



IxOS

XGS2 Chassis Platform

Getting Started Guide

Release 8.51 EA



Notices

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Safety Information



Do not proceed beyond a hazard notice until the indicated conditions are fully understood and met.

A **CAUTION** notice denotes a hazardous situation that, if not avoided, could result in minor or moderate injury.

A **WARNING** notice denotes a hazardous situation that, if not avoided, could result in death or serious injury.

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About this guide




This section explains the notational and typographical conventions used in this documentation, and provides a list of related documentation.

Section contents:

- Note icons and messages** 2
- Typographical conventions** 2
- Textual conventions** 3

Note icons and messages

The following table describes the note icons and messages used in this document.

Name	Icon	Description
Note		Indicates information that emphasizes or supplements important points in the main text.
Important		Indicates information that is essential to the completion of a task.
Tip		Provides supplemental suggestions for applying techniques and procedures to accomplish a task.

Typographical conventions

The following table describes the typographical conventions used in this document.

Convention	Description
bold text	Bold text indicates: <ul style="list-style-type: none">• Graphical user interface element names (such as dialog boxes, buttons, menu selections, and so forth).• Command line interface commands and options.• The name of a field, option, or parameter when used as part of an instruction. For example: "Select the desired Inner Priority value."
<i>Italic text</i>	Italic text indicates: <ul style="list-style-type: none">• A text reference to the name of a field, option, or parameter.• Document and book titles.• The first reference to a new term.• Special identification or emphasis in a statement.
monospace text	Text shown in a monospace font is used to indicate: <ul style="list-style-type: none">• Text that you input. For example: Enter <code>cd project1</code>• Code samples, including keywords and variables within text and as separate paragraphs, and user-defined program elements within text.• Text file content or examples, such as lines of text from an .ini file.

Textual conventions

The following table describes the typographical conventions used in this document.

Convention	Description
Boolean text	Words that represent Boolean notation are written in all uppercase text. For example: 1010 OR 1100.
Keystrokes	Simultaneous keystrokes are shown by joining the key names with a plus sign (+). For example, CTRL+Q.
> (right angle bracket)	Separates levels in a hierarchy of menu selections. For example: "Select Administration > Users. "

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CHAPTER 1 XGS2 Chassis Platform Overview

This section provides an overview of the XGS2 chassis platform, the physical units and the indicators and controls on them.

In this section:

- XGS2 Processor Modules** 2
- Front Panel** 4
- Indicators and Controls** 5
- Product Specifications** 5

XGS2 Processor Modules

XGS2 is the next-generation benchtop chassis platform that brings higher density, modular service capability, and efficient air flow for rack mount applications. This chassis platform supports application and security testing with the Ixia IxLoad™, IxNetwork™ and BreakingPoint™ software products.

There are two models of the chassis platform (based on supported controller type):

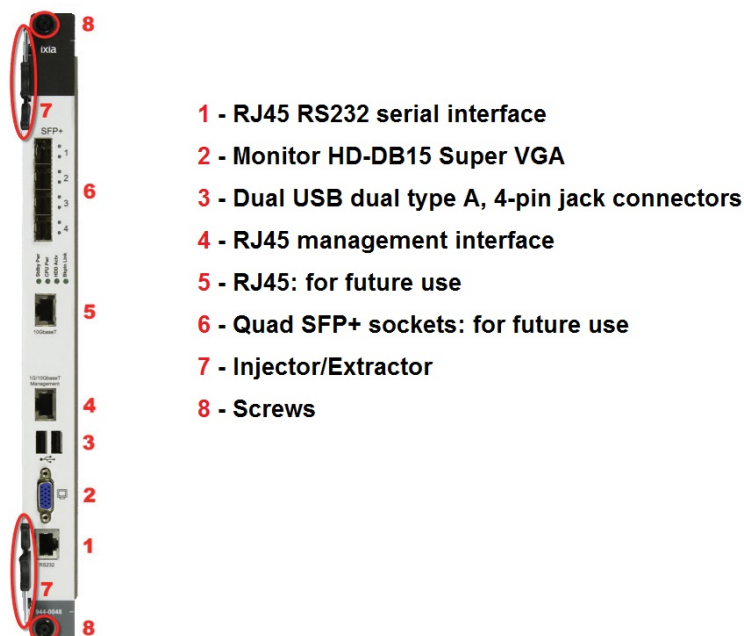
- XGS2-HS - High Performance Controller: This model provides support for IxLoad, IxNetwork and BPS.
- XGS2-SD - Standard Performance Controller: This model provides support for IxLoad and IxNetwork but not BPS.

The XGS2 Processor Modules are a modular, field-replaceable system controller units running Linux and Windows 7 operating systems for management and control of load modules, user management, port configurations, and statistics. It allows and manages the execution of both IxOS/IxServer and BreakingPoint environments in parallel, providing users the ability to run both IxLoad and BreakingPoint tests at the same time on different load modules.

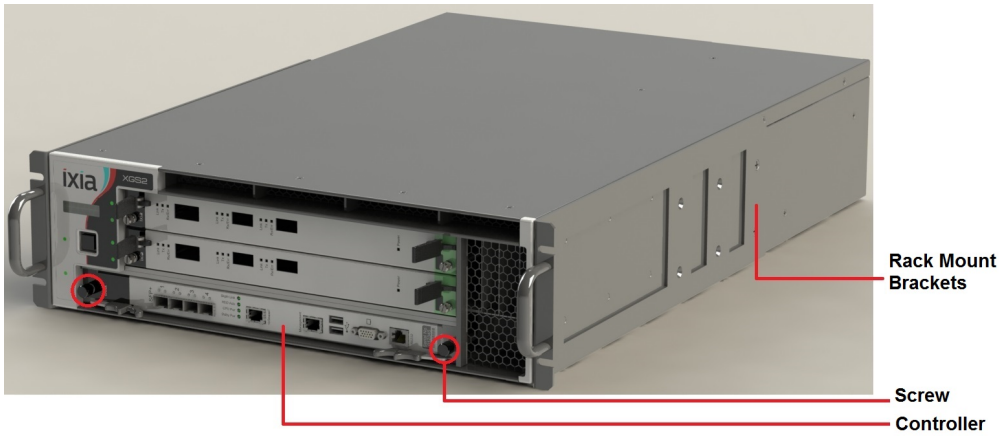
The XGS2-HS Processor Module features:

- Dual 400GB solid-state drive hard disk
- Dual INTEL multi-core processors
- 64 GB DDR3 system memory
- Monitor HD-DB15 Super VGA
- Dual USB dual type A, 4-pin jack connectors
- RJ45 management interface supporting 10GB/1GB/10MB Ethernet

The XGS2-HS processor module is shown below.



The chassis is shown below:



Chassis Front View



Chassis Rear View

Indicators and Controls

1	Power LED	Indicates the current power state: <ul style="list-style-type: none">■ Green: the system is ON and all power supplies are operational.■ Off: the system is powered off or one or more power supplies are not operational.
2	Power button	Power button: Power cycles the unit: <ul style="list-style-type: none">■ Short press (0.5 to 2 seconds): Graceful system shutdown. Allow up to 30 seconds for the system to power-down.■ Long press (4 seconds): Force Power Shutdown - immediate.
3	Serial port	Provides attachment to the serial port of a workstation, using the provided RJ45 to DB232 cable.
4	USB ports	Provides attachment of USB devices.
5	LAN port	An RJ-45 10/100/1000-BaseT management port, providing connection to your network.

Product Specifications

This section describes the network emulator regulatory compliance, safety and product specifications.

Chassis

3U Rack Mountable

Regulatory Compliance

UL File #: E255262

Safety

North America

UL 60950-1, 2nd Edition

CSA C22.2 No. 60950-1, 2nd Edition

Europe

EN60950-1, 2nd Edition

International

CB Scheme: IEC 60950-1:2nd Edition

EMI/EMC

North America

FCC part 15, Class A (USA)

ICES-003 Issue 4, Class A (Canada)

Europe

EN 55022:2010 +C1 (Emissions, Harmonics, Flicker)

EN 55024:2010 (Immunity)

International

IEC/EN 61000-3-2:2009 Harmonic emissions

IEC/EN 61000-3-3:2008 Voltage Fluctuations & Flicker Immunity

IEC/EN 61000-4-2:2008 Electrostatic Discharge Immunity

IEC/EN 61000-4-3:2006 Radiated Immunity

IEC/EN 61000-4-4:2004 +A1:2010 Transient/Burst Immunity

IEC/EN 61000-4-5:2005 Surge Immunity

IEC/EN 61000-4-6:2008 Conducted Radio Frequency Immunity

IEC/EN 61000-4-11:2004 Voltage Dips, Interruptions and Variations Immunity

Dimensions

3U

H x W x D: 5.1" x 17.5" x 26.5"

H x W x D: 12.95 x 44.45 x 67.31 cm

Weight: 55 lbs. (25 kg)

Thermal

Operating Temp.: 0° to 40° C


Operating humidity: 10 to 85% (RH), non-condensing

Input Power

INPUT 1/ALIMENTATION 1: 100-240VAC, 50/60Hz, 8A

INPUT 2/ALIMENTATION 2: 100-240VAC, 50/60Hz, 8A

INPUT 3/ALIMENTATION 3: 100-240VAC, 50/60Hz, 8A

 **Note:** Inputs 1 and 2 are required for normal operation. Input 3 is optional.

CHAPTER 2 XGS2 Chassis Physical Setup

This section describes the tasks needed to physically set up the XGS2-HS and XGS2-SD units for operation.

In this section:

- Unpack and Connect the Unit 9**
- Rack Mounting and Ventilation Warning13**
- Installing the XGS2 on a Flat Surface14**
- Record Product Information 15**

Unpack and Connect the Unit

1. Unpack the unit from the shipping container, and verify that you have all the required components.

The XGS2 chassis platform shipping carton contains the following items:



- One XGS2 chassis
- One rack mounting kit
- Two power cords (one additional power cord if you buy an optional redundant power supply)
- Ixia standard warranty notice
- One *XGS2 Getting Start Guide*
- Any optional items that you ordered (such as transceivers and cables)




If any items are missing or damaged, contact Ixia Support. Refer to *Contact Us on page iv* for contact information for each Ixia region.

2. Install the chassis. See [Install XGS2 Chassis on the next page](#).
3. Place the unit in the operating location that you have chosen.
You can operate the appliance as a desktop unit or a rack-mounted chassis. For rack-mount instructions, refer to [Rack Mounting XGS2 chassis platform](#).
4. Before connecting the unit, record the following information from the label on the back of the unit:
 - Host Name (for example, XGS2-HS),
 - Part number (for example, 940-0012),(You can record these in the form on [Record Product Information on page 15](#).)
5. Connect the LAN port on the XGS2 chassis platform to your network.
6. Connect the VGA and USB ports to the KVM infrastructure (or connect them to a local monitor, mouse, and keyboard).
Using the provided USB to PS2 cable, connect the RS232 port on the XGS2 chassis platform to the workstation that you will use to manage the unit (described in [Initial Configuration of XGS2-HS on page 18](#) and [Initial Configuration XGS2-SD on page 24](#)).
If your workstation does not have a 9-pin serial port, you will need to use a USB to Serial port converter.
7. Connect the power cord (provided in the shipping carton) to a 110V or 220V power source.
8. Switch on the power supply.
9. Check the following LED indicators to ensure that your system is operating correctly:
 - Power LED indicator: Green indicates proper operation.
 - LAN port LED indicator: Green indicates proper operation.


Install XGS2 Chassis

The installation procedure for both XGS2-HS and XGS2-SD chassis are the same. The following sections describe the procedure.

<p>1. Insert the controller module in the lower slot in front of the chassis. Ensure that the module is fully seated. Ensure that the thumbscrews are screwed in properly.</p>	
<p>2. Take the Sync module and insert it in its slot on the back of the chassis.</p>	

<p>3.</p>	<p>When the Sync module is fully inserted, tighten its two screws.</p>	 <p>The image shows a close-up of the front panel of the XGS2 chassis. A hand is shown tightening a screw on the Sync module. The Sync module has four ports labeled SYNC IN, SYNC OUT 1, SYNC OUT 2, and SYNC OUT 3. There are also labels for DMZ, DMZ IN, DMZ OUT, DMZ IN 2, and DMZ OUT 2. A 'NOTICE (AVIS)' label and a yellow 'WARNING' label are visible on the right side of the chassis.</p>
<p>4.</p>	<p>Insert a power supply in one of the power supply slots.</p>	 <p>The image shows a hand inserting a power supply into one of the power supply slots on the XGS2 chassis. The power supply is a 1300W unit with a red handle. The chassis has a 'NOTICE (AVIS)' label and a yellow 'WARNING' label on the right side.</p>
<p>5.</p>	<p>Push the power supply until you hear a click and it is fully seated in its slot.</p>	 <p>The image shows the power supply fully seated in its slot on the XGS2 chassis. The power supply is a 1300W unit with a red handle. The chassis has a 'NOTICE (AVIS)' label and a yellow 'WARNING' label on the right side.</p>

6. Repeat the same for the second supply.

 **Note:** If you have purchased the optional redundant power supply, you may have to repeat this step after removing the empty slot cover.



7. The fully assembled chassis's rear view looks like this.



8. If you need rack mounting, attach the two rack mounts. Tighten the rack mounts using the screws provided. Depending on your rack equipment placement requirement, you can attach the rack mounts to the front of the chassis, or at an offset from the chassis front.



Rack Mounts attached to the front of the chassis



Rack Mounts attached at an offset from the chassis front

9. Use the provided power cords to connect the chassis to the electrical power source.

Rack Mounting and Ventilation Warning

The XGS2 chassis are shipped with brackets and screws for rack mounting and rubber feet for stationing on a flat surface.

Installing the XGS2 chassis in an Equipment Rack

1. The equipment can be installed in most standard 19-inch racks and Telco two-post racks. To install the unit in a rack, complete the following steps:

2. Use the supplied screws to attach a mounting bracket to each side of the unit.
3. Position the unit in the rack and align the holes in the mounting bracket with the holes in the rack.
4. Insert and tighten two screws appropriate for your rack through each of the mounting brackets.

 **Note:** Place orders for ETSI rack brackets separately.

Installing the XGS2 on a Flat Surface

The product can be installed on any appropriate level surface that can safely support the weight of the product and the attached cables.

To install the product, set it on the flat surface and check for proper ventilation.

The supplied rubber feet are optional, but are recommended to keep the product from slipping when not racked.

A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturers.

B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

Record Product Information

You can use this page to record the product information required during initial system configuration (and for future reference).

- The Host Name, Part Number, and Windows Product Key are printed on the label on the back of the unit.
- The IP addresses are either assigned by the network's DHCP server or statically assigned by a system administrator.
- Flix OS and BreakingPoint IP addresses are needed for XGS2-HS chassis only.

Host Name:	
Part Number:	
FlixOS IP address:	
BreakingPoint IP address:	
IxOS IP address:	
Windows Product Key:	

CHAPTER 3 XGS2-HS Configuration

This section describes the tasks needed to configure the XGS2-HS chassis.

In this section:

- Connecting the XGS2-HS Processor module17**
- Initial Configuration of XGS2-HS18**
- System Administration of XGS2-HS21**

Connecting the XGS2-HS Processor module

This section describes the process of connecting the XGS2-HS Processor module. To connect the module you need to do the following:

1. Connect the RJ45 management port (4) as the designated management port to your lab management switch.
2. Connect the VGA (2) and USB (3) ports to the KVM infrastructure (or to a local monitor, mouse, and keyboard).

Initial Configuration of XGS2-HS

This section explains the instructions required to configure the IP addresses of the High Performance Processor Module.

There are two management IP addresses required (from the same management subnet) for the operation of the High Performance Processor Module:

- IP used by the system controller for general management tasks and used for Ixia Web-based user interface (also used to launch BreakingPoint web user interface).
- IP used by the Windows machine where IxOS is running: also used for adding IxLoad chassis ports.

By default both IP addresses are configured on DHCP mode.

The two IP addresses needed for management cannot be on the following subnets:

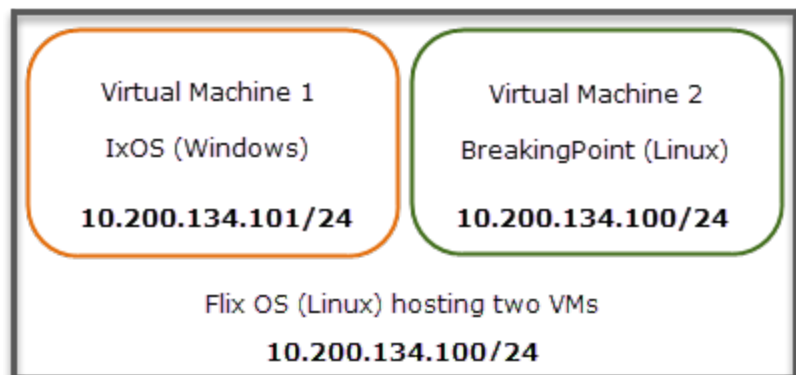
- 10.1.1.x/24 - internal virtual network
- 10.1.2.x/24 - internal virtual network
- 10.0.x.x/16 - default internal port address. This can be changed from IxExplorer Chassis Properties.

Virtual Machines and IP Address requirements for XGS2-HS chassis

The XGS2-HS chassis is designed to support IxLoad, BreakingPoint and IxNetwork. The basic architecture includes a Linux operating system (FlixOS) that hosts two virtual machines: one for IxOS and one for BreakingPoint.

This scheme requires two management IP addresses:

- FlixOS and BreakingPoint are both Linux based, and share a single address.
- IxOS, which is Windows based, uses a separate address.



These addresses can be automatically assigned via DHCP (the default) or statically assigned.

Configure the High Performance Processor Module

To configure the High Performance Processor Module, do the following:

1. With RJ45 management port, KVM, and power cables connected, switch on the system by pressing the chassis power button:



2. On the monitor connected to the VGA port, the basic login screen is prompted. To have access to the System Admin Screen (system configuration menu for configuring various system-level parameters) use the following system credentials:
 - username: admin
 - password: admin

```
login as: admin
admin@10.200.117.210's password: █
```

3. Once the system credentials are correctly inserted, the *System Admin Screen* is displayed.

```
Mon 23 Nov 2015 09:51:41 AM PST -0800

IxOS IP: X.X.X.X
WebUI IP: X.X.X.y
Ixia FlixOS version 2015.2.1001.92

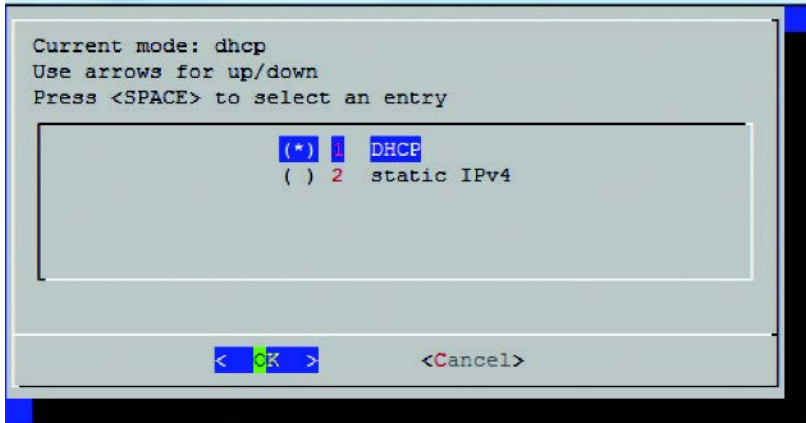
Running VMs: bpsVM ixosVM

 0 Quit
 1 Set up network
 2 Halt system (graceful)
 3 Halt system (forced)
 4 Reboot system (graceful)
 5 Reboot system (forced)
 p Change admin password
 s Observe sensors
 t Set system date and time
 u Upgrade FlixOS
 v Enable/Disable RDP to ixosVM on Web IP

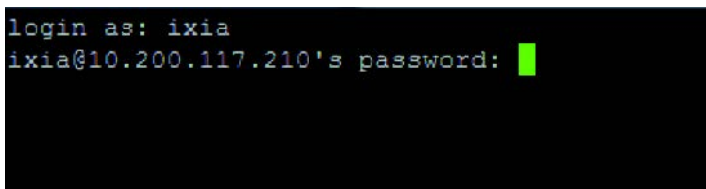
< OK >
```

4. Configure the general Ixia Web UI IP address:

- a. From the System Admin Screen, choose option **1 Set up network**.
- b. From the new submenu, select the desired IP mode (using the SPACE key):
 - **DHCP**: make sure to have an active DHCP server running on the management subnet (this is also the default setting).
 - **Static**: manually configure the Ixia Web UI IP address and netmask.



5. Configure the IxOS Windows IP address:
 - a. Choose option **3 Quit** from the *System Admin Screen* and when the login screen is prompted type the following credentials:
 - username: *ixia*
 - password: *ixia*




- b. To login to the IxOS Windows machine, use the following username and password (also shown in the bottom right corner of the login screen):
 - username: *ixia*
 - password: *System Controlled Serial Number*
 - c. Configure the IP address of the IxOS Windows as per your requirements.
 - d. To return to the *System Admin Screen*, use the following hotkey combination: CTRL+ALT+F2. Then use the same credentials as mentioned at step 2:
 - username: *admin*
 - password: *admin*
6. To apply the new settings, from the *System Admin Screen* choose option **4 Reboot system (graceful)**.

System Administration of XGS2-HS

Local system access (using the local KVM monitor and keyboard)

1. When starting the system, the login screen displayed provides two types of access depending on the credentials that are being used:
Accessing the System Admin Screen: using admin/admin credentials.
Accessing the IxOS Windows machine: using ixia/ixia credentials.
2. While in IxOS Windows machine, you can switch back to the System Admin Screen using the following hotkey combination: CTRL+ALT+F2 and then admin/admin credentials.

 **Note:** When directly-connected to the system controller (using VGA and USB ports), you can toggle modes between the IxOS Windows machine and the System Admin Screen by using the following hotkeys:
CTRL+ALT+F2 = System Admin Screen
CTRL+ALT+F7 = Windows IxOS Machine

Remote system access

1. To remotely administer the IxOS Windows machine, there are two options:
 - a. RDP using the *Ixia Web UI IP* address – preferred option
 - b. RDP using the *Windows IxOS IP* address
2. Remote access to the *System Admin Screen* is available as well using SSH on the above configured Ixia Web UI IP address, port 8022, and using the same *admin/admin* credentials.
3. To monitor system sensors, choose option **5 Observe sensors**.
4. To gracefully shut down the system, choose option **2 Halt system (graceful)** from the *System Admin Screen*.

You need to gracefully shutdown the system before powering off the chassis. Prior to this, a manual shutdown of the Windows IxOS machine is also recommended.

CHAPTER 4 XGS2-SD Configuration

This section describes the tasks needed to configure the XGS2-SD chassis.

In this section:

- Connecting the XGS2-SD Processor module23**
- Initial Configuration XGS2-SD24**

Connecting the XGS2-SD Processor module

This section describes the process of connecting the XGS2-SD Processor module. To connect the module you need to do the following:

1. Insert and remove the Processor Module.
2. Connect the RJ45 management port (4) as the designated management port to your lab management switch.
3. Connect the VGA (2) and USB (3) ports to the KVM infrastructure (or to a local monitor, mouse, and keyboard).

Initial Configuration XGS2-SD

To perform initial system configuration for the XGS2-SD chassis, do the following:

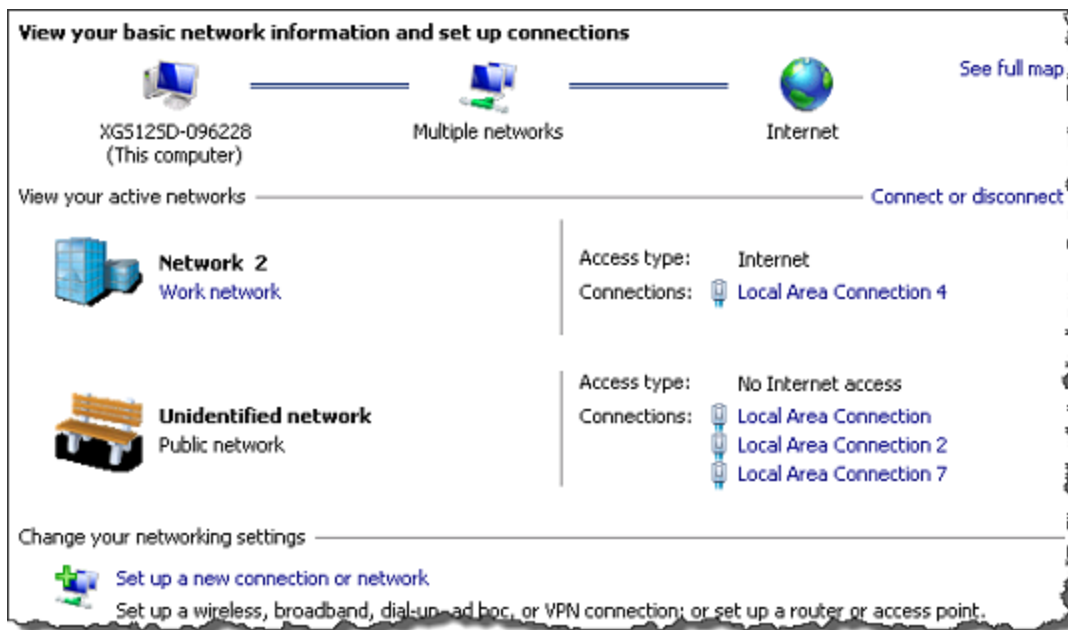
1. Connect the monitor, USB mouse and keyboard, and then start the chassis.
2. When the chassis boots up, log on to the chassis.
The user name is **ixia** and the password is the CPU module serial number found on the sticker located at the back of the chassis.
3. Once you log on to the chassis, [change the IP address](#).

Note: 10.0.x.x/16 is the default internal port address. This can be changed from IxExplorer Chassis Properties.

Change IP Address

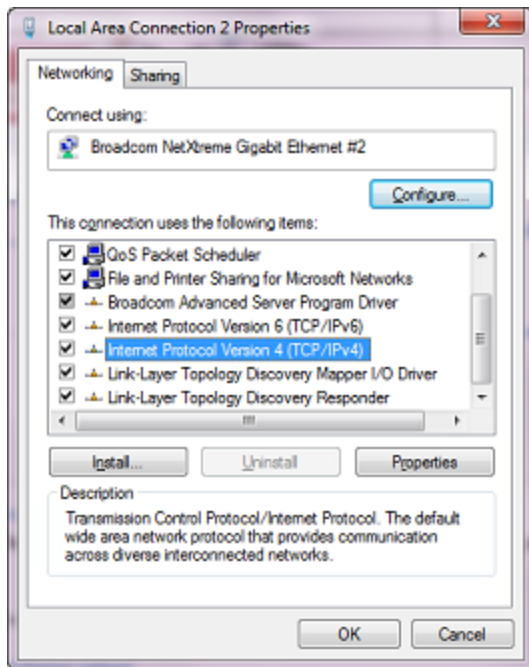
To change the IP address, do the following:

1. On the Start menu, click **Control Panel**.
2. Click **Network and Internet** and then click **Network and Sharing Center**. The **View your basic network information and set up connections** window appears.

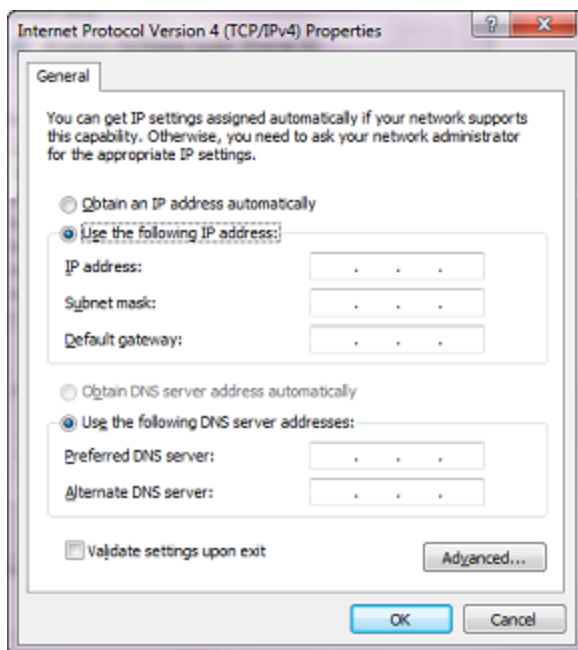


3. Under **View your active networks**, click the local area connection under **Access type: Internet**. The **Status** window appears.

- Click **Properties**. Select **Internet Protocol Version 4 (TCP/IPv4)**.



- Click **Properties** and then click the **Use the following IP address** option.



- Enter the IP address, subnet mask and default gateway.

CHAPTER 5 Ixia Test Applications Support

This section provides the details of the Ixia Test Applications supported by XGS2 chassis platform.

In this section:

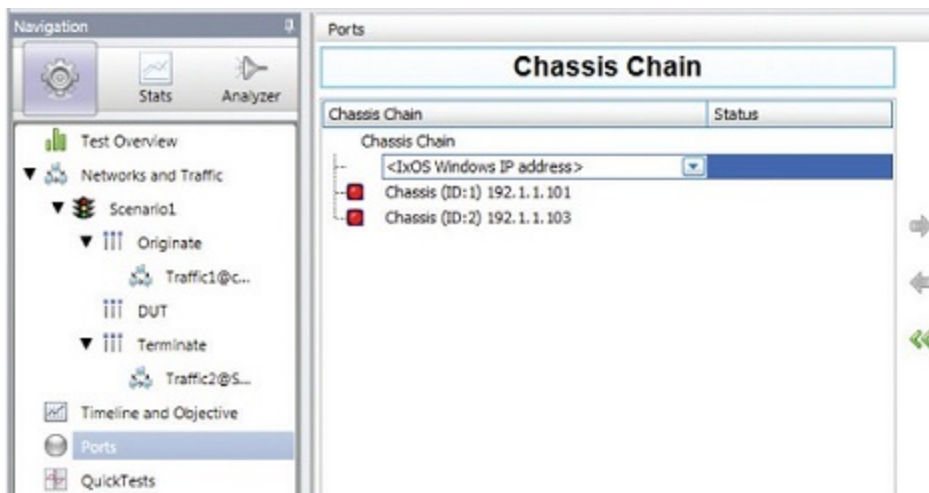
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Ixia Applications support for XGS2-HS

This section provides the details of the Ixia Test Applications supported by XGS2-HS chassis.

IxLoad

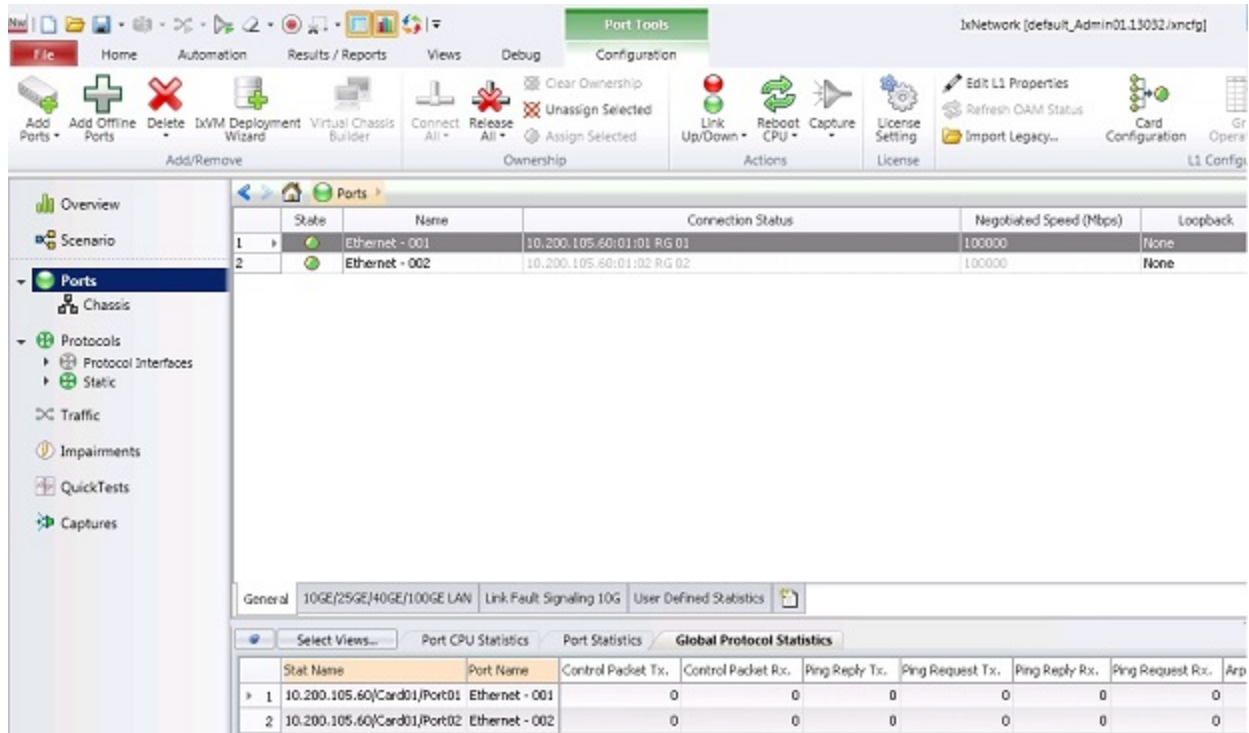
When running the IxLoad client application to add your new XGS2-HS chassis in the Chassis Chain pane, the IxOS Windows machine IP address should be used:



IxNetwork

To start IxNetwork and assign ports from an :XGS2-SD chassis:

1. Log on to an application server or workstation that has the IxNetwork application installed.
2. Start IxNetwork.
3. Select XGS2 ports for configuration in the IxNetwork test.
 - a. Select **Ports** in the navigation pane.
 - b. Click the **Add Chassis** icon (in the Port Tools ribbon). Enter the XGS2 host name or IP address.
4. Assign ports from the XGS2 system to the current IxNetwork test scenario.



BreakingPoint

To access the BreakingPoint web-based UI, connect to the Ixia Web UI IP address using your browser and launch a new BreakingPoint session:



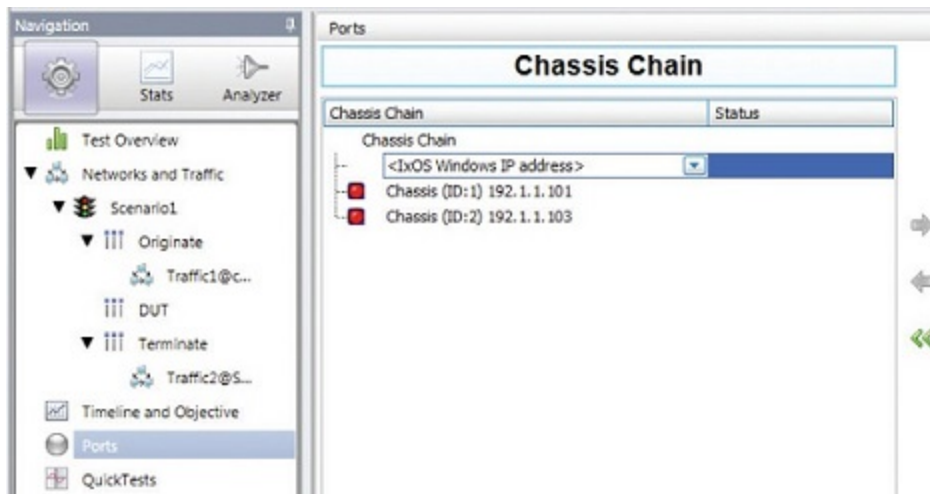
Note: It is recommended that you periodically check the Ixia compatibility matrix (<https://support.ixiacom.com/support-overview/product-support/product-compatibility-matrix>) to determine the correct Ixia software application versions that are validated for interoperability.

Ixia Applications support for XGS2-SD

This section provides the details of the Ixia Test Applications supported by XGS2-SD chassis.

IxLoad

When running the IxLoad client application to add your new XGS2-SD chassis in the Chassis Chain pane, the IxOS Windows machine IP address should be used:



IxNetwork

To start IxNetwork and assign ports from an :XGS2-SD chassis

1. Log on to an application server or workstation that has the IxNetwork application installed.
2. Start IxNetwork.
3. Select XGS2 ports for configuration in the IxNetwork test:
 - Select Ports in the navigation pane.
 - Click the Add Chassis icon (in the Port Tools ribbon). Enter the XGS2 host name or IP address.
4. Assign ports from the XGS2 system to the current IxNetwork test scenario.

State	Name	Connection Status	Negotiated Speed (Mbps)	Loopback
1	Ethernet - 001	10.200.105.60:01:01 RG 01	100000	None
2	Ethernet - 002	10.200.105.60:01:02 RG 02	100000	None

Stat Name	Port Name	Control Packet Tx.	Control Packet Rx.	Ping Reply Tx.	Ping Request Tx.	Ping Reply Rx.	Ping Request Rx.	Arp
1	10.200.105.60/Card01/Port01 Ethernet - 001	0	0	0	0	0	0	0
2	10.200.105.60/Card01/Port02 Ethernet - 002	0	0	0	0	0	0	0

Note: It is recommended that you periodically check the Ixia compatibility matrix (<https://support.ixiacom.com/support-overview/product-support/product-compatibility-matrix>) to determine the correct Ixia software application versions that are validated for interoperability.

CHAPTER 6 Common Administrative Tasks

This topic describes, for reference, some of the common tasks that system administrators will perform on the XGS2 system.

In this section:


Start a Windows Remote Desktop Connection	32
Start an SSH Session	33
Start a Serial Session	34
Reboot the System	35
Shut Down the System	35

Start a Windows Remote Desktop Connection

To start a Remote Desktop Connection session to the XGS2 system:

1. If you do not know the IxOS IP address, ping the unit's host name.
The host name appears on the label on the back of the unit.
The ping command will return the IxOS IP address.
2. From the management workstation, start a **Remote Desktop Connection** session with the IxOS virtual machine, using the IP address that was returned by the ping command.
In the Windows Security window, provide the following credentials:
 - User name: ixia
 - Password: the last part of the host name. For example, if the host name is xxxx-X1234567, the password will be X1234567.

Once you click OK, Remote Desktop Connection establishes the connection and displays the IxOS virtual machine Windows desktop.

 **Note:** If you specify port 3391 in your Remote Desktop Connection session, you will connect to the BreakingPoint virtual machine rather than to the IxOS virtual machine.

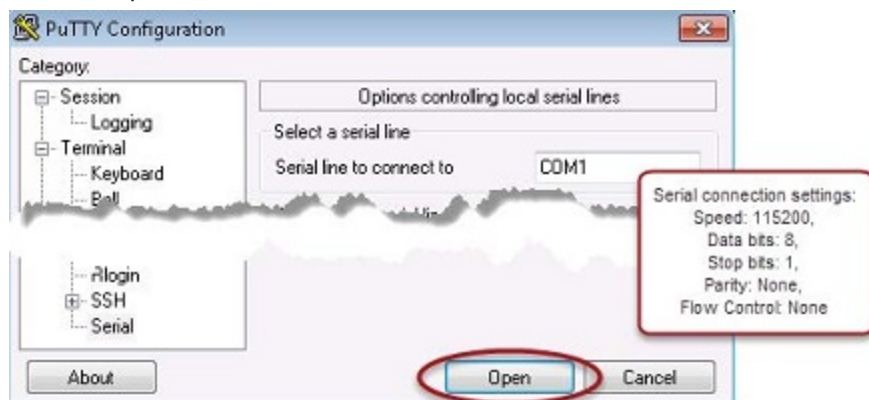
Start a Serial Session

You can access the XGS2 Administrative Console using either a serial connection or an SSH session. This applies to the XGS2-HS chassis model only.

To start a serial session:

1. Open the serial connection from your terminal emulation application.

For example:

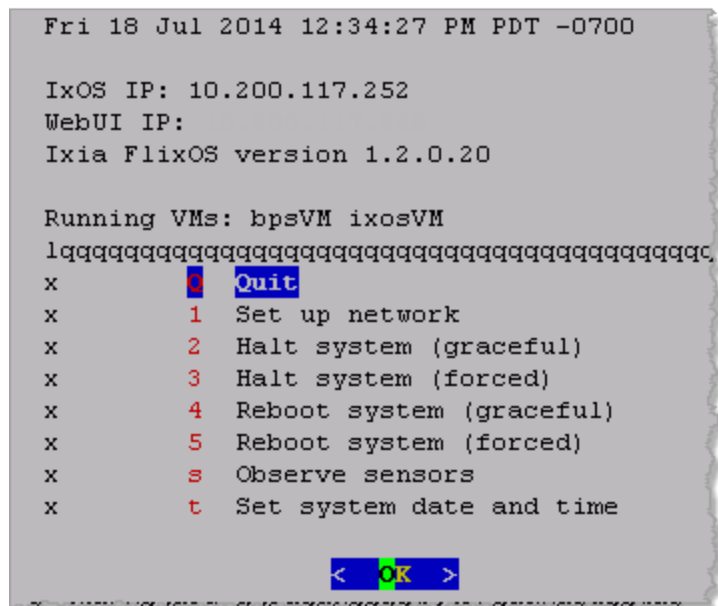


The Administrative Console prompts you to log in.

2. Enter the following credentials:

- User ID: admin
- Password: admin

The Administrative Console presents the main menu. For example:



Once logged in, you can perform any of the available tasks.

CHAPTER 7 Troubleshooting

This section provides guidance for interpreting the operational status of your XGS2 unit, and troubleshooting issues that may arise.

If you need assistance, contact Ixia Technical Support using the contact information provided in [Contact Us on page iv](#).

In this section:

- LED Indicators** **38**
- IP Addressing Issues** **39**
- Troubleshooting Licensing Issues** **40**
- Troubleshooting Other Issues** **40**

LED Indicators

The XGS2 chassis provides LED indicators that provide a visual presentation of the operational status of the device and its individual ports.

LED/LCD Display


The XGS2-HS and XGS2-SD chassis have front panel LEDs for each load module slot. The following table describes the purpose and meaning of each indicator:

Label	Color	Description
Power	Green	When the Power LED is flashing, the board is being detected or initialized. The Power LED is illuminated when the board is powered.
In Use	Amber	The Active LED is illuminated when you have taken ownership of the load module. If you run traffic from IxExplorer, without taking port ownership, the In Use light is not illuminated.

CPU Slot LED Definitions

The specifications of LEDs for the Processor module and the LEDs above the Processor module slot are shown in the following table:

	LED	Color	Description
On the chassis front face	CPU card Slot LED	Yellow	The backplane is initializing
		Green	The backplane has initialized
Processor module - front panel	Stdby Pwr LED	Green	5V Stand-by power is available
	CPU Pwr LED	Green	CPU Card power is available
	HDD Act LED		
	Bkpln Link LED	Green	PCIe link to backplane is up

	LED	Color	Description
Processor module - Ethernet LEDs for each port	Link LED	Green	Port has link. <hr/>  Note: Link and Activity LEDs are included for all Ethernet ports. <hr/>
	Act LED		Flashes when port has activity.

IP Addressing Issues

The XGS2 chassis models require the following management IP addresses:

- the WebUI address (applicable for the HS model only)
- the IxOS address (applicable for both the HS and SD models of the chassis)

If your network implements a DHCP service, the XGS2 IP addresses will automatically be assigned by that service, unless you choose to assign static IP addresses instead. When assigning static IP addresses, you must observe the following requirements:

- The two management IP addresses must be in the same subnet.
- The two IP addresses needed for management cannot be on the following subnets:
 - 10.1.1.x/24 - internal virtual network
 - 10.1.2.x/24 - internal virtual network
 - 10.0.x.x/16 - default internal port address. This can be changed from IxExplorer Chassis Properties.

Failure to observe these requirements will result in connectivity failures.

Troubleshooting Licensing Issues

Following is a list of licensing issues that can result in operational problems:

- Licensing: An IxOS license is required to run both BreakingPoint and IxLoad.
- License invalidation: Time discrepancies between the network and the XGS2 system will invalidate the installed licenses. To avoid this, configure the XGS2 to use NTP (or manage the time setting manually, if NTP is not available to you). Refer to [Set the System Time](#) for instructions.

Troubleshooting Other Issues

Following is a list of other known issues that can result in operational problems:

- L2 switches: Check for intermediate L2 switches that are configured to allow only a single L2 MAC per interface. If a switch so configured is present in your network, FlixOS will retrieve an IP address. This is applicable for the XGS2-HS chassis only.

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APPENDIX A Safety Instructions



This appendix describes the various unit safety instructions in English and French.



SAFETY INSTRUCTIONS (English)



CAUTIONS and WARNINGS: Safety Instructions


Use the following safety guidelines to help ensure your own personal safety and to help protect your equipment and working environment from potential damage.



SAFETY: General Safety


  CAUTION: The power supplies in your system may produce high voltages and energy hazards, which can cause bodily harm. Only Ixia service technicians are authorized to remove the cover and access any of the components inside the system.


  CAUTION: To reduce the risk of electrical shock, a trained service technician must disconnect all power supply cables before servicing the system.

  WARNING: Multiple sources of supply. Disconnect all sources before servicing.

 CAUTION: Equipment is intended for installation in Restricted Access Locations

  WARNING: Hazardous moving parts. Keep away from moving fan blades.

 CAUTION: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the Instructions below.

 CAUTION: After removing or installing panel, ensure thumbscrews are tightened down with a Flat Blade or Phillips Screwdriver



NOTE: The installation of your equipment and rack kit in a rack cabinet has not been approved by any safety agencies. It is your responsibility to ensure that the final combination of equipment and rack complies with all applicable safety standards and local electric code requirements. Ixia disclaims all liability and warranties in connection with such combinations. Rack kits are intended to be installed in a rack by trained service technicians.

When setting up the equipment for use:

- Place the equipment on a hard, level surface.
- Leave plenty of clearance on all vented sides of the equipment to permit the airflow required for proper ventilation. Restricting airflow can damage the equipment.
- Ensure that nothing rests on your equipment's cables and that the cables are not located where they can be stepped on or tripped over
- Keep your equipment away from radiators and heat sources. Keep your equipment away from extremely hot or cold temperatures to ensure that it is used within the specified operating range.
- Do not stack equipment or place equipment so close together that it is subject to re-circulated or preheated air

When operating your equipment:



CAUTION: Do not operate your equipment with the cover removed.

- Use this product only with approved / certified equipment. Operate this product only with approved /certified redundant power supplies.
- Operate the equipment only from the type of external power source indicated on the electrical ratings label. If you are not sure of the type of power source required, consult your service provider or local power company.
- Use only approved power cable(s). If you have not been provided with a power cable for the equipment or for any AC-powered option intended for the equipment, purchase a power cable that is approved for use in your country. The power cable must be rated for the equipment and for the voltage and current marked on the equipment's electrical ratings label. The voltage and current rating of the cable should be greater than the ratings marked on the equipment.
- Do not modify power cables or plugs. Consult a licensed electrician or your power company for site modifications. Always follow your local/national wiring rules.

- To help prevent electric shock, plug the equipment's power cable into properly grounded electrical outlets. These cables are equipped with three-prong plugs to help ensure proper grounding. Do not use adapter plugs or remove the grounding prong from a cable. If you must use an extension cable, use a 3-wire cable with properly grounded plugs.
- Observe extension cable and power strip ratings. Ensure that the total ampere rating of all equipment plugged into the extension cable or power strip does not exceed 80 percent of the ampere ratings limit for the extension cable or power strip.
- If any of the following conditions occur, unplug the equipment from the electrical outlet and replace the part or contact Ixia:
 - The power cable, extension cable, or plug is damaged
 - An object has fallen into the equipment
 - The equipment has been exposed to water
 - The equipment has been dropped or damaged
 - The equipment does not operate correctly when you follow the operating instructions
- Do not operate the equipment within a separate enclosure unless adequate intake and exhaust ventilation are provided on the enclosure that adheres to the guidelines listed above
- Do not restrict airflow into the equipment by blocking any vents or air intakes
- Do not push any objects into the air vents or openings of your equipment. Doing so can cause fire or
- electric shock by shorting out interior components



CAUTION: Only Ixia trained service technicians are authorized to replace the battery. Should the battery need to be replaced, please contact Ixia to arrange for the replacement of the battery.

Incorrectly installing or using an incompatible battery may increase the risk of fire or explosion.

Replace the battery only with the same or equivalent type recommended by the manufacturer, carefully

following installation instructions. Dispose of used batteries properly.

SAFETY: Battery Disposal



Your system uses a lithium coin-cell battery. These batteries are long-life batteries, and it is very possible that you will never need to replace them. However, should you need to do so, please contact Ixia to arrange for the replacement of the battery. Do not dispose of the battery along with ordinary waste. Contact your local waste disposal agency for the address of the nearest battery deposit site. Handle batteries carefully. Do not disassemble, crush or puncture batteries. Do not short external contacts, dispose of batteries in fire or water, or expose batteries to temperatures higher than 60 degrees Celsius (140 degrees Fahrenheit). Do not attempt to open or service batteries. Replace batteries only with batteries designated for the equipment.

SAFETY: Risk of Electrical Shock



CAUTION: Opening or removing the cover of this equipment may expose you to risk of electrical shock. Components inside these compartments should be serviced only by an Ixia service technician.

- Allow the equipment to cool before removing add-in modules. Add-in modules may become very warm during normal operation. Use care when removing add-in modules after their continuous operation.
- To help avoid the potential hazard of electric shock, do not connect or disconnect any cables or perform maintenance or reconfiguration of your equipment during an electrical storm.

•

SAFETY: Equipment with Laser Devices



CAUTION: Do not look directly into a fiber-optic transceiver or into the end of a fiber-optic cable. Fiber-optic transceivers contain laser light sources that can damage your eyes.

This equipment may contain optical communications transceivers which have built-in laser devices. To prevent any risk of exposure to laser radiation, do not disassemble or open any optical transceiver assembly for any reason.

Protecting Against Electrostatic Discharge



CAUTION: Disconnect product from mains power source in accordance with product-specific safety information located in this manual.



Electrostatic discharge (ESD) events can harm electronic components. Under certain conditions, ESD may build up on your body or an object and then discharge into another object, such as your add-in modules. To prevent ESD damage, you should discharge static electricity from your body before handling add-in modules.

You can protect against ESD and discharge static electricity from your body by touching a metal grounded object before you interact with anything electronic. When connecting other devices to this equipment, you should always ground both yourself and the other device before connecting it to this

equipment.

You can also take the following steps to prevent damage from electrostatic discharge:

When unpacking a static-sensitive component from its shipping carton, do not remove the component from the antistatic packing material until you are ready to install the component. Just prior to unwrapping the antistatic package, be sure to discharge static electricity from your body.

When transporting a sensitive component, first place it in an antistatic container or packaging.

Handle all electrostatic sensitive components in a static-safe area. If possible, use antistatic floor pads and work bench pads.

SAFETY INSTRUCTIONS (French)



AVERTISSEMENT : Instructions relatives à la sécurité

Veillez suivre les directives de sécurité suivantes afin d'assurer votre sécurité personnelle et de protéger votre équipement et votre environnement de travail contre les dommages potentiels.

SÉCURITÉ : Sécurité générale



AVERTISSEMENT : les sources d'alimentation de votre système peuvent produire une tension élevée et des dangers électriques qui peuvent causer des blessures corporelles. Seuls les techniciens de service d'Ixia sont autorisés à retirer le couvercle et à accéder aux composants à l'intérieur du système.



AVERTISSEMENT : Afin de réduire le risque de choc électrique, un technicien de service formé devra débrancher tous les câbles d'alimentation avant d'effectuer l'entretien sur le système.



REMARQUE : l'installation de votre équipement et de votre ensemble de bâti dans une armoire n'a été approuvée par aucune agence de sécurité. Il vous incombe d'assurer que la combinaison finale

d'équipements et de bâtis soit conforme à toutes les normes de sécurité applicables et aux exigences du code local en matière d'électricité. Ixia décline toute responsabilité et toutes les garanties relatives à de telles combinaisons. Les ensembles de bâtis sont prévus pour être installés par un technicien de service formé.

Lors de l'installation de l'équipement aux fins d'utilisation :

- Placer l'équipement sur une surface dure et à niveau
- Laisser un espace d'au moins 5.1 cm (2 po) sur tous les côtés de l'équipement dotés de fentes d'aération afin de permettre la circulation d'air nécessaire à une bonne ventilation. L'entrave à la circulation d'air peut endommager l'équipement.
- S'assurer que rien ne se trouve sur les câbles de l'équipement et que les câbles ne se trouvent pas dans un endroit où on pourrait marcher ou trébucher sur eux
- Tenir l'équipement éloigné des radiateurs et autres sources de chaleur
- Ne pas exposer l'équipement à des températures extrêmement chaudes ou froides afin d'assurer qu'il soit utilisé dans la plage de fonctionnement spécifiée
- Ne pas empiler l'équipement ni placer ses composants si près les uns des autres qu'ils risquent d'être exposés à de l'air de recirculation ou préchauffé

Lors de l'utilisation de votre équipement :



AVERTISSEMENT : ne pas utiliser votre équipement avec le couvercle retiré.

- Utiliser ce produit uniquement avec des équipements approuvés/certifiés. Faire fonctionner ce produit uniquement avec des alimentations redondantes approuvées/certifiées.
- Faire fonctionner l'équipement uniquement avec le type d'alimentation externe indiqué sur l'étiquette des caractéristiques électriques. En cas de doute quant au type d'alimentation requis, consulter votre prestataire de services ou la compagnie d'électricité locale.
- Utiliser uniquement des câbles d'alimentation approuvés. Si on ne vous a pas fourni de câble d'alimentation pour l'équipement ou pour toute autre option alimentée au CA prévue pour l'équipement, acheter un câble d'alimentation approuvé pour utilisation dans votre pays. Le câble d'alimentation doit être conforme aux caractéristiques nominales de l'équipement, ainsi qu'aux valeurs nominales de tension et de courant indiquées sur l'étiquette des caractéristiques électriques de l'équipement. Les valeurs nominales de tension et de courant du câble doivent être supérieures à celles indiquées sur l'équipement.
- Ne pas modifier les câbles d'alimentation ou les fiches. Consulter un électricien agréé ou votre compagnie d'électricité pour toute modification du site. Systématiquement respecter les règles locales/nationales en matière de câblage.
- Pour prévenir les chocs électriques, brancher les câbles d'alimentation de l'équipement dans des prises électriques mises à la terre correctement. Ces câbles sont dotés de fiches à trois branches

afin d'assurer une mise à la terre adéquate. Ne pas utiliser de fiches d'adaptation ni retirer la broche de mise à la terre d'un câble. Si une rallonge doit absolument être utilisée, utiliser un câble à trois fils doté de fiches de mise à la terre adéquates.

- Respecter les caractéristiques nominales de la rallonge et de la barrette d'alimentation. S'assurer que l'ampérage nominal total de tous les équipements branchés à la rallonge ou à la barrette d'alimentation n'excède pas 80 pour cent de l'ampérage nominal maximal de la rallonge ou de la barrette d'alimentation.
- Si l'une des situations suivantes se produit, débrancher l'équipement de la prise de courant et remplacer la pièce ou contacter Ixia :
 - Le câble d'alimentation, la rallonge ou la fiche est endommagé.
 - Un objet est tombé dans l'équipement
 - L'équipement a été exposé à de l'eau
 - L'équipement est tombé ou a été endommagé
 - L'équipement ne fonctionne pas correctement quand vous suivez les consignes d'utilisation
- Ne pas utiliser l'équipement dans une enceinte séparée à moins qu'une ventilation d'entrée et de sortie d'air adéquate soit fournie sur cette enceinte en conformité avec les directives indiquées ci-dessus
- Ne pas entraver l'arrivée d'air dans l'équipement en bloquant les fentes d'aération ou les entrées d'air
- Ne pas introduire d'objets dans les fentes d'aération ou ouvertures de votre équipement au risque de causer un incendie ou un choc électrique à la suite d'un court-circuit des composants internes



AVERTISSEMENT : seuls les techniciens de service formés d'Ixia sont autorisés à remplacer la

pile. Si la pile doit être remplacée, contacter Ixia pour prendre les dispositions nécessaires au remplacement de la pile. L'installation incorrecte ou l'utilisation d'une pile incompatible peut augmenter le risque d'incendie ou d'explosion. Remplacer la pile uniquement par un type de pile identique ou équivalent conformément aux recommandations du fabricant et suivre les consignes d'installation à la

lettre. Correctement éliminer les piles usées.

SÉCURITÉ : Élimination des piles



Votre système utilise une pile bouton au lithium. Ces piles sont à longue durée et il est très possible que vous n'ayez jamais à les remplacer. Toutefois, si jamais vous deviez le faire, veuillez contacter Ixia pour prendre les dispositions nécessaires au remplacement de la pile.

Ne pas éliminer la pile avec les ordures ménagères. Contacter l'agence locale chargée de l'élimination

des déchets pour obtenir l'adresse du site de collecte de piles le plus proche.

Manipuler les piles avec précaution. Ne pas démonter, écraser ou percer les piles. Ne pas court-circuiter

les contacts externes, éliminer les piles dans le feu ou l'eau, ni exposer les piles à des températures supérieures à 60 degrés Celsius (140 degrés Fahrenheit). Ne pas essayer d'ouvrir ou de réparer les piles. Remplacer les piles uniquement avec les piles désignées pour l'équipement.

SÉCURITÉ : Risque de choc électrique



AVERTISSEMENT : ouvrir ou retirer le couvercle de cet équipement peut vous exposer à un risque de choc électrique. Les composants à l'intérieur de ces compartiments doivent être entretenus exclusivement par un technicien de service Ixia.

- Laisser l'équipement refroidir avant de retirer les modules additionnels. Les modules additionnels peuvent devenir très chauds lors du fonctionnement normal. Faire preuve de prudence lors du retrait de modules additionnels après un fonctionnement continu.
- Pour éviter le risque potentiel de choc électrique, ne pas connecter ou déconnecter les câbles, ni effectuer l'entretien ou la reconfiguration de votre système durant une tempête électrique.

SÉCURITÉ : Équipement doté de dispositifs laser



AVERTISSEMENT : ne jamais regarder directement dans un émetteur-récepteur à fibres optiques ou dans l'extrémité d'un câble à fibres optiques. Les émetteurs-récepteurs à fibres optiques contiennent

des sources de lumière laser qui peuvent endommager vos yeux.

- Cet équipement peut contenir des émetteurs-récepteurs de communication par fibre optique qui comportent des dispositifs laser intégrés. Pour prévenir tout risque d'exposition au rayonnement laser, ne jamais démonter ou ouvrir un émetteur-récepteur à fibres optiques.

Protection contre les décharges électrostatiques



AVERTISSEMENT : débrancher le produit de la source principale d'alimentation conformément

aux informations de sécurité spécifiques au produit fournies dans ce manuel.



Les décharges électrostatiques peuvent endommager les composants électroniques. Dans certaines conditions, les décharges électrostatiques peuvent s'accumuler sur votre corps ou sur un objet, puis se décharger dans un autre objet comme vos modules additionnels. Pour prévenir les dommages dus aux décharges électrostatiques, vous devez décharger l'électricité statique de votre corps avant de manipuler un module additionnel.

Vous pouvez assurer la protection contre les décharges électrostatiques et décharger l'électricité statique de votre corps en touchant un objet en métal mis à la terre avant 'de toucher quoi que ce soit d'électronique. Lors de la connexion d'autres dispositifs à cet équipement, vous devez toujours assurer votre mise à la terre et celle de l'autre dispositif avant de le connecter à cet équipement.

Vous pouvez aussi suivre les étapes suivantes afin de prévenir les dommages causés par les décharges électrostatiques :

- Lors du retrait d'un composant sensible à l'électricité statique de son carton d'expédition, ne pas retirer le composant de son matériau d'emballage antistatique 'avant d'être prêt à installer ce composant. Juste avant de retirer l'emballage antistatique, 'veiller à décharger l'électricité statique de votre corps.
- Lors du transport d'un composant sensible, le placer préalablement dans un contenant ou un emballage antistatique.
- Manipuler tous les composants sensibles à l'électricité statique dans une zone à protection antistatique. Si possible, utiliser des tapis antistatiques pour le sol et la surface de travail.

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