

Troubleshooting

Use the information in this appendix to help isolate problems you might encounter with the Cisco Micro Hub or to rule out the hub as the source of the problem.

This appendix contains the following sections:

- Problem Solving
- Diagnostic Tests

If you cannot locate the source of the problem, contact your Cisco reseller for information on how to proceed. Before you call, have the following information ready:

- Chassis type and serial number—You can find this information on the label on the bottom of the hub.
- Maintenance agreement or warranty information.
- Date you received the new chassis.
- Type of firmware and version number (if the hub is a Micro Hub 1503)—You can obtain this information using the **show hub information** and **show version** commands.
- Brief description of the problem.
- Brief description of the steps you have taken to isolate the problem.

Problem Solving

The key to problem solving is to isolate the problem to a specific subsystem by comparing what the hub is doing to what it should be doing.

When problem solving, consider the following subsystems of the hub:

- Cables—Check the network cabling for all devices attached to hub.
- Power system—Consider the external power source, power cable, external power adapter, and circuit breaker. Check for inadequate ventilation or air circulation.

Also consider the following components of the connected network:

- External LAN adapters—Make sure the LAN adapter cards installed in the PCs are compatible and are in good working condition.
- Proper installation—Verify that all system components have been properly installed. If one or more components appear to be malfunctioning, test them in an alternate environment where you are sure that all the other components are functioning properly.

If problems occur after changing the network cabling, restore the original cabling, and try to track the problem down by changing one cable connection at a time.

Ensure that cable distances and other physical aspects of the installation do not exceed recommendations. For information about cables and physical specifications of the hub, refer to the appendix “Hub Specifications and Cable Wiring.”

As a last resort, verify the hub’s integrity by turning the hub OFF and then ON. If the problem still persists and you have completed all the preceding diagnoses, contact your Cisco reseller for further assistance.

Troubleshooting LAN and Console Interface Cables

Check for the following symptoms to help isolate a network or console problem:

Symptom	Possible Causes and Solutions
Cannot establish a valid network connection for a node connected to the hub.	<ul style="list-style-type: none"> • Verify that the cabling type is correct. For more information about the type of cables to use with the hub, refer to the appendix “Hub Specifications and Cable Wiring.” Use straight-through cable for all connections to network devices. • When connecting a Cisco Micro Hub to another hub, make sure to push the rear panel button labeled MDI/MDI-X to the IN position and use port 5 to connect to the second hub. If port 5 is not available, you can use an Ethernet rollover cable (not provided with the hub). Do not connect more than five hubs together. • Be sure all cable connectors are securely seated in the required ports. Equipment might have been unintentionally disconnected from the network. • Ensure that one of the workstation ports has not been partitioned from the rest of the hub. Do this by checking the corresponding port LED on the front of the hub and taking the following steps: <ul style="list-style-type: none"> — Steady yellow—The port has been automatically partitioned by the hub. Check the device that is connected to this port for a faulty network interface card or faulty LAN adapter. — Blinking yellow—The port has been manually disabled with the port-operation command. Re-enable the port using this command, which is described in the chapter “Using Your Hub Software.”
Hub boots, but the console screen is frozen.	<ul style="list-style-type: none"> • Check the external console connection and make sure it is secure. • Verify that the parameters for your terminal are set to the following: <ul style="list-style-type: none"> — 9600 baud — 8 data bits — No parity generated or checked — 1 stop bit

Problem Solving

Troubleshooting the Power System

Check the following items to help isolate a power system problem:

Symptom	Possible Causes and Solutions
Hub shuts down after being on for a short time.	<ul style="list-style-type: none">• Check the environmental site requirements in the section “Site Requirements” in the <i>Regulatory Compliance and Safety Information for the Cisco Micro Hub</i> document that came with your hub.• Check for loose power connections, power losses, or surges at the power outlet.• Check the temperature of the room in which the hub is operating. Refer to the appendix “Hub Specifications and Cable Wiring” for the range of acceptable operating temperatures.• Check for a power supply failure. Try replacing the external power adapter.• Verify that the vents on the hub are not obstructed, preventing air flow. If they have been obstructed, turn the hub off and wait 20 minutes before turning it on. If it fails to turn on, turn off, wait another 20 minutes, and turn it on. If the hub fails to turn on, contact your Cisco reseller.
Hub partially boots, but LEDs remain off.	Check for a power supply failure.
The PWR LED on the front panel is on, but the hub is not communicating with the terminal or PC.	Check the OK LED: <ul style="list-style-type: none">• If the OK LED is blinking, the power-on self-test (POST) is still in process.• If the OK LED is off, the POST has failed. If this happens, contact your Cisco reseller.

Diagnostic Tests

After you turn on the power, the hub automatically performs a self-test on each major internal component. The LEDs on the front panel of the hub indicate the results of the diagnostic tests. General test results are indicated by the following two LEDs:

- PWR—On continuously if power is being supplied to the hub.
- OK—On continuously for at least 1 minute if the self-test is successful. If the test is unsuccessful, this LED is off.

Refer to Table A-1 and Table A-2 for the test results.

Confirming That the LEDs Are Functioning

Before using the LEDs for diagnostic purposes, you should confirm that all LEDs are functioning correctly. This is to ensure that you interpret the LED patterns correctly when reading them for diagnostic purposes.

You can confirm that all of the LEDs are functioning correctly by watching the console message that appears during the self-tests after the router is first powered on.

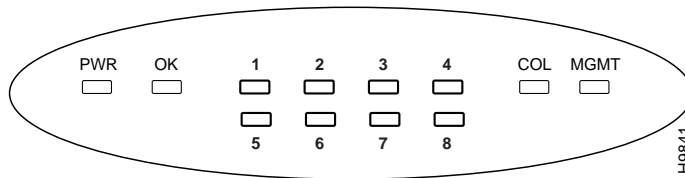
Look for the following message on the console:

```
Testing LEDs...
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When this message appears, look at the LEDs to make sure that they are all ON. Any LED that is off is not functioning correctly. You should contact your Cisco reseller.

Reading the LEDs for Diagnostics

The illustration below shows the port LEDs that are used for diagnostic purposes (shown in bold).



The following tables contain a representation of the eight LEDs used for diagnostics. An LED that is off is represented by O, and an LED that is solid yellow is represented by Y.

Table A-1 LED Diagnostics—Micro Hub 1503

Failed Component	LED
ROM	O O Y O O O O O
DRAM	O Y O O O O O O
Network interface controller test	Y O O O O O O O
Repeater controller	O O O O O O O Y
Repeater MIB controller	O O O O O O Y O
Stack management bus	O O O O O Y O O
EIA/TIA-232 controller	O O O O Y O O O
EEPROM	O O O Y Y O O O
Flash memory	O O Y O Y O O O

Table A-2 LED Diagnostics—Micro Hub 1502

Components	LED
CPU	O O O Y O O O O
EPROM	O O Y O O O O O
EEPROM	O Y O O O O O O
RAM	Y O O O O O O O
Stack bus	O O O O O O O Y
Repeater controller	O O O O O O Y O
Repeater MIB controller	O O O O O Y O O

Diagnostic Tests
