About This Guide

The information in this section is provided to help you navigate this guide and make better use of its content. A list of related documents is also included.

Purpose

This guide provides information about Ixia hardware theory, features, functions, and options, as well as additional test setup details.

Manual Content

This guide contains the following sections:

Section	Description
About This Guide	Provides information on this manual, including its purpose, content, and related documentation. Also explains how to contact technical support.
Chapter 1, *Platform and Reference Overview*	Provides a basic overview of Ixia hardware and theory of operation. Hardware includes descriptions of all supported chassis and load modules.
Chapter 2, *Theory of Operation: General*	Provides a general overview of the various technologies used in both IxExplorer and in the IxOS.
Chapter 3, *Theory of Operation: Protocols*	Provides a general overview of the various technologies used in IxNetwork and IxRouter.
Chapter 4, *Optixia XM12 Chassis*	Provides a detailed description of the features and systems of the Optixia XM12 chassis.
Chapter 5, *Optixia XM2 Chassis*	Provides a detailed description of the features and systems of the Optixia XM2 chassis.
Chapter 6, *XG12 Chassis*	Provides a detailed description of the features and systems of the XG12 chassis.
Chapter 7, *XGS12 Chassis*	Provides a detailed description of the features and systems of the XGS12 chassis.

Section	Description
Chapter 26, *IXIA 10GE LAN/WAN and OC 192 POS Load Modules*	Provides a detailed description of the features and capabilities of OC192c Optical Carrier load modules.
Chapter 27, *IXIA OC12 ATM/POS Load Modules*	Provides a detailed description of the features and capabilities of ATM load modules.
Chapter 28, *IXIA 10/100 Load Modules*	Provides a detailed description of the features and capabilities of 10/100 Ethernet load modules.
Chapter 29, *IXIA 100 Load Modules*	Provides a detailed description of the features and capabilities of 100 Ethernet load modules.
Chapter 30, *IXIA Gigabit Load Modules*	Provides a detailed description of the features and capabilities of Gigabit Ethernet load modules.
Chapter 31, *IXIA OC12c/OC3c Load Modules*	Provides a detailed description of the features and capabilities of OC12c/OC3c Optical Carrier load modules.
Chapter 32, *IXIA OC48c Load Modules*	Provides a detailed description of the features and capabilities of OC48c Optical Carrier load modules.
Chapter 33, *IXIA FCMGXM Load Modules*	Provides a detailed description of the features and capabilities of Fibre Channel load modules.
Chapter 34, *IXIA Xcellon-Flex Load Modules*	Provides a detailed description of the features and capabilities of Xcellon-Flex load modules.
Chapter 35, *IXIA Xcellon-Multis Load Modules*	Provides a detailed description of the features and capabilities of Xcellon-Multis load modules.
Chapter 36, *IXIA PerfectStorm Load Modules*	Provides a detailed description of the features and capabilities of PerfectStorm load modules.
Chapter 37, *IXIA Xdensity XDM10G32S/8S Load Modules*	Provides a detailed description of the features and capabilities of Xdensity (XDM10G32S) load module.
Chapter 38, *IXIA Stream Extraction Modules*	Provides a detailed description of the features and capabilities of Ethernet Stream Extraction load modules.
Chapter 39, *IxVM*	Provides a detailed description of the features and capabilities of IxVM load modules.
Chapter 40, *XAir™ XM Module*	Provides the next generation hardware for LTE UE emulation and allows LTE Advanced feature support.
Appendix A, *XAUI Connector Specifications*	Provides a detailed description of various XAUI connectors provided by Ixia for various modules.
Appendix B, *Available Statistics*	Lists all the statistics, by module and by technology, collected by Ixia hardware.
Appendix C, *GPS Antenna Installation Requirements*	Describes the recommended installation method for an IXIA GPS Antenna.
Appendix D, *Hot-Swap Procedure*	Describes the procedure for removing and reinstalling a Load Module without requiring the removal of power from the rest of the chassis.

Section	Description
Appendix E, *IP Port Assignments on Ixia Chassis and Linux port CPUs*	Lists the services assigned to IP ports on Ixia chassis and port.
Appendix F, *Laptop Controller*	Lists the specifications of the Laptop Controller.
Index	Provides a comprehensive index listing for the manual.

Related Documentation

The following guides help you learn more about the hardware for IxOS. The guides are available on the CD shipped with the application, as well as on the Ixia Website at www.ixiacom.com.

- *IxExplorer User Guide*: Provides details on the usage of the IxExplorer GUI for operation with an Ixia chassis and Ixia load modules.

- *IxServer User Guide*: Provides details on the usage of the IxServer GUI for operation on an Ixia chassis.

- *IxOS Tcl Development Guide:* Provides details on the structure and conventions of the IxExplorer Tcl API and provides detailed information on all API commands.

- Ixia online Glossary of technical terms is located at www.ixiacom.com/glossary/.

Technical Support

You can obtain technical support for any Ixia product by contacting Ixia Technical Support by any of the methods mentioned on the inside cover of this manual. Technical support from Ixia's corporate headquarters is available Monday through Friday from 06:00 to 18:00, UTC (excluding American holidays). Technical support from Ixia's EMEA and India locations is available from Monday through Friday, 08:00 to 17:00 local time (excluding local holidays).

Notes, Cautions, Warnings

Power Cords

Power cords that are included in shipments of Ixia equipment meet the approved/recognized standards of the national safety organization(s) of the destination country.

Battery Replacement

> **Caution:** Danger of explosion if battery is incorrectly replaced. You should not attempt to replace the battery.
>
> Return to Ixia Customer Service for replacement with the same or equivalent type of battery. Ixia disposes of used batteries according to the battery manufacturer's instructions.

Ventilation Requirements

The following caution applies to equipment installed into equipment racks.

Caution: Reduced Air Flow: Install the equipment in a rack so that the amount of air flow required for safe operation of the equipment is not reduced.
Do not block the back or sides of the chassis, and leave approximately two inches of space around the unit for proper ventilation.
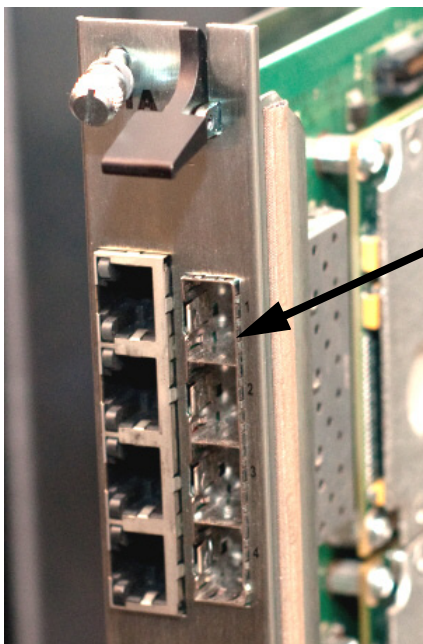
Use End Caps on Open Ports

The metal edges of the SFP port are sharp. To avoid injury, always keep unused SFP ports covered with end caps. When installing a load module into a chassis or removing from a chassis, ensure that end caps are in place on unused ports.

Warning: To prevent accidental injury to personnel, do not leave unused SFP (or SFP+) ports uncovered. When transceivers are not installed, end caps must be used.

Figure 1-1 shows the precautionary measure to be taken while handling unused SFP/SFP+ Ports in the laboratory.

Figure 1-1.   Unused Ports

Unused SFP/SFP+ ports need end caps

Affected load modules include the following:

• NGY with SFP+ interface, 2/4/8-port, all models

• Dual PHY SFF cards with RJ45 and SFP Gigabit (TXS and STXS)

- Xcellon-Ultra NP, XP, and NG

- LSM1000XMV 4/8/12/16-port

- LSM1000XMS

- ASM1000XMV

- AFM1000SP

- ELM1000ST

Use Ejector Tabs Properly

Ejector tabs on load modules are to be used only to eject a load module from the chassis backplane connector. They are not designed to support the weight of the load module. Ejector tabs can bend or break if used improperly as handles to push, pull, or carry a load module.

> **Caution:** Do not use ejector tabs as handles to support a load module while installing and seating into the chassis. The ejector tabs are to be used only to eject the module from the chassis backplane connector.

China RoHS Declaration Table—Chassis

零件项目(名称) (Component Name)	有毒有害物质或元素(Hazardous Substances or Elements)					
	铅 Lead (Pb)	汞 Mercury (Hg)	镉 Cadmium (Cd)	六价铬 Chromium VI Compounds (Cr6+)	多溴联苯 Poly-brominated Biphenyls (PBB)	多溴二苯醚 Poly-brominated Diphenyl Ethers (PBDE)
印制电路配件 (Printed Circuit Assemblies)	X	O	O	O	O	O
內部线路 (Internal wiring)	X	O	O	O	O	O
底架 (Chassis)	O	O	O	O	O	O
金属外壳 (Metal Enclosure)	O	O	O	O	O	O
螺帽,螺钉(栓),螺旋(钉), 垫圈, 紧固件 (Nuts, bolts, screws, washers, Fasteners)	O	O	O	O	O	O
电源供应器 (Power Supply Unit)	O	O	O	O	O	O
风扇 (Fan)	O	O	O	O	O	O
正面(前)面板 (Front panel)	O	O	O	O	O	O
O: 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006标准规定的限量要求以下. O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006. X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006标准规定的限量要求. X: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.						