



## About this Manual

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This section explains the objectives, intended audience, and organization of this publication and describes the conventions that convey instructions and other information.



**Note**

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The terms "Unidirectional Path Switched Ring" and "UPSR" may appear in Cisco literature. These terms do not refer to using Cisco ONS 15xxx products in a unidirectional path switched ring configuration. Rather, these terms, as well as "Path Protected Mesh Network" and "PPMN," refer generally to Cisco's path protection feature, which may be used in any topological network configuration. Cisco does not recommend using its path protection feature in any particular topological network configuration.

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## Revision History

Date	Notes
03/30/2007	Revision History Table added for the first time
08/21/2007	Updated About this Guide
04/09/2008	Added a Note in the User Password, Login, and Access Policies section of the Security and Timing chapter.
June 2009	Updated the figure AEP Wire-Wrap Connections to Backplane Pins in Chapter 1, Shelf and Backplane Hardware.

This section provides the following information:

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# Document Objectives

This manual provides reference information for the Cisco ONS 15454.

## Audience

To use this publication, you should be familiar with Cisco or equivalent optical transmission hardware and cabling, telecommunications hardware and cabling, electronic circuitry and wiring practices, and preferably have experience as a telecommunications technician.

## Document Organization

**Table 1** Cisco ONS 15454 Reference Manual Chapters

Title	Summary
<a href="#">Chapter 1, “Shelf and Backplane Hardware”</a>	Includes descriptions of the rack, backplane, backplane pins, ferrites, power and ground, fan-tray assembly, air filter, card slots, cables, cable connectors, and cable routing.
<a href="#">Chapter 2, “Common Control Cards”</a>	Includes descriptions of the TCC+, TCC2, XC, XCVT, XC10G, AIC, and AIC-I cards.
<a href="#">Chapter 3, “Electrical Cards”</a>	Includes descriptions of EC-1, DS-1, DS-3, and DS3E cards, card temperature ranges, and compatibility.
<a href="#">Chapter 4, “Optical Cards”</a>	Includes descriptions of the OC-3, OC-12, OC-48, OC-192, TXP_MR_10G, and MXP_2.5G_10G cards, as well as card temperature ranges and card compatibility.
<a href="#">Chapter 5, “Ethernet Cards”</a>	Includes descriptions of the E-Series, G-Series, and ML-Series Ethernet cards and Gigabit Interface Converters (GBICs).
<a href="#">Chapter 6, “DWDM Cards”</a>	Includes descriptions of the optical service channel cards, optical amplifier cards, multiplexer and demultiplexer cards, and optical add/drop multiplexer (OADM) cards.
<a href="#">Chapter 7, “Card Protection”</a>	Includes electrical and optical card protection methods.
<a href="#">Chapter 8, “Cisco Transport Controller Operation”</a>	Includes information about CTC installation, the CTC window, computer requirements, software versions, and database reset and revert.
<a href="#">Chapter 9, “Security and Timing”</a>	Includes user set up and security, and node/network timing.

**Table 1** Cisco ONS 15454 Reference Manual Chapters (continued)

Title	Summary
Chapter 10, “Circuits and Tunnels”	Includes STS and VT, bidirectional and unidirectional, revertive and nonrevertive, electrical and optical, multiple and path trace circuit information, as well as DCC tunnels.
Chapter 11, “SONET Topologies”	Includes the SONET configurations used by the ONS 15454; includes bidirectional line switch rings (BLSRs), path protection, linear add/drop multiplexers (ADMs), subtending rings, and optical bus configurations, as well as information about upgrading optical speeds within any configuration.
Chapter 12, “DWDM Topologies”	Includes the DWDM configurations used by the ONS 15454; including hubbed rings, multihubbed rings, single span links, meshed rings, and linear configurations, as well as information about DWDM node types, automatic power control, automatic node setup, and DWDM network topology discovery.
Chapter 13, “IP Networking”	Includes IP addressing scenarios and information about IP networking with the ONS 15454.
Chapter 15, “Performance Monitoring”	Includes performance monitoring statistics for all cards.
Chapter 16, “Ethernet Operation”	Includes Ethernet applications for the G-Series and E-Series Ethernet cards.
Chapter 17, “FC_MR-4 Operation”	Includes descriptions of the FC_MR-4 Fiber Channel/Fiber Connectivity (FICON) card, card temperature ranges, compatibility, and applications.
Chapter 18, “SNMP”	Explains Simple Network Management Protocol (SNMP) as implemented by the Cisco ONS 15454.

## Related Documentation

Use the *Cisco ONS 15454 Reference Manual, Release 4.6* with the following referenced publications:

- *Cisco ONS 15454 Procedure Guide, Release 4.6*—Provides procedures to install, turn up, provision, and maintain a Cisco ONS 15454 node and network.
- *Cisco ONS 15454 Troubleshooting Guide, Release 4.6*—Provides general troubleshooting procedures, alarm descriptions and troubleshooting procedures, and hardware replacement instructions.
- *Cisco ONS 15454 TL1 Test Access Quick Start Guide*—Provides test access TL1 commands, configurations, and parameter types.
- *Release Notes for Cisco ONS 15454 Release 4.6*—Provides caveats, closed issues, and new feature and functionality information.

# Document Conventions

This publication uses the following conventions:

Convention	Application
<b>boldface</b>	Commands and keywords in body text.
<i>italic</i>	Command input that is supplied by the user.
[ ]	Keywords or arguments that appear within square brackets are optional.
{ x   x   x }	A choice of keywords (represented by x) appears in braces separated by vertical bars. The user must select one.
Ctrl	The control key. For example, where Ctrl + D is written, hold down the Control key while pressing the D key.
screen font	Examples of information displayed on the screen.
<b>boldface screen font</b>	Examples of information that the user must enter.
< >	Command parameters that must be replaced by module-specific codes.



## Note

Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the document.



## Caution

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



## Warning

### IMPORTANT SAFETY INSTRUCTIONS

**This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. To see translations of the warnings that appear in this publication, refer to the translated safety warnings that accompanied this device.**

#### Note: SAVE THESE INSTRUCTIONS

**Note: This documentation is to be used in conjunction with the specific product installation guide that shipped with the product. Please refer to the Installation Guide, Configuration Guide, or other enclosed additional documentation for further details.**

# Obtaining Optical Networking Information

This section contains information that is specific to optical networking products. For information that pertains to all of Cisco, refer to the [Obtaining Documentation, Obtaining Support, and Security Guidelines](#) section.

## Where to Find Safety and Warning Information

For safety and warning information, refer to the *Cisco Optical Transport Products Safety and Compliance Information* document that accompanied the product. This publication describes the international agency compliance and safety information for the Cisco ONS 15454 system. It also includes translations of the safety warnings that appear in the ONS 15454 system documentation.

## Cisco Optical Networking Product Documentation CD-ROM

Optical networking-related documentation, including Cisco ONS 15xxx product documentation, is available in a CD-ROM package that ships with your product. The Optical Networking Product Documentation CD-ROM is updated periodically and may be more current than printed documentation.

# Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

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