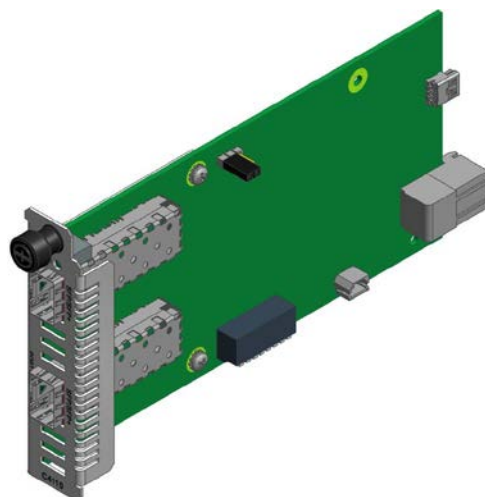


# C3100-4040

## Install Guide

### 100Mbps to 2.5 Gbps Fiber-to-Fiber Converter

- DMI (Diagnostic Monitoring Interface)
- For use in ION Chassis
- Manageable when installed in a managed ION Chassis
- Supports various physical media types
- Fiber repeater, performs 1R signal regeneration
- Link pass through (LPT)
- No packet size limitation



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## Introduction

Transition Networks' ION x3100 is a SFP-to-SFP fiber repeater with two SFP ports for direct physical connection back to back. The x3100 performs signal reamplify (1R) signal regeneration. The x3100 also supports:

- CWDM Wavelength transponder, general wavelength to specific wavelength.
- Connections between different types of fiber, such as SM-to-MM.
- Fiber repeater; MM-to-MM or SM-to-SM.

The x3100 can be used in telecom and enterprise applications where 100Mb - 2.5Gb links require fiber extension or where 100Mb - 2.5Gb links require an interface between two fiber networks.

The x3100 performs a variety of protocol transparent services; it supports virtually any protocol from 100Mbps to 2.5Gbps. The x3100 can inter-connect with another x3110 and can support:

- 100Mb (FE/FDDI)
- 1.25Gb (GE)
- 150Mb (ION x6120 and 6010)
- 200Mb (ESCON/SBCON)
- 155/622Mb (OC-3/12)
- 2488Mb (OC-48)
- 2.500Gb (2.5 InfiniBand/PCI-E)
- 1.06/2.12 (2/1 GFC)

The x3100 is a "similar rate" to "similar rate" converter with no rate conversions. The x3100 is protocol independent. Rate configuration is not required. LPT is always enabled.

## Model Numbers

**C3100-4040:** 100Mbps - 2.5Gbps Fiber Repeater, ION Chassis version (dual SFP).

**S3100-4040:** 100Mbps - 2.5Gbps Fiber Repeater, Standalone version (dual SFP).

Transition Networks' SFP modules fully comply with Multi-Sourcing Agreement (MSA) as described at [www.transition.com/TransitionNetworks/Landing/SFP-XFP/SFP-XFP.aspx](http://www.transition.com/TransitionNetworks/Landing/SFP-XFP/SFP-XFP.aspx).

## Management Features

Manageable **C3100** features are available when used in an ION chassis with an ION Management Module (IONMM) including:

- Provides port link statistics (C3100 only).
- Provides information on type of SFP installed (C3100 only).
- Supports Digital Diagnostics (DMI) on both ports.
- Link-pass-through (LPT) is always supported and can not be disabled.

## Manual Overview

The purpose of this manual is to provide the information needed to install the C3100 to the point of operation. Note that there is a separate install guide for the S3100.

## Related Manuals and Online Help

A printed documentation card is shipped with each x3100 device. Context-sensitive Help screens, as well as cursor-over-help (COH) facilities are built into the Web interface. A substantial set of technical documents, white papers, case studies, etc. are available on the Transition Networks web site at [www.transition.com](http://www.transition.com). Note that this manual provides links to third party web sites for which Transition Networks is not responsible. Other ION system and related device manuals are listed below.

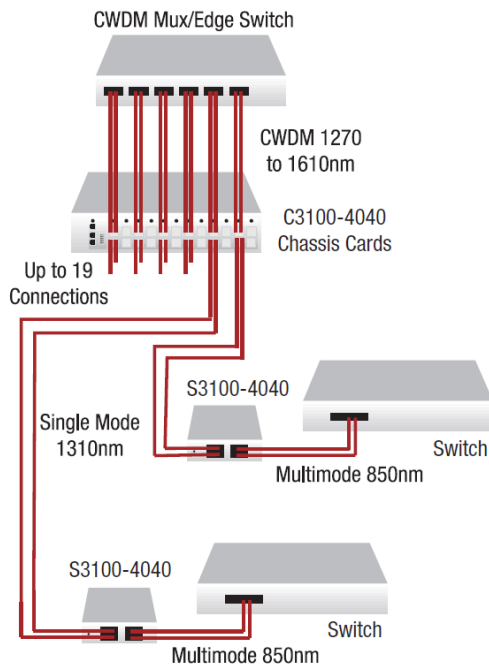
1. Product Documentation Postcard, 33504
2. ION C3100 Install Guide, 33580 (this manual)
3. ION S3100 Install Guide, 33581
4. ION x3100 Web User Guide, 33582
5. ION x3100 CLI Reference, 33583
6. Focal Point™ 3.0 Management Application User Guide, 33293
7. ION Management Module (IONMM) Install Guide, 33420 and User Guide, 33457
8. ION System NID User Guides (33432, 33457, 33472, 33493, 33494, 33495, 33496)
9. Release Notes (firmware version specific)

**Note:** Information in this document is subject to change without notice. All information was deemed accurate and complete at the time of publication. This manual documents the latest software/firmware version. While all screen examples may not display the latest version number, all of the descriptions and procedures reflect the latest software/firmware version, noted in the [Record of Revisions](#) on page 30.

## Application Examples

The x3100 can be used in telecom and enterprise applications where 100Mb - 2.5Gb links require fiber extension or where 100Mb - 2.5Gb links require an interface between two fiber networks. The x3100 performs a variety of protocol transparent services; it supports virtually any protocol from 100Mbps to 2.5Gbps. The figure below shows two typical applications.

### CWDM Application



### Single mode to Multimode Application

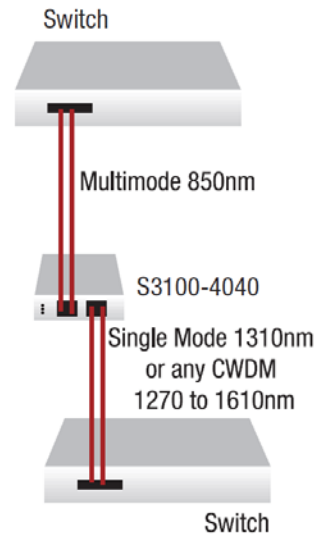


Figure 1: Application Examples

## Pre-Installation

### ***Safety***

Before installing the C3100, read the “[Safety Cautions and Warnings](#)” on pages 3-4 of this manual and ensure that the requirements noted are met. During installation and maintenance, avoid direct exposure to laser beams. Specifically, do not look into laser ports. Ensure that each SFP port at which laser beams are (or will be) present is occupied by an SFP that is locked in position. See the related SFP manual for details. See “[Electrical Safety Warnings](#)” on page 29 for Electrical Safety Warnings translated into multiple languages.

### ***Unpacking***

1. Carefully unpack all C3100 contents.
2. Verify receipt of all C3100 components; see “[Ship Kit Contents](#)” below.
3. Place the C3100 and related materials in the desired install location.
4. Save the C3100 shipping carton and packing materials for future use.

### ***Ship Kit Contents***

The C3100 is shipped with some standard and some optional components. Make sure you have received the following standard items:

- One C3100 device
- One printed Product Documentation postcard

**CAUTION:** Wear a grounding device and observe electrostatic discharge precautions when handling the C3100. Failure to observe this caution could result in damage or failure of the C3100.

## Installation and Setup

### General

This section describes how to install the C3100 and the procedures to access and initially set it up via either a local serial interface (USB) or a remote Ethernet connection (Telnet session or Web interface).

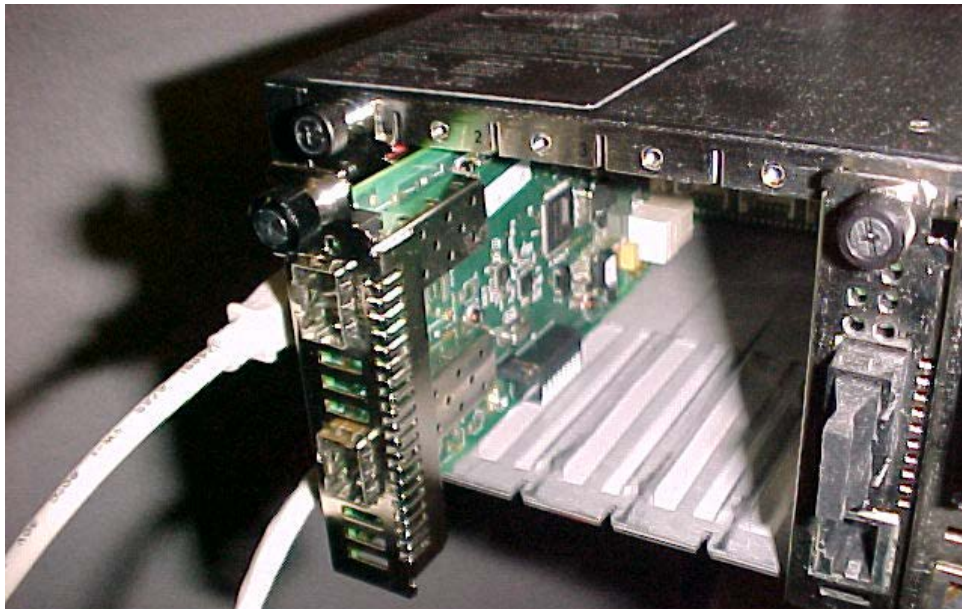
### Install the C3100 in the ION Chassis

The C3100 is a slide-in module that can only be installed in a Transition Networks ION chassis (ION001-x and ION219-x). For a complete list of ION platform products, go to [www.transition.com](http://www.transition.com).

The following describes how to install the C3100 in the ION chassis.



**Caution:** Failure to wear a grounding device and observe electrostatic discharge precautions when installing the C3100 could result in damage or failure of the module.



**Figure 3: Chassis Installation**

---

### IMPORTANT

The C3100 slide-in cards are “hot swappable” devices, and can be installed with chassis power on.

1. Locate an empty slot in the ION System chassis. If necessary, remove a chassis slot cover from the ION Chassis (*keep the slot cover and screw*).
2. Grasp the edges of the C3100 by its front panel, align the card with the upper and lower slot guides, and carefully insert the C3100 into the slot.
3. Firmly seat the C3100 against the chassis back panel.
4. Push in and rotate clockwise the panel fastener screw to secure the C3100 to the chassis (Figure 3).
5. Note that the card's Power LED lights. See [Accessing the C3100](#) on page 12.

## Port Locations

The C3100 has two ports. The locations of PORT1 and PORT 2 (SFP) are shown below.

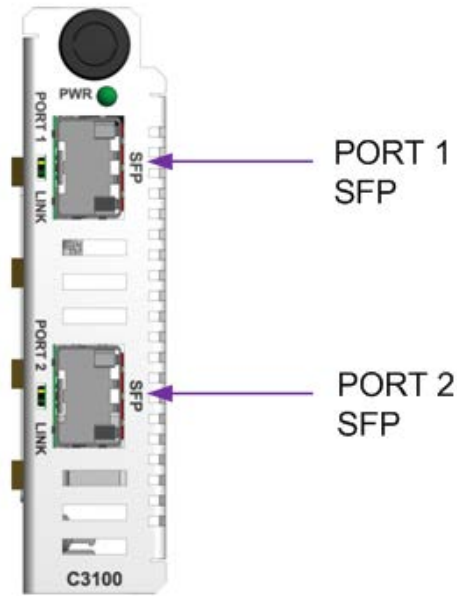


Figure 4: Port Locations

## Installing SFP Devices

The C3100 lets you install SFP devices of choice to make a fiber connection via two SFP ports.

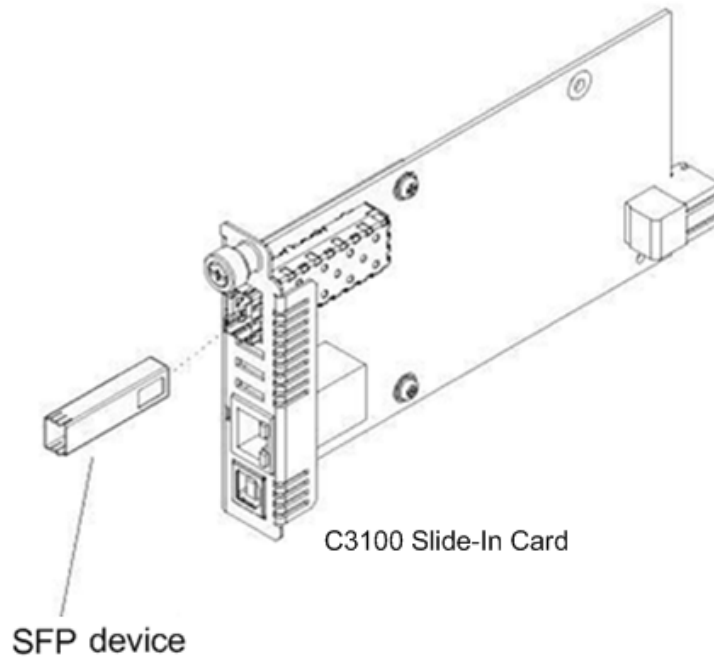


Figure 5: SFP Installation

## SFP Optical Transceivers

Transition Networks SFP devices are small form factor, hot-pluggable transceivers which allow for a single piece of network equipment to be connected to a multitude of interfaces, protocols, and transmission media via the SFP port. All of Transition's SFPs devices are compliant with the Multi-Sourcing Agreement (MSA) ensuring interoperability with all other MSA compliant networking devices. The SFP module used defines the fiber length and type that can be used. Identical SFP modules must be used at each end of a datalink for a given port.

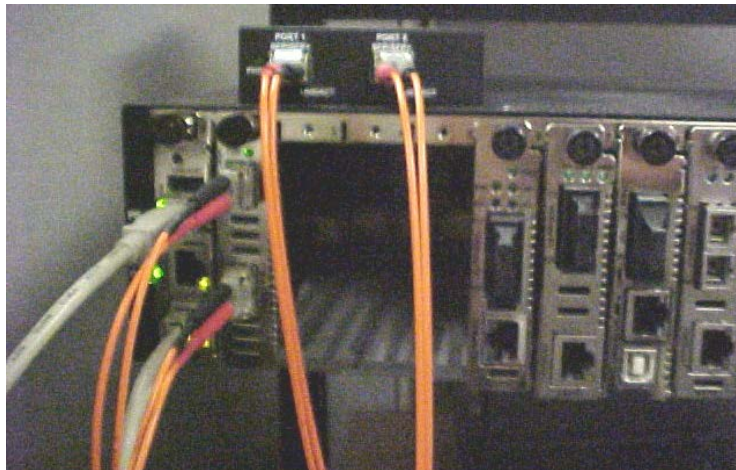
To install an SFP device in the C3100:

1. Position the SFP device at either installation slot, with the label facing up.
2. Carefully slide the SFP device into the slot, aligning it with the internal installation guides.
3. Ensure that the SFP device is firmly seated against the internal mating connector.
4. Connect the fiber cable to the fiber port connector of the SFP device.

See the TN [SFP/XFP Optical Transceivers](#) web page for the latest information.

## Cabling

The x3100 can be used in telecom and enterprise applications where 100Mb - 2.5Gb links require fiber extension or where 100Mb - 2.5Gb links require an interface between two fiber networks. The x3100 performs a variety of protocol transparent services; it supports virtually any protocol from 100Mbps to 2.5Gbps



**Figure 6: C3100-to-S3100 Connection**

The figure above shows cabling a C3100 to an S3100. The procedure is provided below.



## Install Fiber Cable

### Port 1 and 2: Fiber Ports

1. Locate a fiber cable with male, two-stranded TX to RX connectors installed at both ends. See “[Cable Specifications](#)” on page 27 for details.
2. Connect the fiber cable to the SFP fiber port (Port 2 labeled **SFP**) on the C3100 as described:
  - Connect the male TX cable connector to the female TX connector.
  - Connect the male RX cable connector to the female RX connector.
3. Connect the fiber cables to the 10GE fiber port on the other device (*another media converter, hub, S3100, etc.*) as described:
  - Connect the male TX cable connector to the female RX connector.
  - Connect the male RX cable connector to the female TX connector.

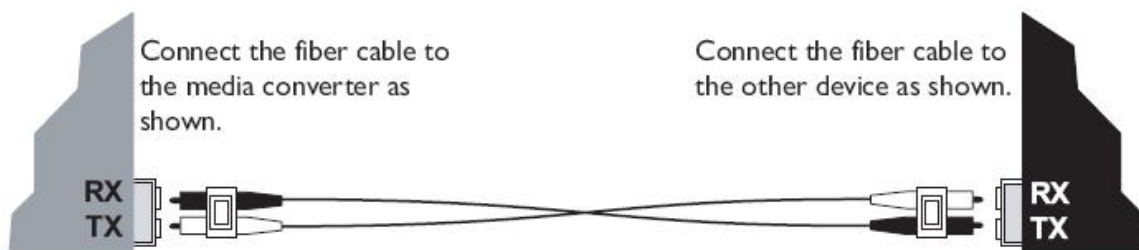


Figure 7: Fiber Cable Connection

### Focal Point™ Installation

For Focal Point™ 3.0 Management Application installation information, see the *Focal Point User Guide*, 33293.

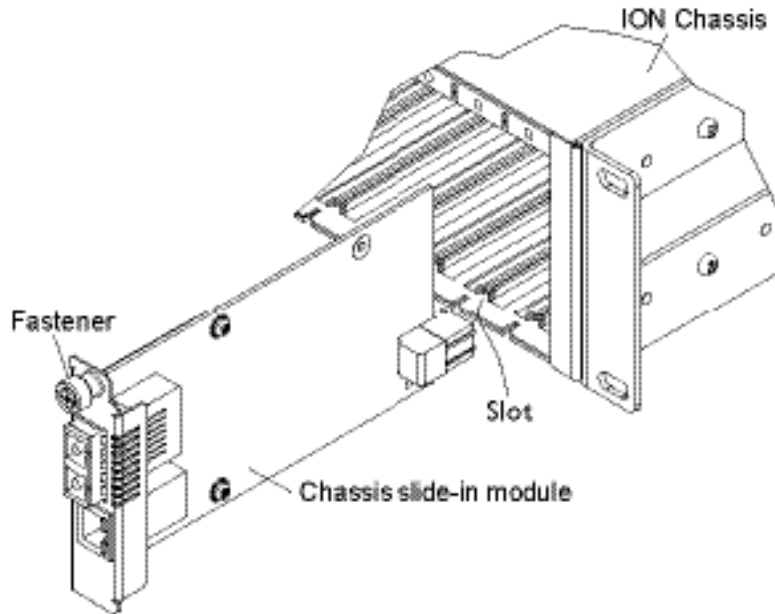
### IONMM Installation

For IONMM Management Module installation information, see the *IONMM Install Guide*, 33420.  
For IONMM operation see the *ION Management Module (IONMM) User Guide*, 33457.

## Replacing a Chassis Resident C3100

The C3100 is a “hot swappable” device (it can be removed and installed while the chassis is powered on). To replace a chassis resident C3100, do the following.

1. Backup the configuration (see the x3100 Web User Guide or CLI Reference manual).
2. Disconnect any cables attached to the C3100.



3. Loosen the panel fastener by turning it counterclockwise.
4. Pull the C3100 from the ION Chassis.
5. Carefully slide the new C3100 fully into the slot until it seats into the backplane.
6. Push in and rotate the attached panel fastener screw clockwise to secure the x3100 to the ION chassis.
7. Connect the appropriate cables to the C3100.
8. Load the configuration into the new C3100 (see the *x3100 Web User Guide* or *CLI Reference manual*).

## Operation

### Power and Fiber Status LEDs

The status LEDs (labeled **PWR** and **PORT x LINK**) are located on the front panel. Use the status LEDs to monitor C3100 operation in the network.

LED Label	Meaning	Operation
<b>PWR</b>	Power	Green ON for power applied to board.
<b>PORT 1 LINK</b>	SDF Fiber Status 1	On = Fiber Signal Detected. Off = Fiber Signal Not Detected.
<b>PORT 2 LINK</b>	SDF Fiber Status 2	On = Fiber Signal Detected. Off = Fiber Signal Not Detected.

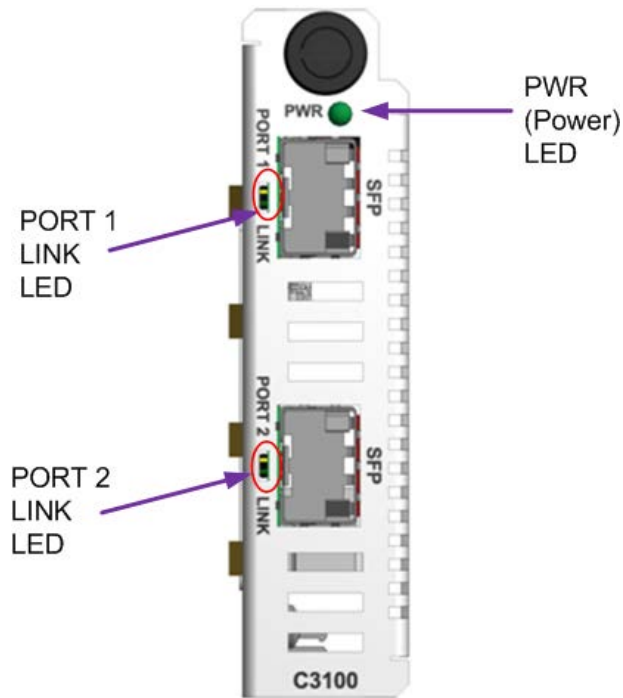


Figure 8: Power and Port Status LEDs

## Accessing the C3100

The C3100 can be accessed through the IONMM installed in the ION chassis along with the C3100. The network connection can be done via a Telnet session or a Web graphical user interface (GUI).

### Access via Local Serial Interface (USB)

The IONMM can be connected to a local management station (PC) through a serial interface using a USB connection. The IONMM and the C3100 can be controlled by entering command line interface (CLI) commands at the local management station. To use the serial interface (USB) the following is required:

- Personal computer (PC)
- USB cable (type A male connector on one end and type B male connector on the other)
- Terminal emulator program (e.g., HyperTerminal) on the PC
- USB driver installed on the PC
- Configured COM port

---

### IMPORTANT

In order to control the chassis slide-in module through a USB serial interface, the command line prompt must be showing the location of the module to be managed.

---

### Operating Systems Supported

USB drivers are available at the TN website on the [ION Product Page](#).

Windows® 7	Windows 7 x64	Windows XP® 32 bit
Windows 2000	Windows 2003 32 bit	Windows 8 (32- and 64-bit)
Windows Vista x64	Windows XP 64 bit	

Virtual COM port (VCP) drivers make the USB device appear as an additional COM port available to the PC. Application software can access the USB device in the same way as it would access a standard COM port.

## Installing the USB Driver (Windows XP)

### IMPORTANT

The following driver installation instructions are for the *Windows XP* operating system only. Installing the USB driver using another operating system is similar, but not necessarily identical to the following procedure.

To install the USB driver on a computer running *Windows XP*, do the following.

1. Extract the driver (from the TN [website](#)) and place it in an accessible folder on the local drive of the PC.
2. Connect the C3100 to the USB port on the PC.

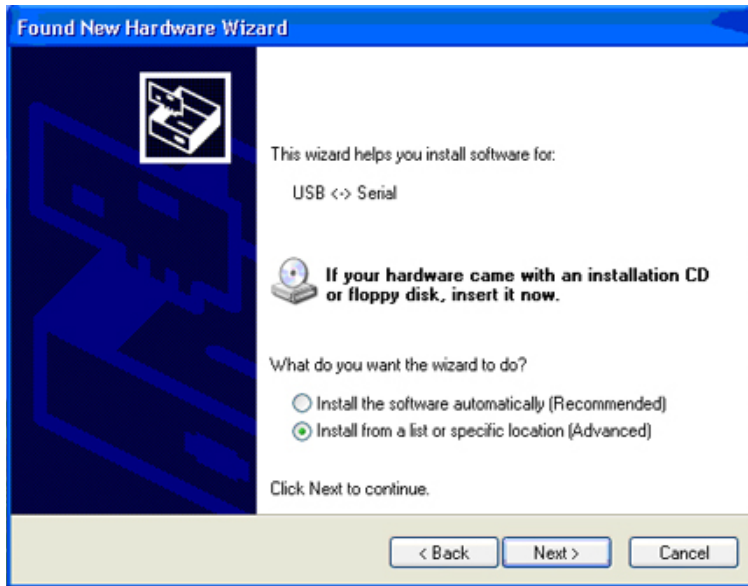
**Note:** for slide-in modules installed in an ION Chassis, the USB connection will be made to the ION Management Module (IONMM) if one is installed in the ION chassis.

The *Welcome to the Found New Hardware Wizard* window displays.



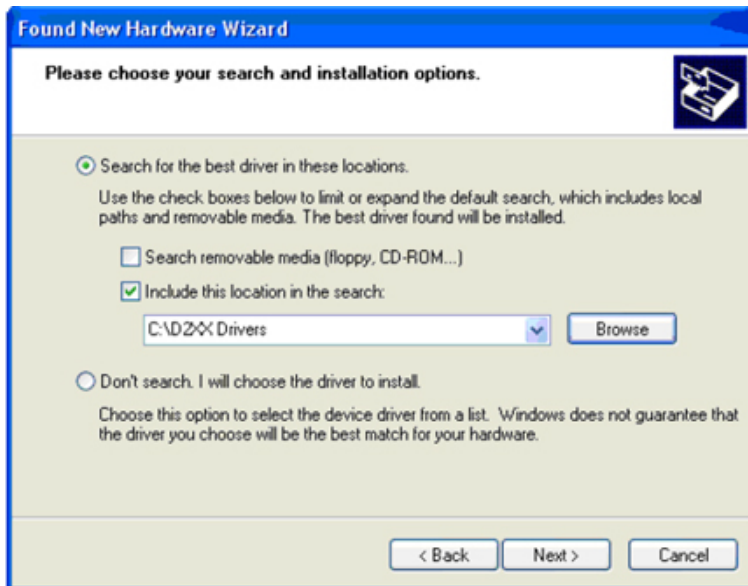
3. Select **No, not this time**.
4. Click **Next**.

The installation options window displays.



5. Select **Install from a list or specific location (Advanced)**.
6. Click **Next**.

The driver search installation options window displays.



7. Click **Browse**.
8. Locate and select the USB driver downloaded in step 1 above.
9. Click **Next**. Driver installation begins.
10. When the finished installing screen displays, click **Finish**. The USB driver installation is complete. You must now configure access the C3100 via an Ethernet network.

## Access via an Ethernet Network

The C3100 can be managed remotely through the Ethernet network via either a Telnet session or the Web interface. Before this is possible, you must set up the IP configuration for the C3100.

---

### IMPORTANT

It is recommended that you initially set up the IP configuration through the serial interface (USB connection). See “[Accessing the C3100](#)” on page 12.

Otherwise, in order to communicate with the C3100 across the network for the first time, you must change the network settings (IP address, subnet mask and default gateway address) of your PC to coincide with the defaults of the C3100 (see “

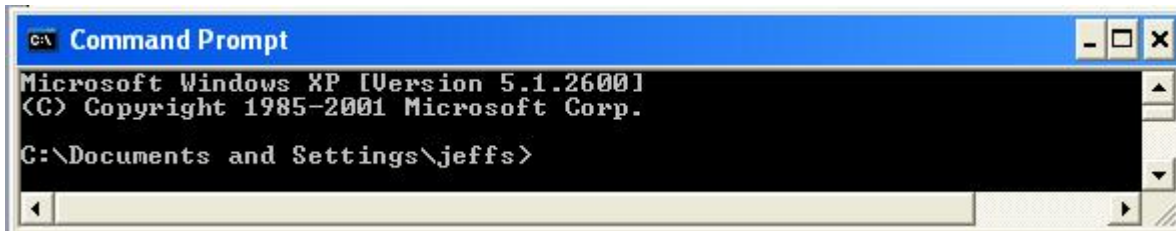
Defaults” on page 30). Make note of the original settings for the PC as you will need to reset them after setting the IP configuration for the C3100.

---

## Starting a Telnet Session

The C3100 can be controlled from a remote management station via a Telnet session over an Ethernet connection. The C3100 is controlled and configured through CLI commands. Use the following procedure to connect to and access the C3100 via a Telnet session.

1. Click **Start**.
2. Select **All Programs > Accessories**.
3. Click **Command Prompt**. The command prompt window displays.



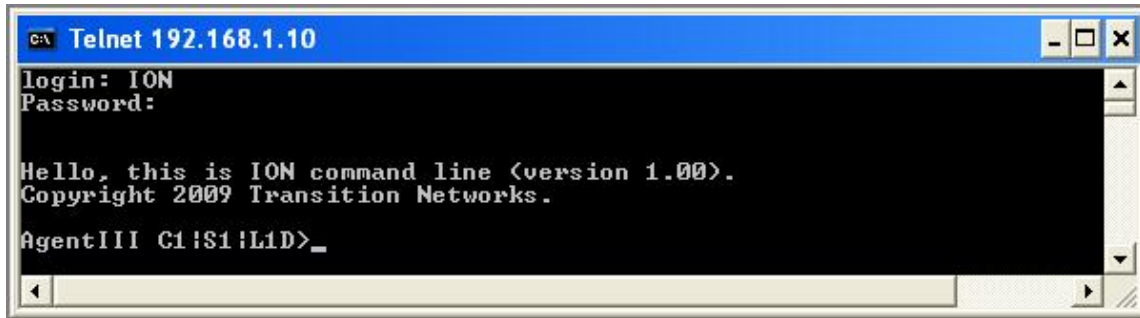
4. At the command line type: **telnet <xx>** where:  
xx = IP address of the C3100 (e.g., 192.168.1.10)
5. Press **Enter**. The login prompt displays.

**Note:** If your systems uses a security protocol (e.g., RADIUS, SSH, etc.), enter the login and password required by that protocol.

6. Type your login (the default is **ION**). **Note:** the login is case sensitive.
7. Press **Enter**. The password prompt displays.
8. Type your password (the default is **private**). **Note:** the password is case sensitive.



9. Press **Enter**. The command line prompt displays.



```
C:\ Telnet 192.168.1.10
login: ION
Password:

Hello, this is ION command line (version 1.00).
Copyright 2009 Transition Networks.

AgentIII C1!S1!L1D>_
```

10. Enter a **go** command to change the location for the command prompt. The **go** command format is:  
go [c=<0-16>] [s=<0-32>] [l1ap=<1-15>] [l2ap=<1-15>] (l1p=<1-5>|l2p=<1-15>|l3p=<1-15>|l1d||2d||3d)
11. Enter commands to set up the various configurations for the C3100. For web GUI configuration, see the *x3100 Web User Guide*. For CLI command descriptions see the *x3100 CLI Reference* manual.

**Note:** If required by your organization's security policies and procedures, use the CLI command **set community write=<xx>** to change the default password. See the *x3100 CLI Reference* manual.

## Terminating a Telnet Session

To terminate the Telnet session:

1. Type **q(uit)**.
2. Press the **Enter** key.

## Web Browsers Supported

The ION system supports the following web browsers.

- Firefox (Mozilla Firefox)
- Internet Explorer
- Google Chrome

## Starting the Web Interface

The C3100 can be controlled and configured from a remote management station via a Web graphical user interface (GUI) over an Ethernet connection. Information is entered into fields on the various screens of the interface. **Note:** fields that have a gray background can not be modified.

A Web session can be used to connect to and set up the C3100.

---

### IMPORTANT

- Do not use the browser's back button to navigate the screens. This causes the connection to drop.
  - Do not use the browser's back space key in grayed out fields. This causes the connection to drop.
  - For DHCP operations, a DHCP server must be on the network and available.
- 

To sign in to the C3100 via the Web:

1. Open a web browser.



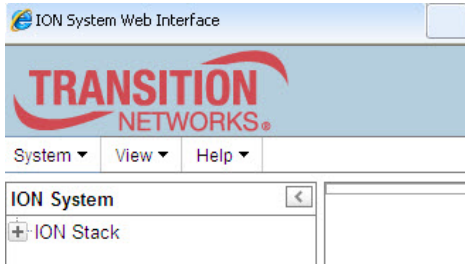
2. In the address (URL) block, type the IP address of the IONMM (the default address is 192.168.1.10).
3. Click **Go** or press **Enter**.

The ION System sign in screen displays.

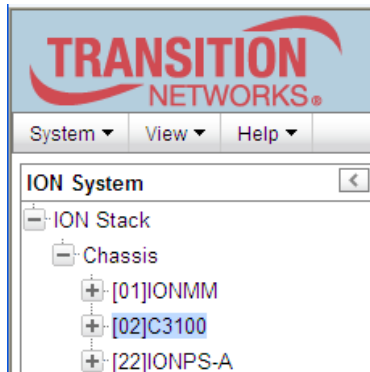


**Note:** If your system uses a security protocol (e.g., RADIUS, SSH, etc.), you must enter the login and password required by that protocol.

4. Type the System name (the default is **ION**). **Note:** the System name is case sensitive - all upper case.
5. Type the password (the default is **private**). **Note:** the password is case sensitive - all lower case.
6. Click **Sign in** or press **Enter**. The opening screen displays.



7. Click the plus sign [+] next to **ION Stack**. This unfolds "ION Stack" node in the left tree view and will refresh device status.
8. Click the plus sign [+] next to **Chassis** to unfold the chassis devices.



9. Select the appropriate C3100 device. The **MAIN** screen displays for the selected C3100.

The screenshot displays the Transition Networks web interface for configuring a C3100 device. The interface is divided into several sections:

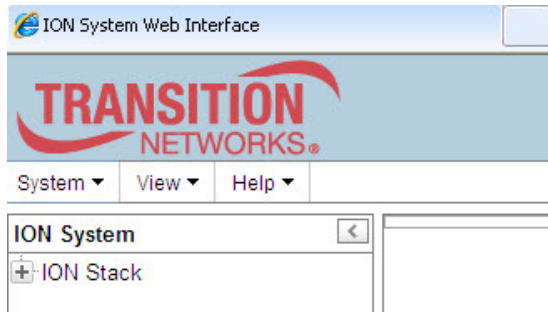
- Navigation:** A top menu with 'System', 'View', and 'Help' options. A left sidebar shows the 'ION System' tree with a 'Chassis' section containing items like '[01]IONMM', '[02]C3100-4040', '[22]IONPS-A', and '[23]IONPS-AL'. The 'MAIN' tab is selected.
- Model Information:** Fields for Serial Number (1010), Model (C3100-4040), Software Revision (1.2.1), Hardware Revision (1.0.0), and Bootloader Revision (0.1.0).
- System Configuration:** Fields for System Name (C3100), System Up Time (0:0:47:27.00), Configuration Mode (Software), and Number of Ports (2). It also includes a MAC Address field (00-C0-F2-22-16-EB) and buttons for 'Uptime Reset', 'System Reboot', and 'Reset To Factory Config'.
- Link Pass Through (LPT):** A section with a 'Link Pass Through' field set to 'Enabled'.
- Buttons:** 'Refresh', 'Save', and 'Help' buttons are located at the bottom of the configuration area.
- Status Bar:** The bottom of the page shows 'Getting values finished' on the left and 'Version: 1.3.11' on the right.

10. You can use the various fields to configure the device and ports. For configuration information, see the *x3100 Web User Guide* manual for more information.

**Note:** If required, use the **set community** CLI command to change the default password according to your organization's security policies and procedures. See the *x3100 CLI Reference* manual for more information.

## Terminating the Web Interface

To sign out from the Web interface, in the upper left corner of the ION System Web Interface:



1. Click the **System** dropdown.
2. Click **Sign out**.



The ION sign-in screen displays.

**Note:** The C3100 does not automatically log out upon exit or after a timeout period, which could leave it vulnerable if left unattended. Follow your organizational policy on when to sign out from the ION System via the Web Interface

## Product Features

The features described and illustrated in this section include:

- Link Pass through
- Digital Monitoring Interface (DMI)

### Link Pass Through (LPT)

This function causes loss of link on one side of a media converter to be passed through to the other side, so that upstream equipment can see fault conditions that would otherwise be hidden by the media converters.

The LPT feature allows the Device to monitor the Fiber RX (receive) ports for loss of signal. For example, when the Fiber #1 link on the near end device is lost (1), the local Device turns off the fiber transmit on Fiber #2 (2), thus, “passing through” the link loss. The remote Device disables the Fiber #1 link to the far-end device (3), which prevents the loss of valuable data unknowingly transmitted over an invalid link.

Note that although the link from local fiber #2-Tx to remote #2-Rx is disabled, the link from remote #2-Tx to local #2-Rx is still alive(4). The LPT process is illustrated in the figure below.

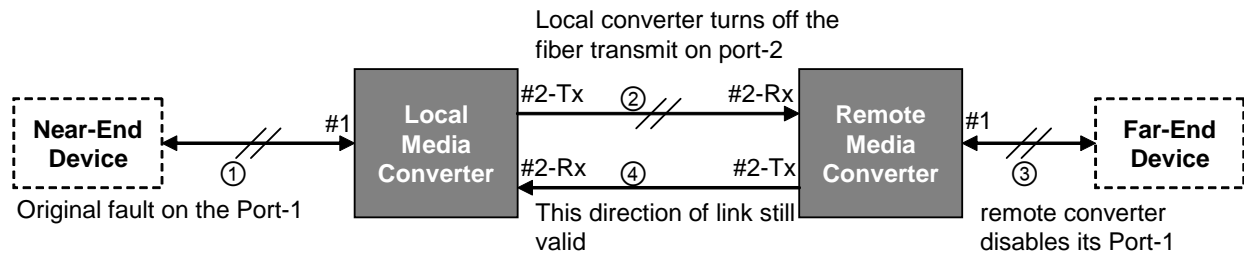


Figure 9: Link Pass Through (LPT)

### Fiber Loopback

This function provides a means of diagnosis by putting the device in a special mode that enables the device to loop back the signal from RX port to TX port. The two fiber ports can be set in loopback individually both by CLI and web interface in software mode.

The figure below shows the application scenario of fiber loopback supported:

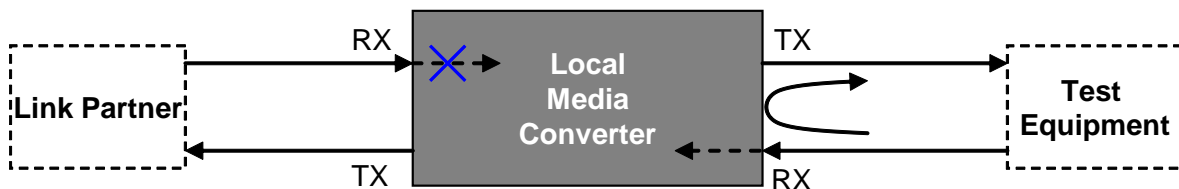


Figure 10: Fiber Loopback

The general steps for manual fiber loopback configuration include:

1. Set Local Media converter Fiber #1 and/or #2 in loopback mode (via CLI/Web).
2. The returned signal is received by the test equipment.
3. When the loopback test completed, set the associated port from Loopback mode to Normal mode.

## Digital Monitoring Interface (DMI)

The Diagnostic Monitoring Interface (DMI) feature allows diagnosing problems within the network. The DMI function displays C3100 diagnostic / maintenance information such as 10Gbps fiber interface characteristics, diagnostic monitoring parameters, and supported fiber media lengths. All DMI events will trigger notification. Intrusion detection, based on Rx Power level, is available for triggering any drop in the Rx power.

Within each function, the DMI device will send a trap whenever a high or low warning event or high or low alarm event occurs (for a total of 16 traps). If both the local and remote NIDs are DMI models, the DMI device will indicate whether the trap event is from a local or remote device.

C3100 Diagnostic Monitoring Interface information includes:

DMI connector type: e.g., LC

DMI identifier: e.g., SFP

DMI Nominal bit rate: e.g., 10500\*Mbps

DMI 9/125u Singlemode Fiber (m): N/A

DMI 50/125u Multimode Fiber (m): 80\*m

DMI 62.5/125u Multimode Fiber (m): 3\*10m

Copper(m): N/A

DMI fiber interface wavelength: 850\*nm

DMI temperature: 42.0\*C

DMI temperature: 107.6\*F

DMI temperature alarm: normal

DMI transmit bias current: 6240\*uA

DMI transmit bias alarm: normal

DMI Transmit power: 589\*uW

DMI Transmit power: -2.299\*dBM

DMI Transmit power alarm: normal

DMI Receive power: 573\*uW

DMI Receive power: -2.418\*dBM

DMI Receive power alarm: normal

DMI Receive power intrusion threshold: 0\*uW

## Technical Specifications

Standards:	IEEE802.3ae / ITU.G.709 / SFF8431
Data Rate	100Mbps to 2.5 Gbps
Dimensions	Width: 0.86 inches (21.85 mm) Depth: 6.5 inches (165 mm) Height: 3.4inches (86.36 mm)
Power Source	12VDC from ION backplane
Power Consumption	1.7 watts typical; will vary with SFP type
Environment	See ION chassis specifications
Operating Temperature	0 to 50 degrees C
Storage Temperature	-40 to 85 degrees C
Altitude	0-10,000 feet
Operating Humidity	5% to 95% (non-condensing)
Shipping Weight	1 lb. (0.45 kilograms)
MTBF	Greater than 250,000 hours (MIL-HDBK-217F) Greater than 687,000 hours (Bellcore)
Regulatory Compliance for:	
Emission	FCC Class A; EN55022 Class A
Immunity	EN55024
Safety Compliance	CE Mark
Warranty:	Lifetime
Max. Frame Size:	16384 bytes jumbo frame support

The information in this manual is subject to change. For the latest information, see the online user's guide at: [www.transition.com](http://www.transition.com).

**WARNING:** Visible and invisible laser radiation when open. DO NOT stare into the beam or view the beam directly with optical instruments. Failure to observe this warning could result in an eye injury or blindness.

**WARNING:** Use of controls, adjustments or the performance of procedures other than those specified herein may result in hazardous radiation exposure.



## Defaults

After you configure the C3100 and insert it into ION chassis, it will start up and run automatically using its defaults. The C3100 initialization default values are shown below.

Parameter	Default Value	Property
- Link Pass Through	LPT Enabled	Read & Write
- Configuration mode	Software (SW) mode	Read only
<b>Fiber Port</b>		
- Admin Status	Admin Enabled	Read & Write

You can change the default configuration via the ION Web GUI, the ION CLI (Command Line Interface), or via Focal Point 3.0.

## Cable Specifications

The physical characteristics must meet or exceed IEEE 802.3™ specifications.

### Fiber port:

Transition Networks' ION x3100 is a SFP-to-SFP fiber repeater with two SFP ports for direct physical connection back to back. The x3100 performs signal reamplify (1R) signal regeneration. The x3100 also supports:

- CWDM Wavelength transponder, general wavelength to specific wavelength.
- Connections between different types of fiber, such as SM-to-MM.
- Fiber repeater; MM-to-MM or SM-to-SM.

The x3100 can be used in telecom and enterprise applications where 100Mb - 2.5Gb links require fiber extension or where 100Mb - 2.5Gb links require an interface between two fiber networks.

The x3100 performs a variety of protocol transparent services; it supports virtually any protocol from 100Mbps to 2.5Gbps.

The x3100 can inter-connect with another x3110 and can support:

- 100Mb (FE/FDDI)
- 1.25Gb (GE)
- 150Mb (ION x6120 and 6010)
- 200Mb (ESCON/SBCON)
- 155/622Mb (OC-3/12)
- 2488Mb (OC-48)
- 2.500Gb (2.5 InfiniBand/PCI-E)
- 1.06/2.12 (2/1 GFC)

The x3100 is a “similar rate” to “similar rate” converter with no rate conversions. The x3100 is protocol independent.

## Troubleshooting

If a problem or exception occurs, the C3100 will send related Trap message to the Trap Server to report this event. You can launch the Trap Server in Focal Point 3.0 to capture the Trap message to better understand C3100 status.

1. Is the **PWR** (power) LED lit?  
NO
  - Is the C3100 inserted properly into the chassis?
  - Is the power cord properly installed in the C3100 chassis and in the grounded AC outlet?
  - Does the grounded AC outlet provide power?
  - Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.YES
  - Proceed to step 2.
2. Is the **LINK** LED lit?  
NO
  - Check that the SFP device is supported and properly connected. See “[Installing](#)” on page 7.
  - Check the fiber cables for proper connection.
  - Verify that the cable specs are met. See “[Cable Specifications](#)” on page 27.
  - Re-seat the SFPs. Note that with two copper SFP modules are used in the converter, no link is established. At least one of the two SFPs must be a fiber SFP.
  - Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.YES
  - Proceed to step 3.
3. Is the CLI accessible?  
NO
  - Check the Install process. See “[Installation and Setup](#)” on page 8.
  - Check the cabling. See “[Install Fiber Cable](#)” on page 9.
  - Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.YES
  - Proceed to step 4.
4. Is the web GUI accessible?  
NO
  - Check the Install process. See “[Installation and Setup](#)” on page 8.
  - Check the cabling. See “[Cable Specifications](#)” on page 27.
  - Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600. See “[Contact Us](#)” below.

## Contact Us

### Technical Support

Technical support is available 24 hours a day.

US and Canada: 1-800-260-1312

International: 00-1-952-941-7600

### Transition Now 7:00 AM to 6:00 PM CST

Chat live via the Web with Transition Networks Technical Support.

Log onto [www.transition.com](http://www.transition.com) and click the **Tech Support/Transition Now** link.

### Web-Based Seminars

Transition Networks provides seminars via live web-based training.

Log onto [www.transition.com](http://www.transition.com) and click the Learning Center link.

### E-Mail

To ask a question anytime, send an e-mail to our technical support staff at [techsupport@transition.com](mailto:techsupport@transition.com).

### Address

Transition Networks

10900 Red Circle Drive,

Minnetonka, MN 55343, U.S.A.

telephone: 952-941-7600

toll free: 800-526-9267

fax: 952-941-2322

## Compliance Information

### *Declaration of Conformity*

< to be supplied >

### *FCC Regulations*

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the user's own expense.

### *Canadian Regulations*

This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la lass A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

## ***European Regulations***

### **Warning**

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

### **Achtung !**

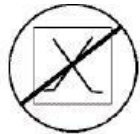
Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten. In diesem Fall ist der Benutzer für Gegenmaßnahmen verantwortlich.

### **Attention !**

Ceci est un produit de Classe A. Dans un environnement domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilisateur de prendre les mesures spécifiques appropriées.



In accordance with European Union Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003, Transition Networks will accept post usage returns of this product for proper disposal. The contact information for this activity can be found in the 'Contact Us' portion of this document.



**CAUTION:** RJ connectors are NOT INTENDED FOR CONNECTION TO THE PUBLIC TELEPHONE NETWORK. Failure to observe this caution could result in damage to the public telephone network.

Der Anschluss dieses Gerätes an ein öffentliches Telekommunikationsnetz in den EGMitgliedstaaten verstösst gegen die jeweiligen einzelstaatlichen Gesetze zur Anwendung der Richtlinie 91/263/EWG zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über Telekommunikationsendeinrichtungen einschliesslich der gegenseitigen Anerkennung ihrer

## ***Declaration of Conformity***

< To be supplied.>

## **Electrical Safety Warnings**

### **Electrical Safety**

**IMPORTANT:** This equipment must be installed in accordance with safety precautions.

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### **Elektrische Sicherheit**

**WICHTIG:** Für die Installation dieses Gerätes ist die Einhaltung von Sicherheitsvorkehrungen erforderlich.

---

### **Elektrisk sikkerhed**

**VIGTIGT:** Dette udstyr skal • nstallers I overensstemmelse med sikkerhedsadvarslerne.

---

### **Elektrische veiligheid**

**BELANGRIJK:** Dit apparaat moet in overeenstemming met de veiligheidsvoorschriften worden geïnstalleerd.

---

### **Sécurité électrique**

**IMPORTANT :** Cet équipement doit être utilisé conformément aux instructions de sécurité.

---

### **Sähköturvallisuus**

**TÄRKEÄÄ :** Tämä laite on asennettava turvaohjeiden mukaisesti.

---

### **Sicurezza elettrica**

**IMPORTANTE:** questa apparecchiatura deve essere installata rispettando le norme di sicurezza.

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### **Elektrisk sikkerhet**

**VIKTIG:** Dette utstyret skal • nstallers I samsvar med sikkerhetsregler.

### **Segurança eléctrica**

**IMPORTANTE:** Este equipamento tem que ser instalado segundo as medidas de precaução de segurança.

**Seguridad eléctrica**

**IMPORTANTE:** La instalación de este equipo deberá llevarse a cabo cumpliendo con las precauciones de seguridad.

**Elsäkerhet**

**OBS!** Alla nödvändiga försiktighetsåtgärder måste vidtas när denna utrustning används

***Safety Instructions for Rack Mount Installations***

The instructions below (or similar) are intended for rackmount installation environments:

1. Elevated Operating Ambient: if installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may exceed room ambient. Install the equipment in an environment compatible with the maximum ambient temperature (T<sub>ma</sub>) specified.
2. Reduced Air Flow: install the equipment in a rack so that the amount of air flow required for safe operation is not compromised.
3. Mechanical Loading: Mount the equipment in the rack so that a hazardous condition does not occur due to uneven mechanical loading (weight distribution/rack balance).
4. Circuit Overloading: give consideration 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. Consider all equipment nameplate ratings when addressing this concern.
5. Reliable Earthing: maintain reliable earthing of rack-mounted equipment; pay particular attention to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

**Record of Revisions**

Rev	Date	Notes
A	07/29/14	Initial release for v 1.2.

**Trademark Notice**

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