

Hardware Troubleshooting for Catalyst 8540/8510 MSRs and LightStream 1010 ATM Switch: Power

Document ID: 21448

This document is part of a documentation set. Refer to the Hardware Troubleshooting for Catalyst 8540/8510 MSRs and LightStream 1010 ATM Switch Index page for the Introduction to this documentation set.

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Introduction

This document describes how to test and replace internal system power supplies in the chassis.



Warning: Before you install, operate, or service the system, refer to the Site Preparation and Safety

Guide. This guide contains important safety information to know before you work with the system.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

This document is not restricted to specific software and hardware versions.

Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

Power Supply Troubleshoot Commands

Use these commands to display the status of the power supply LEDs without direct access to the switch:

Command	Purpose
show environment	Displays temperature and voltage information on the console
show hardware [detail]	Displays details about hardware, which includes power supplies
show diag power-on	The power-on or hardware reset diagnostics provide a full set of test suites to test the Cisco Catalyst 8500 multiservice ATM switch router (MSR) and Cisco LightStream 1010 ATM switch hardware. The switch memory stores test results, and use of the show diag power-on command provides an interface. If error detection occurs during the test, the ATM switch processor status LED turns red. The watchdog timer timeout or software warm start can run minimum diagnostics.

Perform these steps to verify the power supply status and version:

Step 1 Display the power supply status.

```
Switch# show environment
Temperature normal: chassis core measured at 27C/80F
Fan: OK
Power Supply 0 status: OK

Switch#
```

Step 2 Check the power supply status.

If the status is not **OK**, the power supply can require replacement. Issue the **show hardware** command to check the power supply serial number and revision.

```
8540MSR# show hardware
C8540 named 8540MSR, Date: 16:50:11 UTC Wed Mar 20 2002
Slot Ctrlr-Type Part No. Rev Ser No Mfg Date RMA No. Hw Vrs Tst EEP
-----
0/* Super Cam 73-2739-03 D0 03170TAL May 03 99 0 3.1

[Information Deleted]

Power Supply:
Slot Part No. Rev Serial No. RMA No. Hw Vrs Power Consumption
-----
0 34-0918-02 B0 ACP03220289 00-00-00-00 2.1 2746 cA

Switch#
```

Step 3 Check that the power-on diagnostics show as **Passed**.

If **Passed** does not appear in the **show diag power-on** output, check which procedure appears with a U. The U indicates "unknown". Verify that this procedure is well connected and has power. For more information on how to issue the **show diag power-on** command, refer to the document Troubleshooting ASP Red Status

Light and Power-on Diagnostic Problems on the LightStream 1010 and Catalyst 8510-MSR.

```
Switch# show diag power-on
Cat8540 Power-on Diagnostics Status (.=Pass,F=Fail,U=Unknown,N=Not Applicable)
```

```
-----
Last Power-on Date: 2002/02/04   Time: 00:04:14
```

```
BOOTFLASH: .   PCMCIA-Slot0: .   PCMCIA-Slot1: N
CPU-IDPROM: .   NVRAM-Config: .
ETHSRAM: .     DRAM: .       SARSRAM: .
```

```
PS0: .         PS2: .       N   PS (12V): .
FAN: .         Temperature: .   Bkp-IDPROM: .
```

```
Ethernet-port Access: .           Ethernet-port CAM-Access: .
Ethernet-port Loopback: .         Ethernet-port Loadgen: .
```

Power-on Diagnostics Passed.

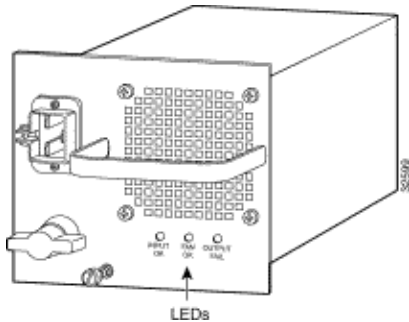
Power Supply LEDs

The three LEDs on the Catalyst 8540 power supply perform these functions:

Note: See the figure in the section Catalyst 8540 Power Supply LEDs.

- Input OK LED indicates the state of operation of the power supply.
- Fan OK LED indicates the state of operation of the power supply fan.
- Output Fail LED indicates that the output voltage is outside of the proper range.

Catalyst 8540 Power Supply LEDs



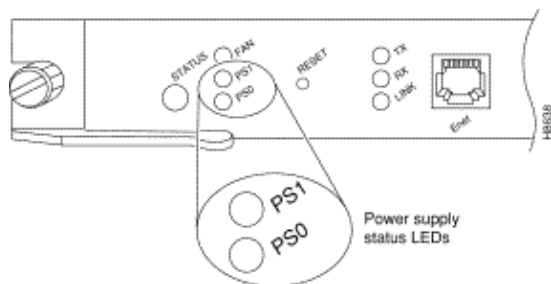
This table describes the Catalyst 8540 power supply LEDs:

LED	State	Description
Input OK	Green Off	Power supply is on and receives source power Failure
Fan OK	Green Off	Fan assembly operates properly Failure
Output Fail	Red Off	Output voltage is outside of the proper range, +3.3, +5, +12, and +42 VDC Output voltage is in the proper range

ATM Switch Processor Power Supply LEDs

On the ATM switch processor front panel, the PS0 LED goes on when the power supply in the left bay has had a successful installation and supplies power to the system. The power supply in the left bay has the label Power Supply 0. The PS1 LED goes on when the power supply in the right bay has had a successful installation and supplies power to the system. The power supply in the right bay has the label Power Supply 1. Both the LEDs are on in systems with redundant power. The table Catalyst 8510 ATM Switch Processor Power Supply LEDs describes the ATM switch processor LEDs, and this figure illustrates them:

ATM Switch Processor Power Supply LEDs



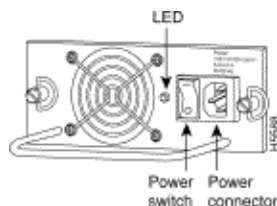
LED Description PS0 If the left bay power supply operates, the PS0 LED is green. If the left bay power supply is off or not operational, the PS0 LED is red. If you have not installed the left bay power supply, the PS0 LED is off. PS1 If the right bay power supply operates, the PS1 LED is green. If the right bay power supply is off or not operational, the PS1 LED is red. If you have not installed the right bay power supply, the PS1 LED is off.

Catalyst 8510 Power Supply LED

The green LED indicates the status of the power supply and internal DC voltages. The LED stays on when the power supply is on, receives source power, and provides +5, +12, and +24 VDC to internal components. The LED also indicates that all internal voltages are within tolerance.

If the source power or any of the internal DC voltages exceed allowable tolerances, the LED goes off. The system environmental monitor messages indicate the out-of-tolerance line. Because the system requires all three output voltages for operation, expect the system to malfunction or shut down if any of the internal DC voltages reach an out-of-tolerance state.

Catalyst 8510 Power Supply LED with AC Power Supply



Related Information

- Catalyst 8540 Chassis Installation Guide, 12.0(7)W5(15c)
- Technical Support – Cisco Systems

