

LEDs

This section describes the locations and functions of the following LEDs for the ProLiant DL590/64 server:

- Hot-plug hard drive LEDs
- Power supply LEDs
- Power On/Standby LEDs
- System interconnect/status LEDs
- Network interface controller LEDs
- Fan LEDs
 - └ 6-inch fan LEDs
 - └ 92-mm fan LEDs
- PCI Hot Plug LED
- CD-ROM/LS-240 drive assembly LEDs
- Redundant line cord switch LEDs

Hot-Plug Hard Drive LEDs

The hot-plug SCSI hard drive LEDs, located on each physical drive, are visible on the front of the server or external storage unit. They provide status information regarding drive activity, connectivity, and fault status for each corresponding drive when configured as part of an array and connected to an array controller. Their behavior may vary, depending on the status of other drives in the array.

This section provides the following information about hard drive LEDs:

- An illustration detailing the location of each hard drive LED
- A table of the possible LED configurations and what each combination means



CAUTION: To avoid data loss, read “Hot-Plug Hard Drive Replacement Guidelines” in the *Compaq Servers Troubleshooting Guide* before removing a hard drive.

For additional information on troubleshooting hard drive problems, refer to “Hard Drive Problems” and “SCSI Device Problems” in the *Compaq Servers Troubleshooting Guide*.

Use the illustration in Figure 4-7 in conjunction with Table 4-9 to analyze the current status for hot-plug hard drives that are connected to a Compaq Smart Array Controller.

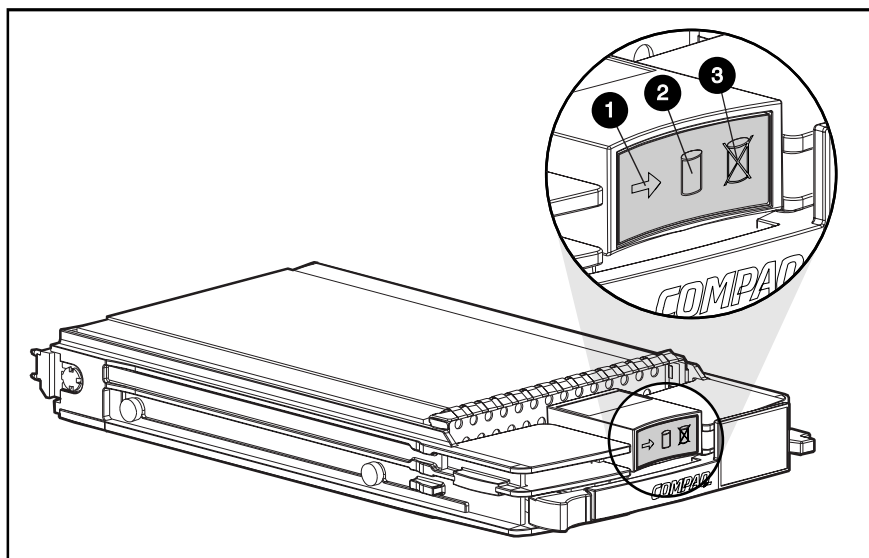


Figure 4-7. Hot-plug SCSI hard drive LEDs

**Table 4-9
Hot-Plug SCSI Hard Drive LED Combinations**

Activity	Online	Fault	Meaning
On	Off	Off	<p>Do not remove the drive. Removing the drive during this process causes data loss.</p> <p>The drive is being accessed and is not configured as part of an array.</p>
On	Flashing	Off	<p>Do not remove the drive. Removing the drive during this process causes data loss.</p> <p>The drive is rebuilding or undergoing capacity expansion.</p>
Flashing	Flashing	Flashing	<p>Do not remove the drive. Removing the drive during this process causes data loss.</p> <p>The drive is part of an array being selected by the Array Configuration utility (ACU).</p> <p>-Or-</p> <p>The Options ROMPaq is upgrading the drive.</p>
Off	Off	Off	<p>It is OK to replace the drive online if a predictive failure alert is received (refer to "Predictive Failure Alert" in the <i>Compaq Servers Troubleshooting Guide</i> for details) and the drive is connected to an array controller.</p> <p>The drive is not configured as part of an array.</p> <p>-Or-</p> <p>If this drive is part of an array, a powered-up controller is not accessing the drive.</p> <p>-Or-</p> <p>The drive is configured as an online spare.</p>
Off	Off	On	<p>It is OK to replace the drive online.</p> <p>The drive has failed and has been placed offline.</p>
Off	On	Off	<p>OK to replace the drive online if a predictive failure alert is received (refer to "Predictive Failure Alert" in the <i>Compaq Servers Troubleshooting Guide</i> for details), provided that the array is configured for fault tolerance and all other drives in the array are online.</p> <p>The drive is online and configured as part of an array.</p>
On or flashing	On	Off	<p>OK to replace the drive online if a predictive failure alert is received (refer to "Predictive Failure Alert" in the <i>Compaq Servers Troubleshooting Guide</i> for details), provided that the array is configured for fault tolerance and all other drives in the array are online.</p> <p>The drive is online and being accessed.</p>

Power Supply LEDs

Each power supply has two LEDs located on the front of the power supply. Figure 4-8 and Table 4-10 illustrate and describe both LEDs.

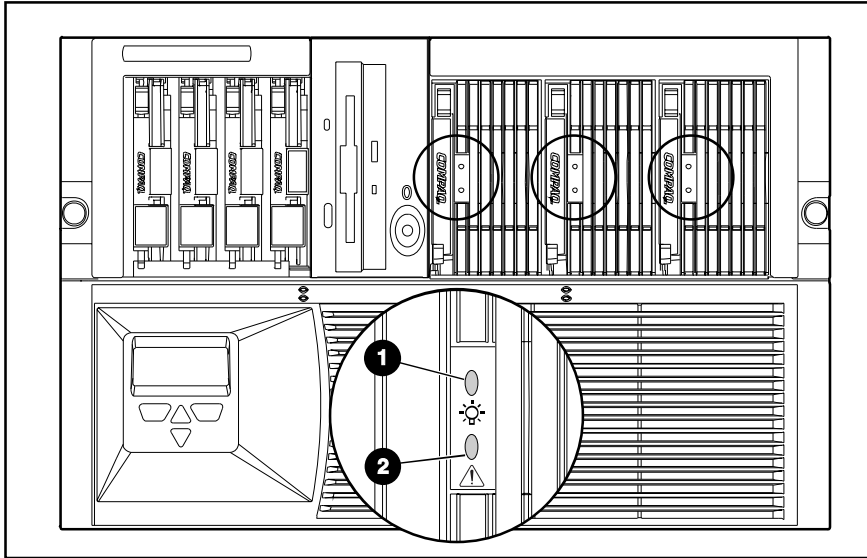






Figure 4-8. Power supply LEDs

Table 4-10
Power Supply LEDs

AC Power  (green)	Status  (amber)	Meaning
 Off	 Off	No AC power is connected to the power supply.
Off	On	Power supply has failed.
Flashing	Off	AC power is present. System is in standby mode.
On	Off	AC power is present. Power supply is OK.
On	Flashing	Power supply is operating at maximum current limit.

Power On/Standby LED

The Power On/Standby LED is located on the front panel of the server. Figure 4-9 and Table 4-11 show the location and conditions of the Power On/Standby LED.

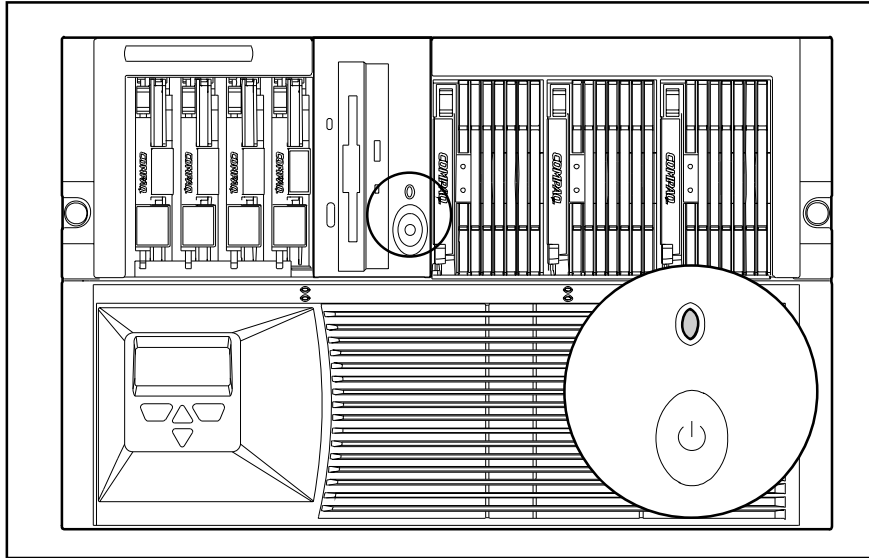


Figure 4-9. Power On/Standby LED

Table 4-11
Power On/Standby LED

Status	Meaning
Green (solid)	The system is fully powered up with adequate AC power provided.
Green (flashing)	The system is in the process of powering up.
Amber (solid)	Critical failure exists, such as a power loss, a thermal event, or an interlock issue. Check the system interconnect/status LEDs.
Off	The system is in standby mode or AC power is removed.

System Interconnect/Status LEDs

A row of 20 light pipe diagnostic LEDs, called system interconnect/status LEDs, is located on the right side of the server above the processor/memory drawer. One of the two memory expansion board interlocks may be on, which indicates that the corresponding memory expansion board is not installed. **In configurations with only one memory board, the lit LED does not indicate a problem.** All of the other light pipe diagnostic LEDs indicate a problem situation when lit. Figure 4-10 shows the location of each light pipe diagnostic LED, and Table 4-12 lists the system interconnect/status LEDs and their meaning if lit.

IMPORTANT: To locate individual components listed in Table 4-12, see other illustrations in this chapter, or illustrations in Chapter 2.

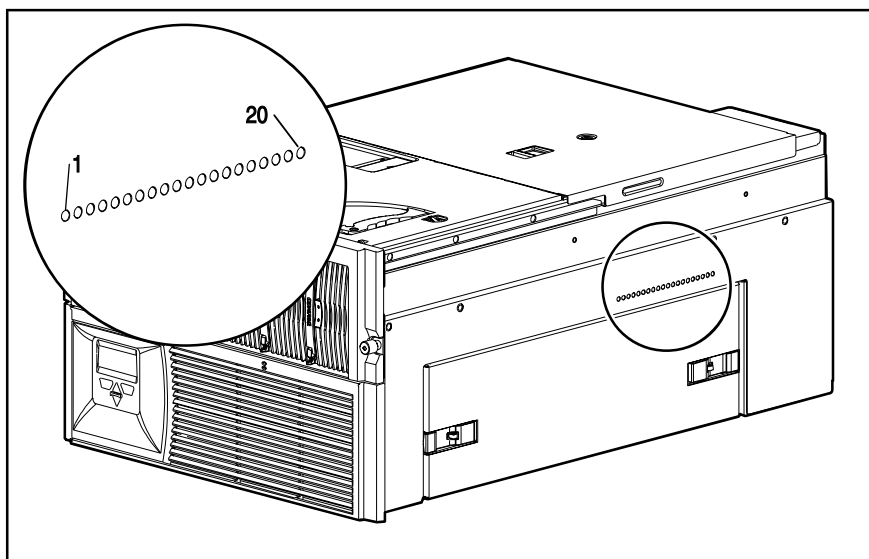


Figure 4-10. System interconnect/status LEDs

Table 4-12
System Interconnect/Status LEDs

LED	Label ID	Description	Meaning
1 (front of server)	AFAN	System Power Module fan interlock	System Power Module fan board is not seated or not correctly connected. Does not indicate a problem with the fans.
2	SCSI	SCSI backplane interlock	SCSI backplane is not fully seated with the extender board.
3	EXT	Extender board to I/O expansion board interlock	Extender board is not fully mated to the I/O expansion board.
4	FFAN	Front 6-inch processor/memory fan cable interlock	Front processor/memory fan cable is not mated to the sideplane.
5	RFAN	Rear 6-inch processor/memory fan cable interlock	Rear processor/memory fan cable is not mated to the sideplane.
6	SIDE	Sideplane to I/O expansion board interlock	I/O board is not fully mated with the sideplane.
7	MEM2	Memory board 2 (lower) interlock	Memory board 2 is not present or is not correctly seated.
8	MEM1	Memory board 1 (upper) interlock	Memory board 1 is not present or is not correctly seated.
9	CPU	Processor/memory drawer interlock	CPU drawer is not present or not correctly seated.
10	AUX	Auxiliary power failure	Primary Aux12, Aux5, or Aux3.3 has failed. SCSI/aux fan extender board or power supplies may need to be replaced.
11	DC	DC power failure	Replace failed power supply or System Power Module.
12	MEM2	Memory board 2 (lower) power failure	Memory board 2 is not functioning. Check the lower memory expansion board voltage regulator modules (VRMs). Replace VRMs.
13	MEM1	Memory board 1 (upper) power failure	Memory board 1 is not functioning. Check the upper memory expansion board voltage regulator modules (VRMs). Replace VRMs.
14	P4	Processor Power Module (PPM) 4 failure	Check Y-cable installation. Replace PPM if necessary.
15	P3	PPM 3 failure	Check Y-cable installation. Replace PPM if necessary.
16	P2	PPM 2 failure	Check Y-cable installation. Replace PPM if necessary.
17	P1	PPM 1 failure	Check Y-cable installation. Replace PPM if necessary.
18	CPU	Processor board power failure	Processor board DC to DC converter failure. Replace processor board.
19	SIDE	Sideplane board power failure	Sideplane DC to DC converter(s) failed. Replace sideplane board.
20 (rear of server)	I/O	I/O expansion board power failure	I/O board DC to DC converter(s) failed. Replace I/O board.

Network Interface Controller LEDs

Figure 4-11 and Table 4-13 show the location and meanings of the network interface controller (NIC) LEDs. The NIC LEDs are located on the back of the network interface controller and are visible from the rear of the server. They provide the following information:

- Whether the server is linked to the network
- Whether there is current network activity

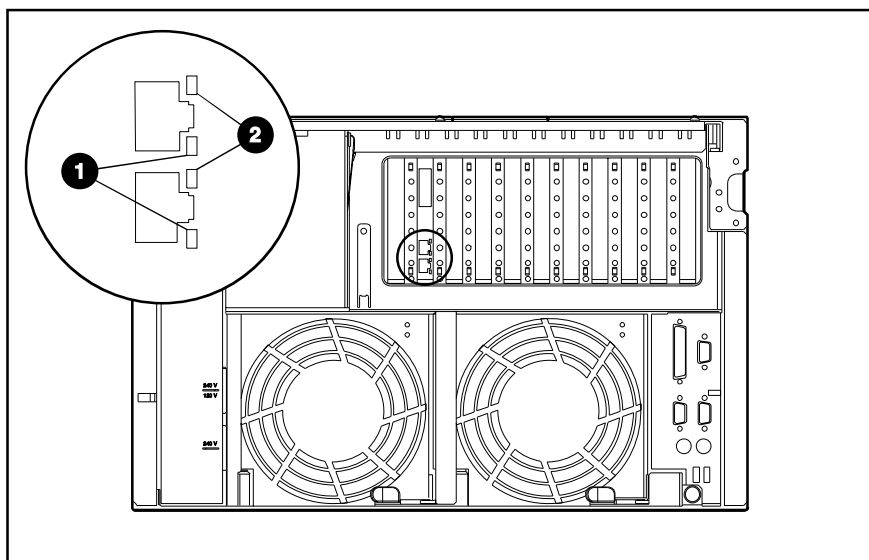


Figure 4-11. Network interface controller (NIC) LEDs

Table 4-13
Network Interface Controller LEDs

Indicator	Condition	Meaning
● Link status	Off	No network link
	On	Linked to network
⊗ Activity status	Off	No network activity
	On or flashing	Network activity

Fan LED Status Indicators

The ProLiant DL590/64 server has two types of cooling fans, four 6-inch and six 92-mm. Two 6-inch fans are located at the front and two are located at the rear of the server. Figure 4-12 and Table 4-14 show the location and meaning of the 6-inch fan LEDs. Six small fans are located within the media drawer and I/O area. Figure 4-13 and Table 4-15 show the location and meaning of the 92-mm fan LEDs.

6-inch Fans

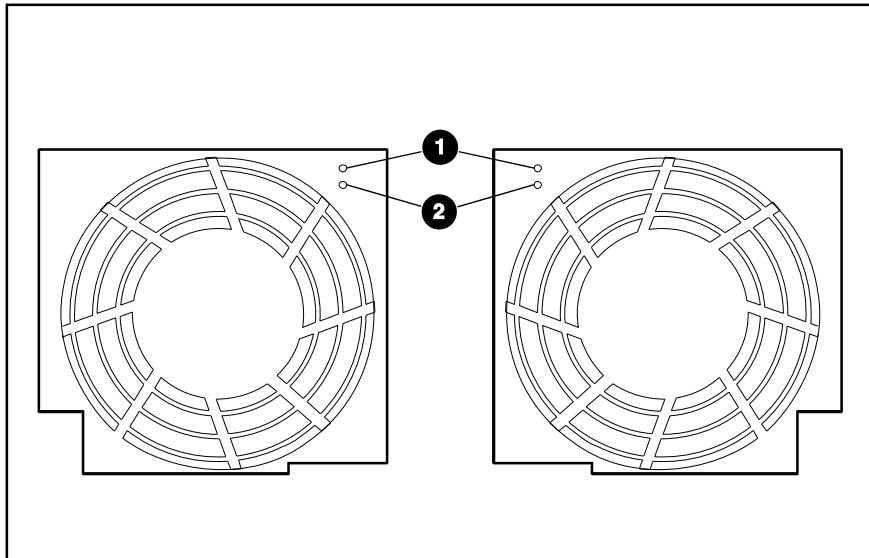


Figure 4-12. 6-inch fan LEDs

Table 4-14
6-inch Fan LEDs

Item	Condition	Meaning
1	Green	Fan is operational.
2	Amber	Fan has failed.
1 and 2	Off	Fan does not have power.

92-mm Fans

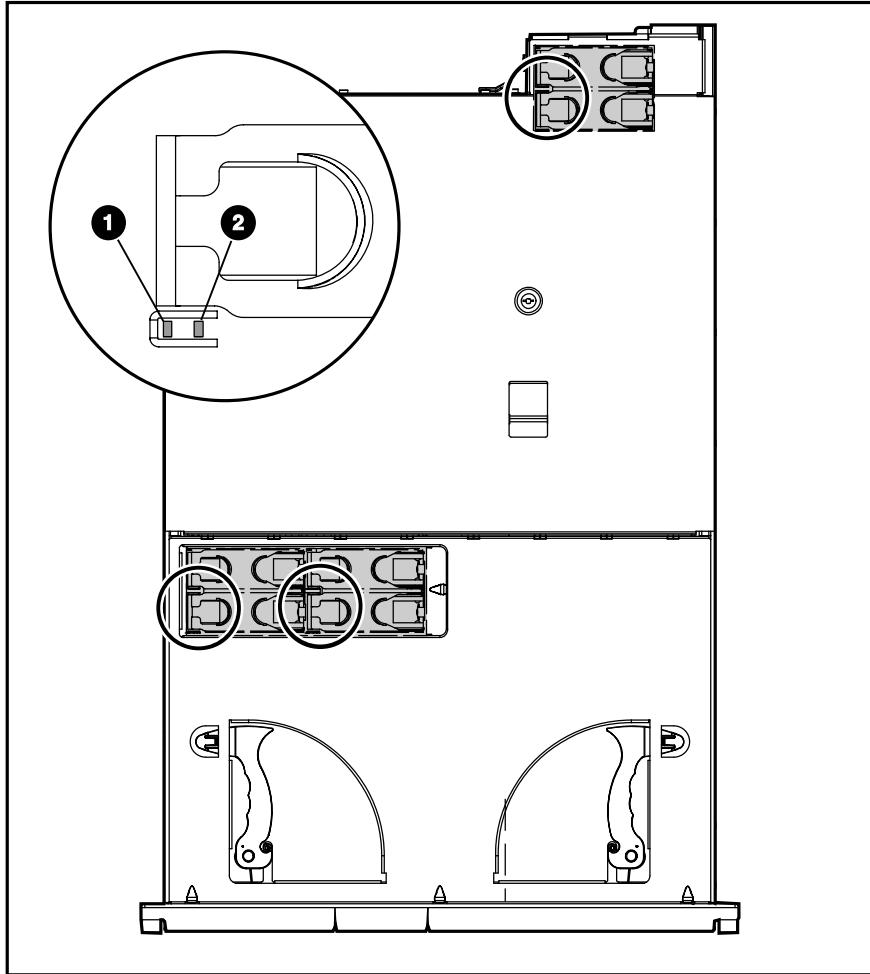




Figure 4-13. 92-mm fan LEDs

Table 4-15
92-mm Fan LEDs

Item	Condition	Meaning
①	Green	Fan is operational.
②	Amber	Fan has failed.
	-OR-	Fan is not present.
① and ②	Off	Fan does not have power.

PCI Hot Plug LED Status Indicators

Each set of PCI Hot Plug LEDs has a PCI Hot Plug button that is used to activate or deactivate its associated PCI Hot Plug slot. The LEDs are viewed from the rear of the unit or through the PCI Hot Plug access doors on the top access panel. Activating or deactivating a PCI Hot Plug slot can also be accomplished through the operating system hot-plug software application. The PCI Hot Plug green LED  and amber LED  provide a visual reference indicating the status of each inserted PCI device.

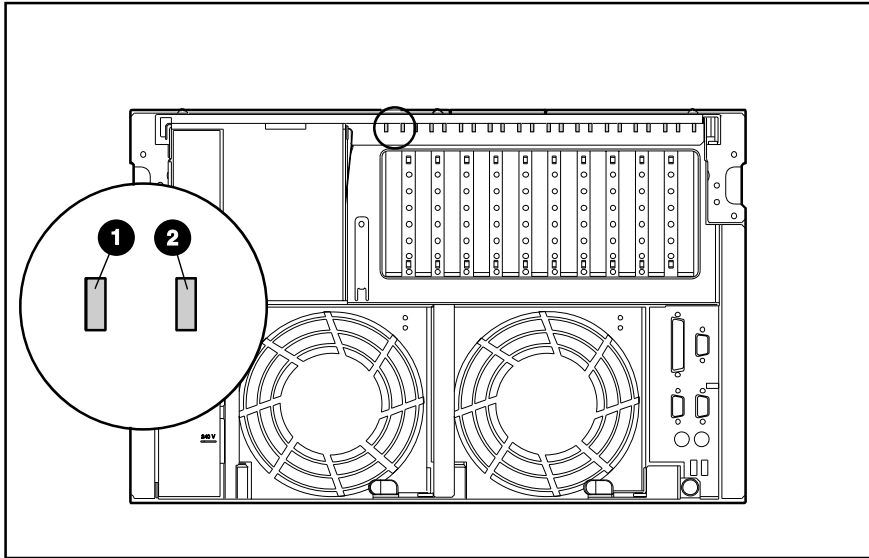




Figure 4-14. PCI Hot Plug LEDs

Table 4-16 indicates the slot condition and status for each of the two LEDs shown in Figure 4-14.

Table 4-16
PCI Hot Plug LEDs

Green LED (Power) 	Amber LED (Status) 	Slot Status	OK to Open Slot Release Lever
	Off	Slot does not require attention.	N/A
	On	Slot requires attention. There may be a problem with either the slot, the PCI board, or the driver. There may also be an auxiliary 3.3-V power fault to the slot. Check the green LED before opening the slot.	N/A
On		Power is supplied to the slot.	No
Flashing		The power to the slot is in the process of being turned ON or OFF. This process may take several seconds. Do not open the slot release lever until the green LED is completely OFF.	No
Off	Off	Slot power is OFF.	Yes

CD-ROM/LS-240 Drive Assembly LEDs and Related Components

Figure 4-15 and Table 4-17 illustrate and describe the LEDs and related components for the CD-ROM/LS-240 drive assembly.

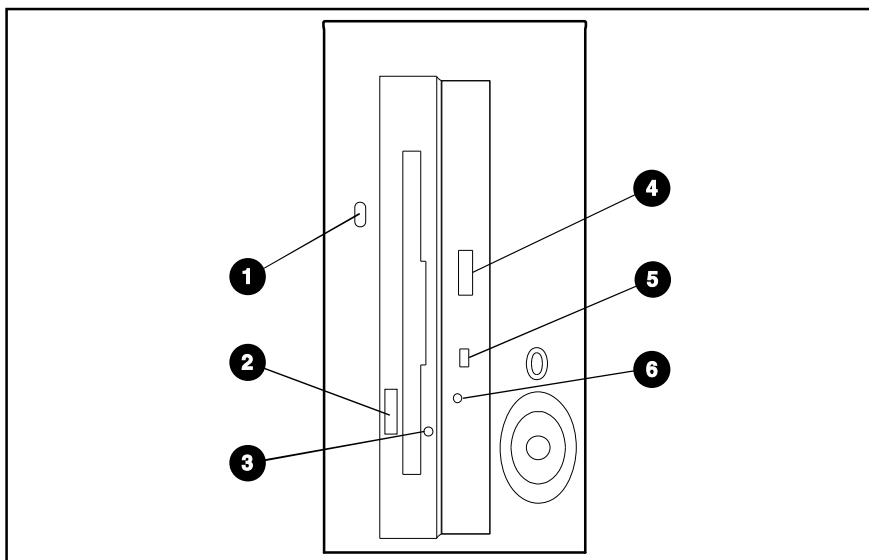


Figure 4-15. CD-ROM/LS-240 drive assembly LEDs and related components

Table 4-17
CD-ROM/LS-240 Drive Assembly LEDs and Related Components

Item	Description	Meaning or function
❶	LS-240 drive busy LED	LS-240 diskette drive is the reading disk.
❷	LS-240 drive eject button	Allows ejection of a 3.5-inch disk.
❸	LS-240 drive manual eject hole	Allows manual ejection of a 3.5-inch disk if the eject button is inoperable.
❹	CD-ROM drive load/eject button	Opens the CD-ROM drive tray.
❺	CD-ROM drive busy LED	CD-ROM drive is reading a CD.
❻	CD-ROM drive manual eject hole	Allows manual ejection of a CD if the eject button is inoperable.