



CISCO 800 SERIES ROUTERS PRE-RMA TROUBLESHOOTING GUIDE



Troubleshooting Startup Issues

- 1 [Issues During Initial Startup](#)
- 2 [Issues After Initial Startup](#)
- 3 [Additional References](#)
- 4 [Cabling Specifications](#)
- 5 [Getting Help](#)

First Published: August 28, 2013, OL-30445-01

This document describes the troubleshooting procedures to be employed to resolve basic startup issues in the Cisco 800 Series Routers before raising a Return Materials Authorization (RMA) request. The troubleshooting procedures described in this document are of a basic level. These procedures aim to help you resolve commonly known issues with hardware that might not be defective, and therefore, may not warrant an RMA request.

For more information on RMA procedures or any other related information, see the section [Additional References, page 5](#).

The issues are grouped as follows:

- [Issues During Initial Startup, page 2](#)
- [Issues After Initial Startup, page 3](#)

1 Issues During Initial Startup

[Table 1](#) lists the issues that may occur immediately after you boot the router for the first time or later, while the router is running after being powered on for the first time.

Table 1 *Issues During Initial Startup*

Symptom	Description	Solutions
All the LEDs, including the OK LED, are off.	No power to the router.	Verify the following: <ol style="list-style-type: none"> a. The power switch is turned on. b. All the connections to and from the power supply are properly secured. c. The power outlet has power. If the problem continues, see the section Getting Help, page 6 .

2 Issues After Initial Startup

Table 2 lists the issues that may occur after the router boots without an error, but with a connection error or a communication error.

Table 2 Issues After Initial Startup

Symptom	Description	Solutions
No link to an Ethernet device	<p>A cable-related issue may exist:</p> <ul style="list-style-type: none"> • Incorrect cable • Improperly connected cable • Damaged cable 	<p>Ensure the following:</p> <ol style="list-style-type: none"> You are using the correct type of cable (either straight-through or crossover). For more information, see the documentation on installation guidelines at: http://www.cisco.com/en/US/products/hw/routers/ps380/prod_installation_guides_list.html. The cable matches the cabling specifications listed in the section Cabling Specifications, page 5. If the cable does not match the recommended specifications, replace it. You have cabled the devices correctly. For more information, see the documentation on installation guidelines at: http://www.cisco.com/en/US/products/hw/routers/ps380/prod_installation_guides_list.html. The connectors at both ends of the cable are securely seated. The cable is not physically damaged. If it is damaged, replace it.
	Problem with the connected device	Verify if the device connected to the Ethernet port is powered on and functioning.
	Improperly set router HUB/NO HUB or TO HUB/TO PC button or hub equivalent of the HUB/NO HUB button	<p>Ensure that you have set the buttons correctly. For more information, see the documentation on installation guidelines at: http://www.cisco.com/en/US/products/hw/routers/ps380/prod_installation_guides_list.html.</p>
	Improper functioning of the network interface card (NIC) on a server, PC, or workstation	<p>Run the NIC diagnostic supplied by the vendor to ensure that the NIC is functioning properly. If the NIC is defective, replace it.</p> <p>If the problem continues, see the section Getting Help, page 6.</p>
No link to the ISDN or IDSL network	Problem with the ISDN or IDSL line	Verify that the customer has contacted the service provider to troubleshoot the ISDN or IDSL line.

Table 2 Issues After Initial Startup (continued)

Symptom	Description	Solutions
	<p>One of the following cable-related issues occur:</p> <ul style="list-style-type: none"> • Improperly connected cable • Damaged cable 	<p>Check each cable to verify that:</p> <ul style="list-style-type: none"> • The connectors at both ends are securely connected. • There are no physical damages. If a cable is damaged, replace it with a similar cable. The replacement cable should match the cabling specifications listed in the section Cabling Specifications, page 5. <p>If the problem continues, see the section Getting Help, page 6.</p>
Hardware crashes	A device is repeatedly resetting.	<ol style="list-style-type: none"> Obtain full boot logs from the router. Check for any obvious indications of a hardware failure. Hardware failures include a failure signal of 22 (CPU signal = 22) or ECC/DRAM errors (both related to memory). In an integrated device in which there are no subcomponents (for example, a Cisco Integrated Services Router), try changing the configuration register to 0x2142 to ignore the configuration. This requires breaking into ROMmon (rommon# ..> prompt) and changing the configuration register to 0x2142. This procedure is similar to a password recovery procedure. For more information on various password recovery procedures, see http://www.cisco.com/en/US/products/sw/iosswrel/ps1831/products_tech_note09186a00801746e6.shtml.
Cisco Integrated Services Router crashes		<p>For a modular chassis, the troubleshooting procedure may require additional steps. Contact the appropriate support team for assistance. For more information, see the section Getting Help, page 6.</p>

3 Additional References

Table 3 provides additional information that you may require to troubleshoot an issue or process an RMA request.

Table 3 Additional References

Document	Description	Document Location
Hardware Installation Guide	This document provides detailed description, installation, and technical specifications.	http://www.cisco.com/en/US/products/hw/routers/ps380/prod_installation_guides_list.html
Software Configuration Guide	This document provides additional configuration information specific to the Cisco 800 Series Routers.	http://www.cisco.com/en/US/products/hw/routers/ps380/products_installation_and_configuration_guides_list.html
RMA procedures	This document provides guidelines on the RMA procedures specific to each region.	http://www.cisco.com/en/US/docs/rma/3582.html#wp576704

4 Cabling Specifications

This section provides the following cabling specifications:

- Straight-through and crossover Ethernet cables.
- Ethernet, ISDN, IDSL, and telephone cable distance limitations. (A *telephone cable* connects a device to a telephone port.)

Ethernet Cable Specifications

Table 4 lists the specifications for straight-through and crossover Ethernet cables.

Table 4 Ethernet Cable Specifications

Type	Category	Shielding
10BASE-T	Category 3 or 5	Shielded twisted-pair (STP)
10BASE-T	N/A	Unshielded twisted-pair (UTP)

Maximum Cable Distances

Table 5 provides the maximum distances of Ethernet, ISDN, IDSL, and telephone cables that you can use.

Table 5 Maximum Cable Distances

Cable	Maximum Distance
Ethernet cable	328 ft (100 m)
ISDN S/T and U and IDSL cables	32.8 ft (10 m)
Telephone cable	500 ft (152 m)

5 Getting Help

Some of the solutions recommend that you contact the Cisco Technical Assistance Center (TAC) for help.

Before contacting TAC, keep the following information ready:

- Router model and serial number. To locate the router model and serial number, see the back panel of the router.
- Maintenance agreement or warranty information.
- Date on which you received your router.
- All troubleshooting information recorded accurately in the case notes, including:
 - A clear problem statement that specifies the issue with the hardware. For example, the power supply is defective, the ISDN port is defective, the router does not boot up, and so on.
 - All the error messages and relevant logs.
 - Detailed description of the problem.
 - Detailed description of the steps you have performed to resolve the problem. Include the commands that you ran while attempting to resolve the problem.
- When a crash is observed during or after you start the router, collect the following information:
 - If the router is not in the ROMmon mode and the router is running, use the **show tech-support** command to run show commands that display system information. This command generates information that can be useful for Cisco Technical Support representatives when troubleshooting the router.
 - Any crash files that are recorded—To view the crash files, run the **dir /all** command after the router is booted.



Note

If the router is in the ROMmon mode or the router is not booted, the crash files will not be available.



Note

If you have any questions before requesting a replacement, contact the appropriate support team for further investigation to determine if the issue is related to the hardware.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at: <http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>.

Subscribe to *What's New in Cisco Product Documentation*, which lists all new and revised Cisco technical documentation, as an RSS feed and deliver content directly to your desktop using a reader application. The RSS feeds are a free service.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

Any Internet Protocol (IP) addresses used in this document are not intended to be actual addresses. Any examples, command display output, and figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses in illustrative content is unintentional and coincidental.

© 2013 Cisco Systems, Inc. All rights reserved.



Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.
