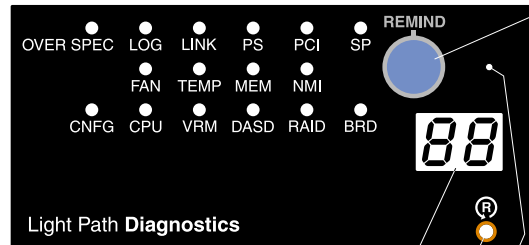


Blue on a component indicates touch points. Touch points are where you can grip the component to remove or install it from the system, open or close a latch, and so on.

## Light Path Diagnostics

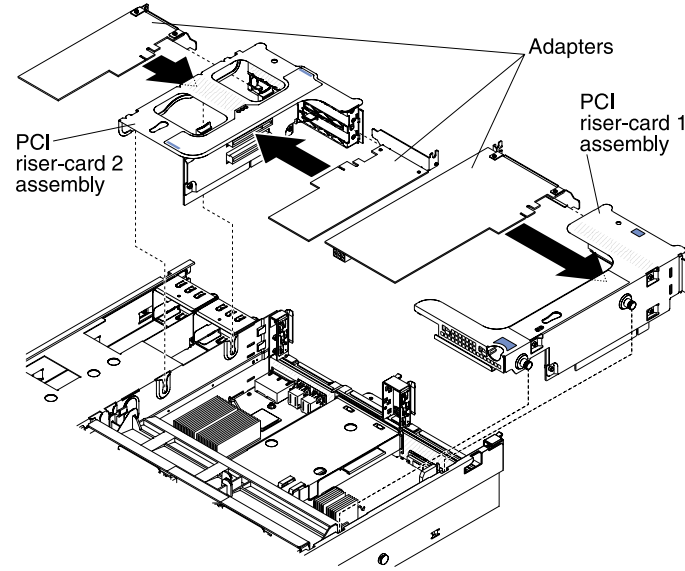


**Remind Button:** Press to put the system error LED into the Remind mode (flashes every 2 seconds). By pressing the button, the user acknowledges a system error but does not take immediate action. If a new failure occurs, the system error LED will turn on again.

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. 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/cable (LED is below and to the side of the rear QPI ports, off=problem). Reseat cable. Replace cable.
PS	Power supply has failed.	Check power supply AC, DC, and Error LEDs. Check input AC power. 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 then reconnect AC power, 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.	Press light path button on memory tray, if installed, to find problem DIMM. If not on this tray, remove memory tray and press light path button on system board. Reseat indicated DIMM. Replace indicated DIMM.
NMI	Machine check error occurred.	Check system error log. Reboot system.
CNFG	Hardware configuration error occurred.	Check system error log. Check other LEDs on light path panel and subsystem LEDs on or next to the devices that are configured incorrectly. Check that the two microprocessors installed match each other. 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. Check system board LEDs. Replace indicated part or system board.

**NOTE:** After removing the top cover, press the light path button on the memory tray (if installed) or the system board to light the LEDs on the failed part.

## PCIe Adapters



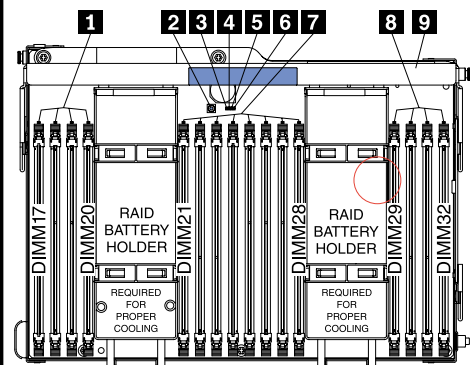
## Memory

### DIMM Pair Installation Order

Install Order	DIMM Slots Populated	Install Order	DIMM Slots Populated
1st	1 and 8	9th	17 and 24
2nd	9 and 16	10th	25 and 32
3rd	3 and 6	11th	19 and 22
4th	11 and 14	12th	27 and 30
5th	2 and 7	13th	18 and 23
6th	10 and 15	14th	26 and 31
7th	4 and 5	15th	20 and 21
8th	12 and 13	16th	28 and 29

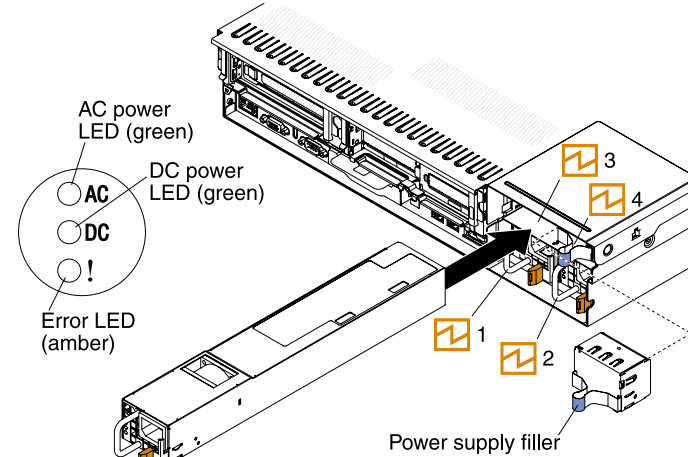
**NOTE:** Two microprocessors must be installed to use the memory tray.

## Memory Tray



- 1 DIMMs 17-20 Error LEDs
- 2 Light Path Button
- 3 Memory Error LED
- 4 Memory Card Error LED
- 5 Light Path Power LED
- 6 Look at System Board LED
- 7 DIMMs 21-28 Error LEDs
- 8 DIMMs 29-32 Error LEDs
- 9 Cam Handle

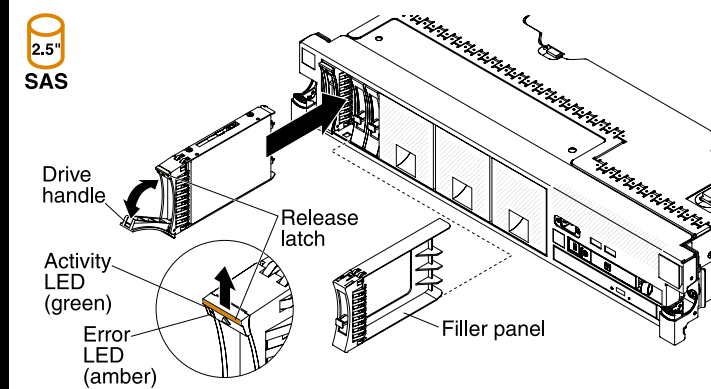
## Hot-Swap Power Supplies



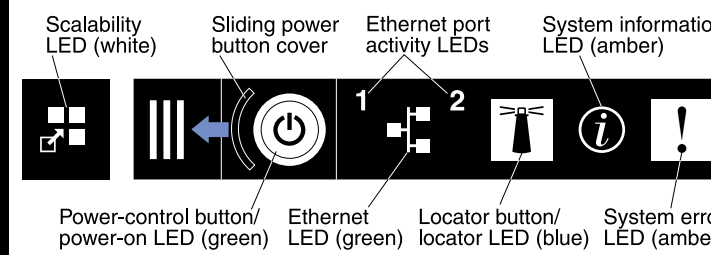
### Power Supply Indicators

AC	DC	Error	Description and Action
On	On	Off	The power supply is on and operating correctly. <b>Action:</b>
On	Off	Off	1) Reseat the power supply. 2) If 240 VA Error LED is on, replace system board. 3) If 240 VA Error LED is not on, replace power supply.
Off	On	Off	The power supply has failed. <b>Action:</b> Replace the power supply.
Off/On	Off/On	On	The power supply has failed. <b>Action:</b> Replace the power supply.
Off	Off	Off	There is an AC power problem. Possible causes: 1) There is an AC power input problem. <b>Actions:</b> Verify that: • The power cord is properly connected to the server. • The power source (outlet, PDU, UPS) is functioning correctly. 2) The power supply has failed. <b>Action:</b> Replace the power supply.

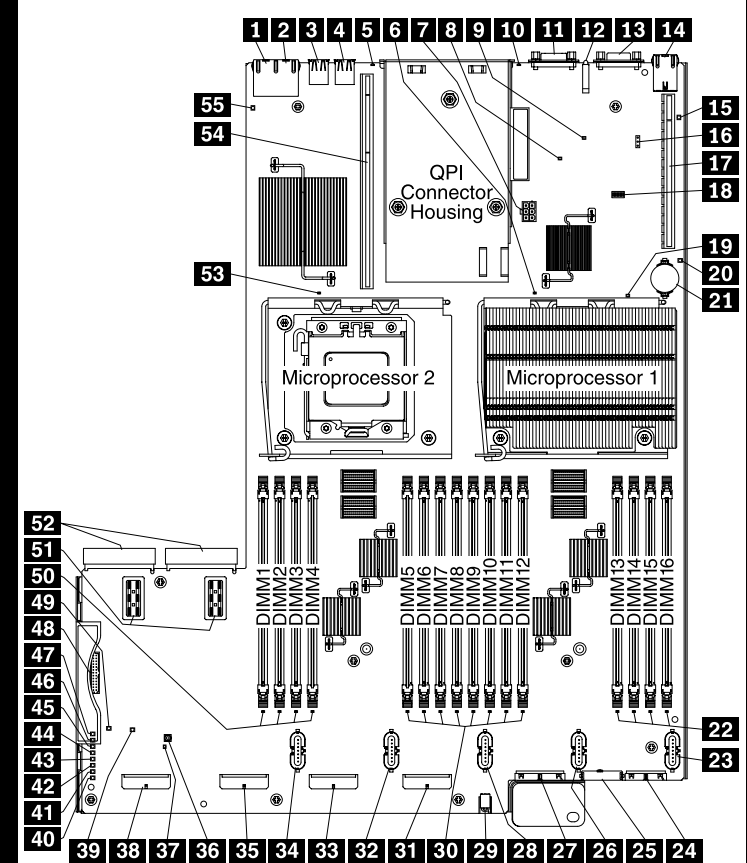
## Hot-Swap Hard Disk Drives



## Operator Information Panel



## System Board



- 1 Ethernet 2
- 2 Ethernet 1
- 3 USB 5 and 6
- 4 USB 3 and 4
- 5 Link OK LED, QPI Port 2
- 6 Microprocessor 1 Error LED
- 7 VGA Aux Power Connector
- 8 IMM Heartbeat LED
- 9 FPGA Heartbeat LED
- 10 Link OK LED, QPI Port 1
- 11 Serial
- 12 System/Locator/Power LEDs
- 13 Video
- 14 System Mgmt Ethernet
- 15 Riser 1 Missing LED
- 16 UEFI Boot Recovery Jumper
- 17 Riser 1 Connector
- 18 Switch Block
- 19 H8 Heartbeat LED
- 20 Battery Error LED
- 21 3V Lithium Battery
- 22 DIMMs 13-16 Error LEDs
- 23 Fan 5 Connector
- 24 Front USB/Video
- 25 SATA DVD/Simple Swap HDD
- 26 Fan 4 Connector
- 27 Front Operator Panel
- 28 Fan 3 Connector
- 29 Top Cover/Power Cut-off Switch
- 30 DIMMs 5-12 Error LEDs
- 31 Backplane 4 Power/Config Cable
- 32 Fan 2 Connector
- 33 Backplane 3 Power/Config Cable
- 34 Fan 1 Connector
- 35 Backplane 2 Power/Config Cable
- 36 Light Path Button
- 37 Light Path Power LED
- 38 Backplane 1 Power/Config Cable
- 39 240 VA - A Error LED
- 40 Power Channel C Error LED
- 41 Power Channel D Error LED
- 42 Power Channel E Error LED
- 43 Power Channel F Error LED
- 44 Power Channel G Error LED
- 45 Cover Latch Open LED
- 46 Over-Current Error LED
- 47 System Board Error LED
- 48 Power Interposer Cable Conn.
- 49 240 VA - B Error LED
- 50 DIMMs 1-4 Error LEDs
- 51 Power Interposer Card Conn.
- 52 Power Supply Connectors
- 53 Microprocessor 2 Error LED
- 54 Riser 2 Connector
- 55 Riser 2 Missing LED

Orange/terracotta on a component indicates that the component can be hot-swapped. Hot-swap means that if the system, operating system, and configuration all support hot-swap capability, you can remove or install the component while the system is running.

Red Outline is for Die Cut ONLY!

425 mm

Red Outline is for Die Cut ONLY!

### MANUFACTURING NOTES:

1. Graphics shall conform to the Artwork above.
2. Ink colors to match PMS BlackC, PMS 1525C, and PMS 2718C.
3. Fonts: Helvetica and Helvetica Black
4. Refer to label print part number 59Y7532 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  
69Y2181

EC number N24806N Date 4/7/10 ID approval RA Eng approval JB

Title Label, System Service

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