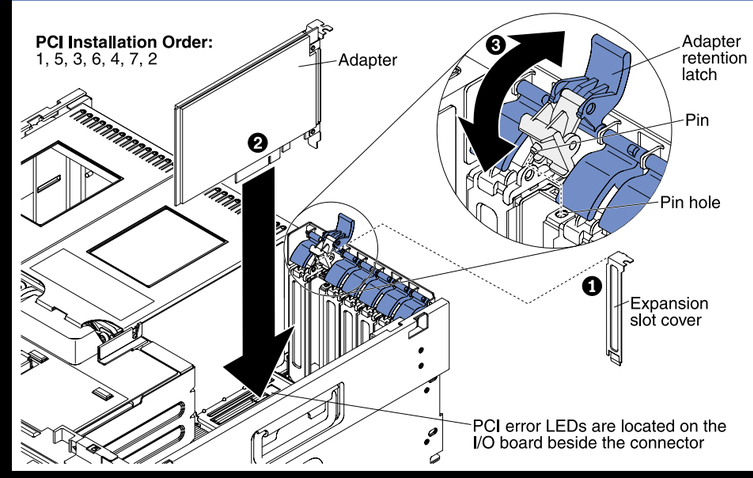
RAID Card



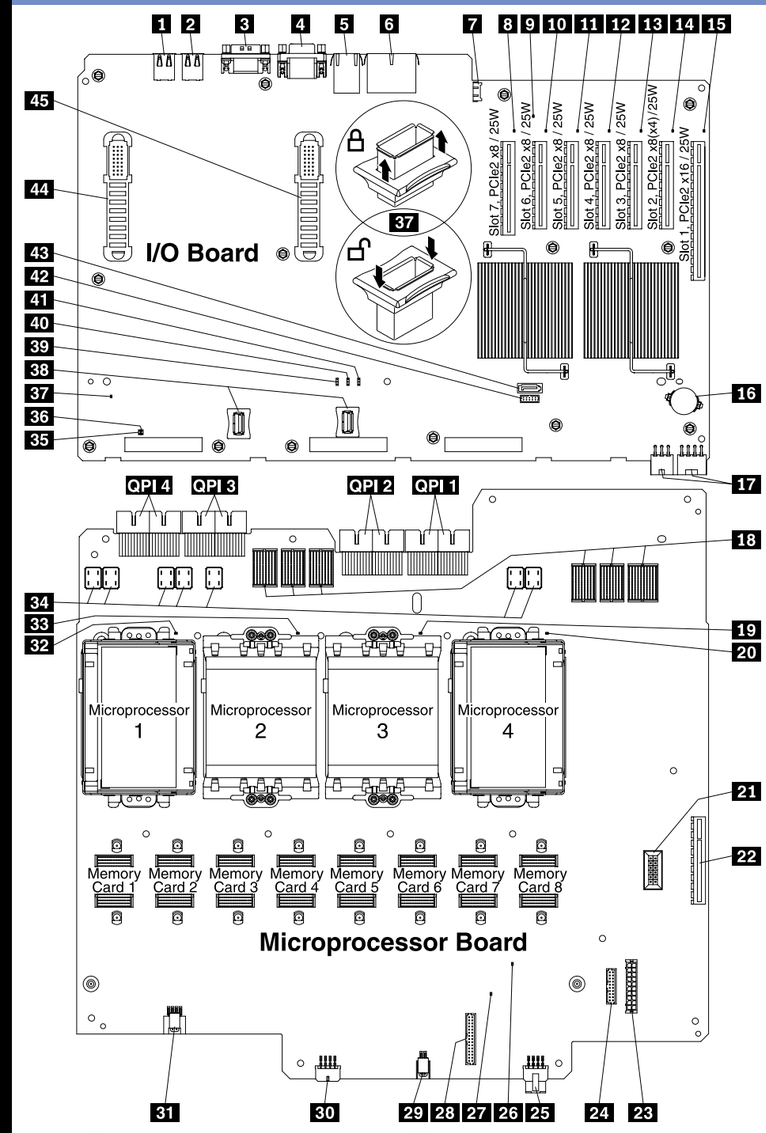
Hot-Swap Fans



PCIe Adapters



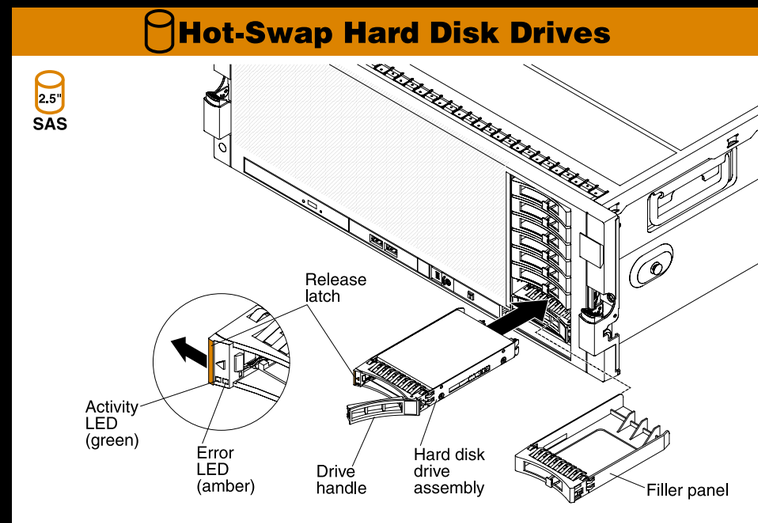
System Boards



1 USB 6 & 7 Connectors
2 USB 4 & 5 Connectors
3 Serial Connector
4 Video Connector
5 IMM Ethernet Connector
6 Dual Ethernet Connectors
7 IMM Serial Debug
8 Slot 7, PCIe Error LED
9 I/O Board Error LED
10 Slot 6, PCIe Error LED
11 Slot 5, PCIe Error LED
12 Slot 4, PCIe Error LED
13 Slot 3, PCIe Error LED
14 Slot 2, PCIe Error LED
15 Slot 1, PCIe Error LED
16 3V Lithium Battery
17 PCIe Auxiliary Power
18 I/O Board Connectors
19 Microprocessor 3 Error LED
20 Microprocessor 4 Error LED
21 Fan 3 Connector
22 SAS Connector
23 SAS Backplane Power Connector
24 SAS Backplane Misc Data Connector
25 Fan 2 Connector
26 System Management Heartbeat LED
27 Microprocessor Board Error LED
28 Front Panel/Lightpath Connector
29 Scalability LED Connector
30 Fan 1 Connector
31 CD/DVD Power Connector
32 Microprocessor 1 Error LED
33 Microprocessor 2 Error LED
34 I/O Board Power Connectors
35 Main Power Request
36 Force Power Supply On
37 Power Fault
38 Internal USB Connectors
39 Wake-On-LAN Jumper (J31)
40 Power-On Password Jumper (J29)
41 Boot Recovery Jumper (J22)
42 Front USB Connector
43 SATA DVD Connector
44 Power Supply 2 Connector
45 Power Supply 1 Connector

QPI QPI Expansion port cable connectors and link LEDs (scalable systems only)

Hot-Swap Hard Disk Drives



Red Outline is for Die Cut ONLY!

419.34 mm

505 mm

Red Outline is for Die Cut ONLY!

MANUFACTURING NOTES:

1. Graphics shall conform to the Artwork above.
2. Ink colors to match PMS Black, PMS 2718C, and PMS 1525C.
3. Refer to label print part number 59Y4648 for manufacturing and material notes.

Must conform to Eng. Spec: 80X2324
Tolerances unless noted: Linear ± 0.3
SI metric
0 mm 25

IBM

Art Part number 46D3176

EC number	Date	ID approval
N24529G	12/16/09	RA

Eng approval SW

Title Label, System Service