



Getting Started

October, 2009

Getting started

This note explains how to get started with using your new Xena chassis. You configure and use the chassis using the Xena Manager application that runs on a PC and communicates with the chassis using a TCP/IP network connection.

Ethernet test interfaces

The XenaCompact C1-M6SFP tester provides a mixture of 10/100/1000 Base-T, 100Base-FX and 1000Base-X capabilities via 6-ports of SFP interfaces. Each port supports auto-negotiation and flow control. In addition every tester has two dedicated RJ-45 management ports. See Figure 1.

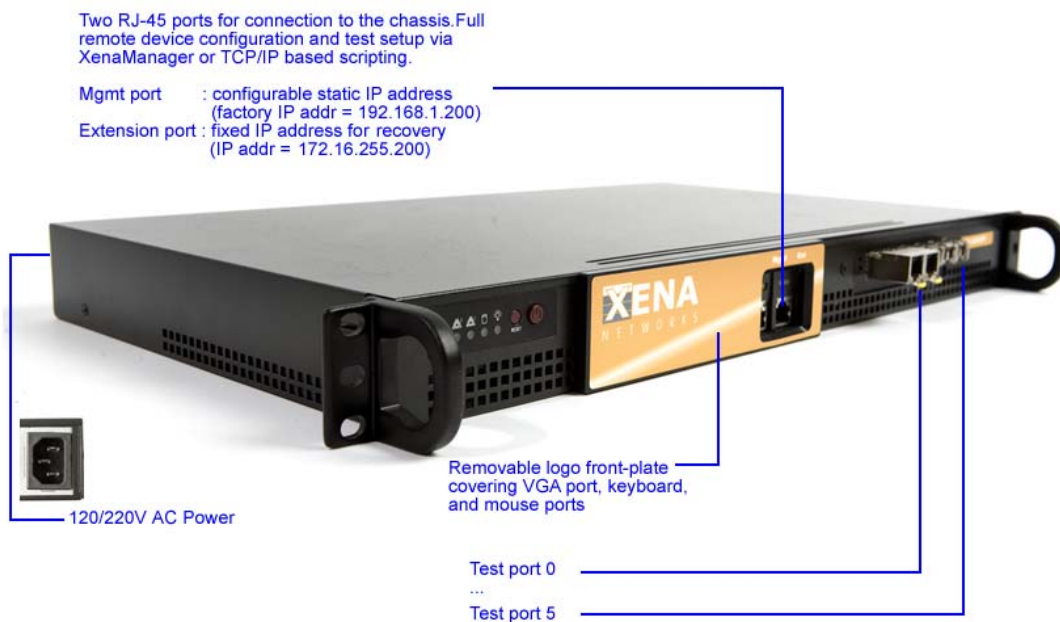


Figure 1: C1-M6SFP XenaCompact Ethernet test and management interfaces

The XenaCompact C1-M2XFP/SFP+/CX4 testers provide 10 GbE capabilities via optical XFP or SFP+ LAN interfaces, or electrical CX4 interfaces. See Figure 2

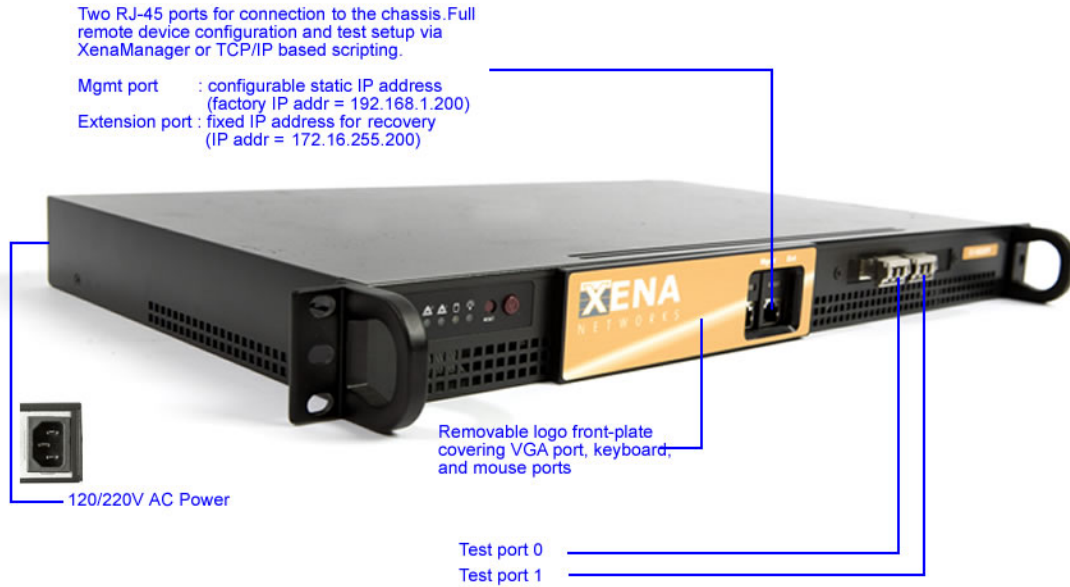


Figure 2: C1-M2XFP/SFP+/CX4 XenaCompact Ethernet test and management interfaces

The XenaBay modular chassis provides any combination of 1GbE and 10 GbE capabilities, and is functionally 100% identical to the XenaCompact testers. See Figure 3.

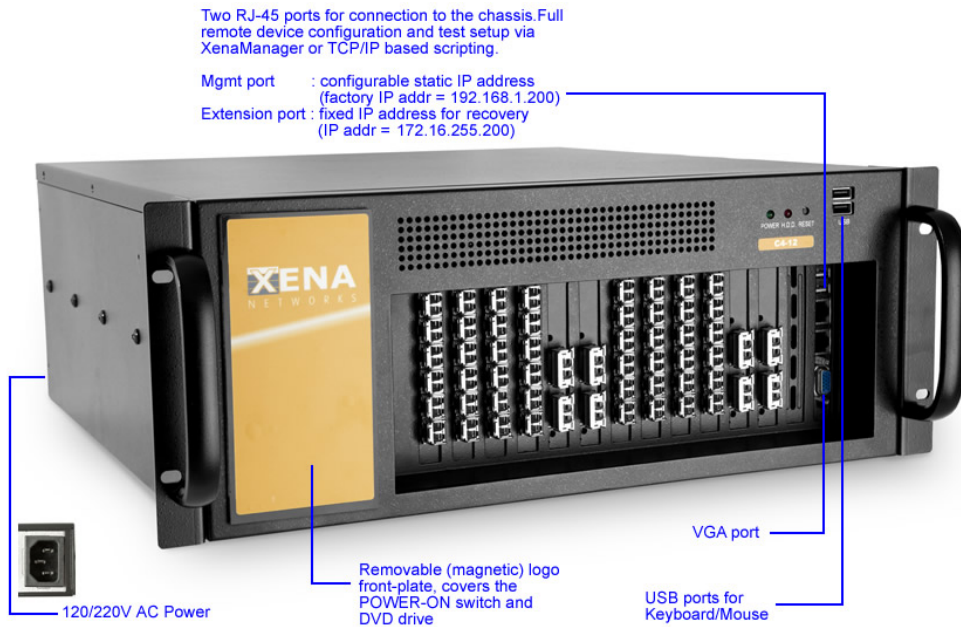


Figure 3 XenaBay Ethernet test and management interfaces

Management interfaces

The Xena testers provide two RJ-45 interfaces for management of the unit.

The Mgmt port (left-most on XenaCompact, top-most at XenaBay) is for connecting to the management network, and it is through this network that users connect to the tester. This management port has a configurable static IP address, for connecting to the tester from a laptop or stationary PC, at a local or remote location.

For recovery of a forgotten IP address of the Mgmt port, the Ext port (right-most on XenaCompact, bottom-most on XenaBay) provides a fixed factory defined IP address (see Recovery section below).

The chassis comes pre-configured with the following IP address on the Mgmt port:

```
Address = 192.168.1.200
Subnet   = 255.255.255.0
Gateway = 192.168.1.1
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You need to use a point-to-point connection from your PC while you configure the chassis for the proper IP address, subnet, and gateway. You must ensure that your PC port is likewise configured statically to an IP address in the 192.168.1.x range.

1. First please read the 10-page “Xena System Management Overview” document.
2. For XFP, SFP and SFP+ modules, insert the required transceivers into their test-port cages.
3. The chassis does not support swapping transceiver modules while power is on.
4. For optical transceivers, to prevent dust from entering please always insert the little plugs when no cable is attached.
5. Connect the power cable and press the power button on the front panel.
6. Wait for the chassis to start up; this takes 2-3 minutes.
7. When the chassis is up and running, it starts flashing the front-panel LEDs on the test modules.
8. The flashing of the LEDs stops when the first connection is made.
9. Connect the “Mgmt” Ethernet port on the chassis front panel to the port on your PC.
10. The port on your PC must be configured statically to an IP address in the 192.168.1.x range.
11. You must be running a reasonable up-to-date Windows XP or Vista system on your local PC.
12. Copy the XenaManager.exe application to your PC. It is ready to run without any installation.
13. Start the XenaManager. You will see an application window divided into a left and a right side.
14. In the left side, right-click on the “New testbed” item and select “Add remote chassis to testbed”.
15. In the dialog box enter IP = “192.168.1.200” and password = “xena”, and click “OK”.
16. You are now connected to the chassis, which will be named “New Chassis” (Note that another chassis name *may* have been pre-configured from Xena).
17. The right side now shows a panel called “CHASSIS PROPERTIES”.
18. From the “View” menu select “Expand all modules” to see the configuration of your chassis.
You can click on each port, and the right side shows panels called “PORT PROPERTIES”.

Now that you are connected to the chassis we will specify the proper chassis name and password and change the chassis IP address. You must be very careful at this step (if you lose IP network connectivity to the chassis you will have to perform the recovery actions outlined below, or in the worst case remove the orange front-panel and attach a keyboard+mouse+display, and contact Xena for detailed recovery instructions).

1. From the “Manager” menu select “User name” and enter your initials.
2. In the left side, click on the chassis item (with the black/orange icon, called “New Chassis” or some other name), showing you the chassis properties on the right.
3. Click on the “Reserve” button to allow updating the chassis properties.

4. In the “Name:” field, enter a short name for the chassis, and press the <ENTER> key.
5. Likewise, enter a password and a descriptive text, pressing the <ENTER> key after each value.
6. Further down on the chassis property panel, enter the IP address, subnet mask, and gateway, as always pressing <ENTER> after each value.
7. Restart the chassis by clicking the “RESTART” button (alternatively switch power off and on).
8. In the Manager you will now see the chassis go off-line.
9. In the left side, right-click on the chassis item and select “Remove chassis from testbed”.
10. When the chassis comes back on-line it will be at the new IP address and using the new name.
11. Remove the point-to-point connection between the chassis and your PC, and connect the Mgmt port to the appropriate LAN.
12. Now add the chassis back to a testbed using its new IP address.

Example

You can now start exploring the chassis and its functionality. For example, setup and start a gigabit traffic stream between two ports:

1. If either port is shown as reserved on the port property panel, click the “Relinquish” button.
2. From the “Manager” menu select “User name” and enter your initials.
3. Now reserve both ports by clicking the “Reserve” button on their port property panel.
4. Also click the “Reset” button for each port.
5. Select Port 0, and in the right side click the “Streams” tab.
6. Click the “Add stream” button, which creates a new “STREAM DEFINITION” panel.
7. In the “Rate:” section enter a rate of “50” percent and press <ENTER>.
8. Put a mark in the “Enable” check-box in the upper-left corner of the panel.
9. In the “TRANSMIT CONTROL” panel above, click the “Start traffic” button.

We now have some traffic running through the external cable connecting the two test ports. Always keep in mind which of the test ports you are viewing in the right side of the Manager window.

1. Select the “Statistics” tab. You’ll see a “TRANSMIT STATISTICS” panel.
2. The rates may fluctuate slightly, while the byte and packet counts keep increasing.
3. Click on the header of the idle “RECEIVE STATISTICS” panel to minimize it.
4. Select port 1, and observe corresponding numbers in the “RECEIVE STATISTICS” panel.
5. Go back to the stream definition by selecting the “Streams” tab.
6. Minimize the unused “TRANSMIT CONTROL” panel for the current (receiving) port.
7. Select port 0 again.
8. Press the mouse on the header of the “TRANSMIT CONTROL” panel and drag it out of the main window.
9. Select the “Statistics” tab. The transmit numbers keep increasing.
10. In the dragged-away “TRANSMIT CONTROL” panel for port 0, click the “Stop traffic” button.
11. Observe how the statistics numbers stop changing.

Feel free to keep exploring the functionality of the Xena chassis. For example, you can insert test payloads in the transmitted streams to enable more detailed receive statistics, and you can create filters on the received traffic.

Recovery

If you forget the IP address of the tester you need another way to get in touch with it. This is done by making a point-to-point connection from your PC to the “Ext” Ethernet port that is positioned to the right of the “Mgmt” port on the chassis front panel.

The “Ext” port is pre-configured with the following IP setup:

Address = 172.16.255.200

Subnet = 255.255.255.0

Gateway = none

You must configure your PC port statically to an IP address in the 172.16.255.x range, and then you will be able to ping the chassis again.

Now start the Manager, and connect to the chassis using address 172.16.255.200.

Now under CHASSIS PROPERTIES you can see which IP address is configured for the “Mgmt” port, and you can reserve the chassis and change it if necessary.

Note that the IP configuration of the “Ext” port cannot be changed, and that you should not configure the “Mgmt” port to use this subnet.