

# About This Manual

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This section introduces the *Debug Command Reference* publication audience and scope, organization, use, and conventions.

All Cisco technical documentation and additional literature are available on the Documentation CD-ROM. The Cisco Documentation CD-ROM is updated and shipped monthly, so it might be more up-to-date than printed documentation. The CD is available both as a single CD and as an annual subscription. To order the CD, contact your local sales representative or call Cisco Customer Service.

You can also access Cisco technical documentation on the World Wide Web URL <http://www.cisco.com>.

## Audience and Scope

This publication addresses the network or system administrator who maintains Cisco routers and access servers running Cisco IOS software.

Readers should know how to configure a Cisco router and should be familiar with the protocols and media their routers are configured to support. Readers must also be aware of their network topology.

## Document Organization and Use

The *Debug Command Reference* publication provides information about using **debug** commands to troubleshoot Cisco network servers. This manual is most effective when used with the *Internetwork Troubleshooting Guide* publication.

Chapter 1, “Using Debug Commands,” explains how you enter **debug** commands, use the **debug ?** and **debug all** commands, and generate and redirect **debug** command output. Read this chapter first before proceeding to Chapter 3, “Debug Commands.”

Chapter 2, “Conditionally Triggered Debugging,” describes how you can enable a router to generate debugging messages for packets entering or leaving the router on a specified interface; by default, debugging is enabled on all interfaces.

Chapter 3, “Debug Commands,” presents reference information on commands you use to debug your internetwork. The chapter includes command function descriptions, sample output displays, and explanations of these displays.

Appendix A, “X.25 Cause and Diagnostic Codes,” lists the codes that can appear in output from the **debug x25 all**, **debug x25 events**, and **debug x25 vc** commands.

Appendix B, “ISDN Switch Types, Codes, and Values,” lists the supported ISDN switch types. It also contains the ISDN cause codes, cause values, bearer capability values, and progress values that can appear in output from the **debug isdn q921**, **debug isdn q931**, and **debug isdn event** commands.

## Document Conventions

The command descriptions in this manual use these conventions:

- Commands and keywords are in **boldface**.
- Filenames, directory names, and arguments for which you supply values are in *italics*.
- Elements in square brackets ([ ]) are optional.
- Alternative but required keywords are grouped in braces ({ }) and are separated by vertical bars (|).
- A string is defined as a nonquoted set of characters. For example, when setting up a community string for SNMP to *public*, do not use quotes around the string or the string will include the quotation marks.

The samples use these conventions:

- Terminal sessions are printed in a `screen` font.
- Information you enter is in a **boldface screen** font.
- Nonprinting characters are shown in angle brackets (<>).
- Information the system displays is in a `screen` font; default responses are in square brackets ([ ]).

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**Note** Means *reader take note*. Notes contain helpful suggestions, or reference to materials not covered in this manual.

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**Caution** Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

Within the Cisco IOS software documentation, the term *router* is used to refer to both access servers and routers. When a feature is supported on the access server only, the term *access server* is used. When a feature is supported on one or more specific router platforms (such as the Cisco 4500), but not on other platforms (such as the Cisco 2500), the text specifies the platforms supported.

Within examples, routers and access servers may be alternately shown. These products are used only for example purposes—an example that shows one product does not indicate that the other product is not supported.