

About This Manual

This section discusses the objectives, audience, organization, and conventions of the *LightStream 2020 Hardware Reference & Troubleshooting Guide*. It also lists related Cisco documentation for the LightStream 2020.

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Document Objectives

This document describes the hardware components of the LightStream 2020 multiservice ATM switch (LS2020) and covers the following troubleshooting tasks:

- Using diagnostic software and other methods to isolate hardware faults
- Correcting problems by replacing hardware components

Audience

The audience for this book includes anyone who needs information on resolving hardware problems in LS2020 switches.



Warning This book is intended for use only by qualified service personnel. Tasks described here can expose unqualified personnel to mechanical and electrical hazards.

Document Organization

This manual is organized as follows:

- Chapter 1, “Hardware Description,” describes and illustrates the LS2020's processor, switch, and I/O cards, disk drives, blowers, power trays, and I/O fanout devices.
- Chapter 2, “Hardware Troubleshooting,” explains how to use hardware diagnostics and troubleshooting procedures to identify and isolate hardware problems.
- Chapter 3, “Replacing FRUs,” tells you how to replace faulty field-replaceable units.

- Chapter 4, “Hardware Configuration,” shows how to set jumpers and switches on LS2020 components, and explains how many network processors, line cards, switch cards, etc. can coexist in a system.
- Appendix A, “List of Field Replaceable Units and Expansion Modules,” lists the names and part numbers of components.
- Appendix B, “TCS Hub Commands,” explains how to use the test and control system’s command line interface.
- Appendix C, “Flash Loading,” explains how to load new software images into flash EPROMs on cards.

Document Conventions

The following conventions distinguish different types of text:

- Commands and keywords are in **boldface**.
- Screen output appears in `screen` font.
- In interactive examples, user input is in **boldface**.
- In command syntax statements:
 - Variables that you must replace with specific values are surrounded by angle brackets (<>).
 - Optional arguments are surrounded by square brackets ([]).
 - Alternative arguments are separated by vertical bars, and are grouped within curly brackets.
- Names of keys on the keyboard are surrounded by square brackets, e.g., the Tab key.
- The control key is indicated by a caret preceding a letter: ^A means Control-A.

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



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



Warning Means *danger*. You are in a situation that could cause bodily injury. Before you work on any equipment, you must be aware of the hazards involved with electrical circuitry and familiar with standard practices for preventing accidents.

LightStream 2020 Documentation

The following is a list of Cisco LS2020 documents:

- *LightStream 2020 System Overview*

This overview introduces the LS2020 switch and the Asynchronous Transfer Mode (ATM) technology on which the LS2020 product is based. It describes the traffic flow through a LS2020 network. In addition, it describes key features, such as traffic and network management.

- *LightStream 2020 Site Planning and Cabling Guide*

This guide tells you how to prepare your site to receive LightStream 2020 hardware. It includes space, environmental and electrical requirements, rack selection guidelines, requirements for the management workstation, and information on cables and connectors.

- *LightStream 2020 Installation Guide*

This guide tells you how to install and set up LightStream 2020 switches and how to install LightStream 2020 management software on your network management workstation.

- *LightStream 2020 Hardware Reference & Troubleshooting Guide*

This guide provides a detailed description of LightStream 2020 hardware and tells you how to diagnose hardware problems and how to replace faulty hardware components.

- *LightStream 2020 Configuration Guide*

This guide provides the information you need to configure LightStream 2020 switches. It provides a functional overview of the configuration programs. It describes the configuration database and gives detailed information on all configurable attributes and their settings. The guide also provides step-by-step configuration procedures.

- *LightStream 2020 Network Operations Guide*

This guide is a task-oriented book that tells you how to operate a network of LightStream 2020 switches. The guide presents an overview of network operations tasks, describes the command line interface (CLI), and presents procedures for performing monitor and control tasks such as displaying the status of nodes, cards and ports, viewing statistics, and creating collections of traffic data.

- *LightStream 2020 NP O/S Reference Manual*

This manual provides detailed descriptions of the most frequently used LynxOS commands and of the bash shell. It also provides a tutorial introduction and reference guide to the vi editor.

- *LightStream 2020 Traps Reference Manual*

This manual presents an overview of LightStream 2020 traps and how they are generated by the LightStream 2020 switch. It provides the procedures for managing trap reporting, such as setting trap levels, enabling/disabling individual traps, and determining where the traps are displayed. It also describes the SNMP, operational, and informational traps, including trap name, text, cause and user response.

- *LightStream 2020 CLI Reference Manual*

This manual provides detailed descriptions of the syntax and functions of all CLI commands. It also describes the LightStream 2020 private MIB.

- *LightStream 2020 Command Line Interface (CLI) Reference Card*

The reference card compactly summarizes the syntax and arguments of CLI commands.

- *LightStream 2020 Release Notes*

The release notes provide a software upgrade procedure and describe new features and special considerations, including known software bugs.

Note The release notes contain important information that was not available when the other documents were printed.

- LightStream 2020 Online Help

The LightStream 2020 command line interface (CLI) and configuration program both support online help facilities.

- *Internetworking Terms and Acronyms*

This guide is a glossary of terms and acronyms used in the field of internetworking, including material of interest to users of the LightStream 2020.

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