



## Troubleshooting

---

The front-panel LEDs provide troubleshooting information about the switch. They show power-on self-test (POST) failures, port-connectivity problems, and overall switch performance. For a full description of the LEDs, see the [“LEDs” section on page 1-6](#).

You can also get statistics from the device manager, the Network Assistant application, the command-line interface (CLI), or a Simple Network Management Protocol (SNMP) workstation. See the switch software configuration guide, the switch command reference, or the documentation that came with your SNMP application for details.

This chapter provides these topics for troubleshooting problems:

- [Understanding POST Results, page 3-1](#)
- [Diagnosing Common Problems, page 3-1](#)

## Understanding POST Results

While the switch powers on, it automatically begins POST, a series of tests that verifies that the switch functions properly. POST lasts approximately 1 minute.

If POST passes successfully, only the SYST and STAT LEDs, as shown in [Figure 1-3 on page 1-6](#), remain on.

If POST fails, the SYST LED turns amber. [Table 3-3 on page 3-5](#) lists two causes and resolutions for a POST failure. POST failures are usually fatal. Contact your Cisco representative if your switch does not pass POST.

## Diagnosing Common Problems

Common switch problems fall into these categories:

- Connectivity problems ([Table 3-1](#))
- Poor performance ([Table 3-2](#))
- Corrupted software ([Table 3-3](#))

Table 3-1 Common Connectivity Problems and Their Solutions

Symptom	Possible Cause	Resolution
No connectivity to 10/100 ports or 10/100/1000 port.	<p><b>Incorrect or bad cable.</b></p> <p>These are the results of no link at both ends:</p> <ul style="list-style-type: none"> <li>Cable not properly installed between switch and PC.</li> <li>A crossover cable was used when a straight-through was required, or vice-versa.</li> <li>The cable is wired incorrectly.</li> </ul> <ul style="list-style-type: none"> <li>STP is checking for possible network loops.</li> </ul>	<ul style="list-style-type: none"> <li>Remove and reconnect cable to switch and PC. Wait 30 seconds for port status LED on switch to turn green.</li> <li>To identify a crossover cable, see <a href="#">Figure B-12 on page B-9</a>.</li> <li>Verify that the cable is wired correctly. See <a href="#">Figure B-6 on page B-5</a> through <a href="#">Figure B-9 on page B-6</a> for the correct pinouts of 10/100 cables. For the proper application of crossover and straight-through cables, see the “<a href="#">Cable and Adapter Specifications</a>” section on <a href="#">page B-5</a>.</li> <li>Replace it with a tested good cable.</li> <li>Wait 30 seconds for port status LED to turn green.</li> </ul>
No connectivity to 100BASE-FX port.	<p>An SFP module was installed in the switch at power on.</p> <p><b>Note</b> The SFP module slots and the 100BASE-FX port cannot both be used at the same time. If an SFP module is installed when the switch is powered on, the 100BASE-FX port is disabled.</p>	<p>Remove the SFP module, and reboot the switch.</p> <p><b>Note</b> See the “<a href="#">Connecting to an SFP Module</a>” section on <a href="#">page 2-12</a> and the <i>Cisco Small Form-Factor Pluggable Modules Installation Notes</i> (order number DOC-7815160=) for procedures on removing an SFP module.</p>

Table 3-1 Common Connectivity Problems and Their Solutions (continued)

Symptom	Possible Cause	Resolution
<b>No connectivity to SFP module.</b>	<ul style="list-style-type: none"> <li>The SFP module was installed after the switch was powered on.</li> </ul> <p><b>Note</b> By default, the 100BASE-FX port is enabled and the SFP module slot is disabled if an SFP module is not already installed when the switch is powered on.</p> <ul style="list-style-type: none"> <li>A 100BASE-FX device is connected to the switch.</li> </ul>	<ul style="list-style-type: none"> <li>Remove and reinstall the SFP module, and reboot the switch.</li> </ul> <p><b>Note</b> See the “<a href="#">Connecting to an SFP Module</a>” section on page 2-12 and the <i>Cisco Small Form-Factor Pluggable Modules Installation Notes</i> (order number DOC-7815160=) for procedures on removing an SFP module.</p> <ul style="list-style-type: none"> <li>Remove the connection to the 100BASE-FX device, reinstall the SFP module, and reboot the switch.</li> </ul>
<b>Switch placed in error-disabled state after SFP module is inserted.</b>	Bad or non-Cisco-approved SFP module.	<p>Remove SFP module from the switch, and replace it with a Cisco-approved module. Use the <b>errdisable recovery cause gbic-invalid</b> global configuration command to verify port status, and enter a time interval to recover from the error-disable state.</p> <p>See the command reference for information about the <b>errdisable recovery</b> command.</p>

Table 3-2 Poor Performance Problems and Their Solutions

Symptom	Possible Cause	Resolution
Poor performance or excessive errors.	Duplex autonegotiation mismatch.	See the switch software configuration guide for information about identifying autonegotiation mismatches.
	<b>Cabling distance exceeded.</b> <ul style="list-style-type: none"> <li>• Port statistics show excessive frame check sequence (FCS), late-collision, or alignment errors.</li> <li>• For 10BASE-T, 100BASE-TX, and 1000BASE-T connections: <ul style="list-style-type: none"> <li>– The distance between the port and the attached device exceeds 328 feet (100 meters).</li> <li>– If the switch is attached to a repeater, the total distance between the two end stations exceeds the cabling guidelines.</li> </ul> </li> <li>• For SFP module connections: The distance between the SFP module and the attached device exceeds the SFP cabling guidelines.</li> </ul>	<ul style="list-style-type: none"> <li>• See the switch software configuration guide for information about displaying port statistics.</li> <li>• Reduce cable length to within the recommended distances.</li> <li>• See your repeater documentation for cabling guidelines.</li> <li>• See <a href="#">Table 1-3</a> for cabling guidelines.</li> </ul>
	<b>Bad adapter in attached device.</b> <ul style="list-style-type: none"> <li>• Excessive errors found in port statistics.</li> <li>• Spanning Tree Protocol (STP) is checking for possible loops.</li> </ul>	<ul style="list-style-type: none"> <li>• Run adapter card diagnostic utility.</li> <li>• Wait 30 seconds for port status LED to turn green.</li> </ul>

**Table 3-3 Corrupted Software Problems and Their Solutions**

<b>Symptom</b>	<b>Possible Cause</b>	<b>Resolution</b>
<b>System LED is amber, and all port LEDs are off.</b>	Corrupted software.	Attach a monitor to the serial port to display the switch boot loader.  For more information, see the switch software configuration guide.
<b>System LED is amber.</b>	Nonfatal or fatal POST error detected.	Use the <b>show post</b> privileged EXEC command to see which POST test failed.  POST failures are usually fatal. Contact your Cisco representative if your switch does not pass POST.

