



# About This Manual

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## Document Objectives

The objective of this manual is to assist you in the installation and setup of the LightStream 2020 multiservice ATM switch (LS2020 switch) to be fully operational in your networking environment.

This document guides you through the following major tasks:

- Installing the LS2020 switch in the selected location
- Performing basic configuration procedures for the LS2020 switch using the StreamView network management software application that runs on your network management system (NMS)
- Installing the StreamView network management software application to make it operable on an NMS either in the presence or absence of HP OpenView
- Installing additional components on your LS2020 switch after system delivery

Cisco documentation and additional literature are available on a CD-ROM called Cisco Connection Documentation, Enterprise Series. The CD is updated and shipped monthly so it might be more current than printed documentation. To order the documentation CD, contact your local sales representative or call Customer Service. The CD is available both as a single CD and as an annual subscription. You can also access Cisco technical documentation on the World Wide Web URL <http://www.cisco.com>.

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**Note** The Cisco Connection Documentation, Enterprise Series CD was previously called UniverCD.

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For brevity and clarity, the LightStream 2020 multiservice ATM switch may be referred to generically throughout this document using one of the following terms:

- LS2020 switch
- LS2020 chassis
- LS2020 node

## Audience

The users of this manual should understand basic data communication concepts, have some knowledge of UNIX, and be familiar with the interfaces and devices used by an LS2020 network.

# Safety Precautions

Observe the following safety precautions when you are installing a LightStream 2020 multiservice ATM switch.

## Warning and Caution



**Warning** LS2020 switches are designed and manufactured to meet accepted safety standards. However, improper use can result in electrical shock, fire hazards, and personal injury. Read the following instructions carefully before installing and using an LS2020 switch. Heed all **Cautions** and **Warnings**.

## Electrostatic Discharge Protection

Static electricity can damage or degrade electronic components. Therefore, observe the precautions described below in handling LS2020 hardware.

## Grounding Procedure

Before removing any part of the LS2020 enclosure to expose its circuitry, you must ensure that you, the equipment rack, and the circuit boards are at ground potential to prevent electrostatic discharge (ESD). Such spurious discharges can damage LS2020 components. To place yourself at ground potential, wear a wrist strap connected to one of the ESD grounding jacks on the front and rear of the LS2020 chassis or to the bare metal chassis frame itself.

## Card Protection

All spare cards are shipped in separate, reusable antistatic shielding bags. Store each card in its bag until the card is installed in the machine. *Do not* remove a card from its bag unless you are grounded. *Do not* place a bag on exposed electrical contacts where it can cause short circuits.

# Glossary of TCS Hub Commands

The following test and control system (TCS) hub commands are used in this manual:

- `reset <slot#>` Resets the card in the specified slot
- `connect <slot#>` Establishes a connection to the card in the specified slot
- `show <sa | sb>` Detects the baud rate for the specified switch
- `set <sa | sb>` Sets the baud rate for the specified switch
- `init <sa | sb> modem` Initializes the modem port on the specified switch

# Document Organization

This manual is organized as follows:

- The Preface “About This Manual” describes the document’s objectives, audience, and organization, conventions, and related documents.
- Chapter 1 “Overview” summarizes the primary tasks involved in installing the LS2020 switch hardware and software. It also establishes an appropriate context for discussing the platform (chassis) software and the network management software application StreamView. The platform software and network management software applications are essential in making an LS2020 switch fully functional in a networking environment.
- Chapter 2 “Hardware Installation” explains how to rack mount an LS2020 chassis, mount fantrails, attach cables, apply power, and enter basic configuration information for the StreamView network management software running on the NMS.
- Chapter 3 “Installing Network Management Software Applications” explains how to install the StreamView network management software application on your NMS to run either with or without HP OpenView.
- Chapter 4 “Setup Procedures” provides instructions for a variety of tasks that you should perform before activating your LS2020 switch in the network.

The setup procedures in this chapter relate to the platform software that runs on the network processor (NP) card in the LS2020 chassis.

The NP card operates in conjunction with a floppy disk drive (for loading software) and a hard disk drive (for storing software and configuration data). Together, these elements serve as the loading, computational, and storage resources for an LS2020 switch.

An LS2020 switch can accommodate a second NP card. If present, the second card serves as a backup to the first. Each NP card also has an associated access card that provides an Ethernet port for connectivity within the networking environment.

- Chapter 5 “Additional Components” provides directions for the on-site installation of additional functional components in your LS2020 chassis after initial system delivery and installation.

For example, an LS2020 switch can accommodate the following additional components:

- A second NP card. If present, the second card serves as a backup to the first card.
  - An additional switch card.
  - An additional AC or DC power tray.
  - Additional line cards for supporting a variety of networking technologies and interfaces.
- Appendix A “StreamView Output Samples” provides representative output generated by StreamView software modules during various installation and software configuration tasks.
  - Appendix B “” provides information you can use to re-install the LightStream 2020 software.

## Document Conventions

The conventions listed in the table below are used in this document to enhance reader comprehension and product usability.

Convention	Purpose	Example
<b>Bold screen literal type</b>	Represents user input.	<b>\$ date</b>
Screen literal type	Represents system output.	Wed May 6 17:01:03 EDT 1994
<b>Boldface type</b>	Denotes names of commands, command arguments, and switches. Command names are case sensitive; enter them exactly as they appear in the text or examples.	Issue the <b>clear</b> command.
<i>Italic type</i>	Used for titles of documents and for emphasis.	<i>LightStream 2020 Configuration Guide</i> . File names are <i>case sensitive</i> .
Angle brackets < >	Indicate user-specified parameters or classes of user responses. When you see this notation in command syntax, make the substitution enclosed within the brackets, but do not type the angle brackets.	If you see: <b>set port</b> <c.p> <state> you might type: <b>set port 4.3 active</b>
Square brackets [ ]	Indicate optional arguments or parameters for commands. You can omit optional arguments and parameters in any command.	cli> <b>help</b> [<topic>]
Caret symbol ^	When the caret symbol precedes a character, it refers to the control key.	^X (the same as Control X)
Curly braces { }	Indicate a choice of argument or parameters for commands. Arguments or parameters are separated by a vertical line{ }, and you must select <i>one</i> .	cli> <b>set cli traplevel</b> <b>{off info oper trace debug}</b>

## Related Cisco Documentation

The following is a list of LS2020 manuals and other material relevant to LS2020 switch users.

- *LightStream 2020 System Overview*

Introduces the LS2020 switch and the Asynchronous Transfer Mode (ATM) technology on which the LS2020 product is based. It describes traffic flow through an LS2020 network and presents key features, such as traffic and network management.

- *LightStream 2020 Site Planning and Cabling Guide*

Provides guidelines you can use as you prepare your site to receive LS2020 hardware. It includes space, environmental, and electrical requirements; rack selection guidelines; requirements for the management workstation; and information on cables and connectors.

- *LightStream 2020 Hardware Reference & Troubleshooting Guide*  
Describes LS2020 hardware components and tells you how to troubleshoot and diagnose component problems. It also gives procedures for configuring and replacing individual components and discusses test and control system (TCS) hub commands.
- *LightStream 2020 Configuration Guide*  
Provides the information you need to configure LS2020 switches. It describes the configuration tools and the procedures for using them, introduces the configuration database, and defines all configurable attributes and their settings. The guide also provides step-by-step configuration procedures.
- *LightStream 2020 Network Operations Guide*  
Presents an overview of network tasks. It introduces the command line interface (CLI) and the graphical user interface (GUI), and it describes GUI-based monitoring procedures. The manual also describes facilities for viewing statistics and collecting traffic data.
- *LightStream 2020 CLI Reference Manual*  
Presents the syntax and functions of all CLI commands and describes the LS2020 private MIB.
- *LightStream 2020 Command Line Interface (CLI) Reference Card*  
Compactly summarizes the syntax and arguments for all CLI commands.
- *LightStream 2020 Traps Reference Manual*  
Discusses LS2020 traps and outlines the procedures used to determine whether traps will be logged and where they will be viewed. The manual also describes the major SNMP, operational, and informational traps.
- *LightStream 2020 NP O/S Reference Manual*  
Discusses the most frequently used LynxOS commands and the bash shell. It also provides a tutorial and reference guide for the vi editor.
- LightStream 2020 upgrade procedures and release notes  
Upgrade procedures outline steps involved in upgrading software. Release notes describe new features and special considerations (including known software bugs). Release notes and upgrade procedures are provided for both the platform software and the network management software.

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**Note** The upgrade procedures and release notes include important information that was not available when the other documents were printed.

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- *Internetworking Terms and Acronyms*  
Presents information on internetworking terms and acronyms, including material of interest to users of the LS2020 switch.
- *LightStream 2020 Online Help*  
The LS2020 CLI and GUI network management tools support online help facilities.

To order these or other Cisco publications, contact your Cisco sales representative. (The customer order number for each manual is printed at the bottom of the manual's title page.) For information contact Customer Support at 1-800-553-2447.

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