



Prisma D-PON Dual Receiver Installation and Operation Guide

For Your Safety

Explanation of Warning and Caution Icons

Avoid personal injury and product damage! Do not proceed beyond any symbol until you fully understand the indicated conditions.

The following warning and caution icons alert you to important information about the safe operation of this product:



You may find this symbol in the document that accompanies this product. This symbol indicates important operating or maintenance instructions.



You may find this symbol affixed to the product. This symbol indicates a live terminal where a dangerous voltage may be present; the tip of the flash points to the terminal device.



You may find this symbol affixed to the product. This symbol indicates a protective ground terminal.



You may find this symbol affixed to the product. This symbol indicates a chassis terminal (normally used for equipotential bonding).



You may find this symbol affixed to the product. This symbol warns of a potentially hot surface.



You may find this symbol affixed to the product and in this document. This symbol indicates an infrared laser that transmits intensity-modulated light and emits invisible laser radiation or an LED that transmits intensity-modulated light.

Important

Please read this entire guide. If this guide provides installation or operation instructions, give particular attention to all safety statements included in this guide.

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Important Safety Instructions

Read and Retain Instructions

Carefully read all safety and operating instructions before operating this equipment, and retain them for future reference.

Follow Instructions and Heed Warnings

Follow all operating and use instructions. Pay attention to all warnings and cautions in the operating instructions, as well as those that are affixed to this equipment.

Terminology

The terms defined below are used in this document. The definitions given are based on those found in safety standards.

Service Personnel - The term *service personnel* applies to trained and qualified individuals who are allowed to install, replace, or service electrical equipment. The service personnel are expected to use their experience and technical skills to avoid possible injury to themselves and others due to hazards that exist in service and restricted access areas.

User and Operator - The terms *user* and *operator* apply to persons other than service personnel.

Ground(ing) and Earth(ing) - The terms *ground(ing)* and *earth(ing)* are synonymous. This document uses *ground(ing)* for clarity, but it can be interpreted as having the same meaning as *earth(ing)*.

Electric Shock Hazard

This equipment meets applicable safety standards.



WARNING:

To reduce risk of electric shock, perform only the instructions that are included in the operating instructions. Refer all servicing to qualified service personnel only.

Electric shock can cause personal injury or even death. Avoid direct contact with dangerous voltages at all times. The protective ground connection, where provided, is essential to safe operation and must be verified before connecting the power supply.

Know the following safety warnings and guidelines:

- Dangerous Voltages

Important Safety Instructions

- Only qualified service personnel are allowed to perform equipment installation or replacement.
- Only qualified service personnel are allowed to remove chassis covers and access any of the components inside the chassis.
- **Grounding**
 - Do not violate the protective grounding by using an extension cable, power cable, or autotransformer without a protective ground conductor.
 - Take care to maintain the protective grounding of this equipment during service or repair and to re-establish the protective grounding before putting this equipment back into operation.

Installation Site

When selecting the installation site, comply with the following:

- **Protective Ground** - The protective ground lead of the building's electrical installation should comply with national and local requirements.
- **Environmental Condition** - The installation site should be dry, clean, and ventilated. Do not use this equipment where it could be at risk of contact with water. Ensure that this equipment is operated in an environment that meets the requirements as stated in this equipment's technical specifications, which may be found on this equipment's data sheet.

Installation Requirements



WARNING:

Allow only qualified service personnel to install this equipment. The installation must conform to all local codes and regulations.

Equipment Placement



WARNING:

Avoid personal injury and damage to this equipment. An unstable mounting surface may cause this equipment to fall.

To protect against equipment damage or injury to personnel, comply with the following:

- Install this equipment in a restricted access location.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other equipment (including amplifiers) that produce heat.
- Place this equipment close enough to a mains AC outlet to accommodate the length of this equipment's power cord.

- Route all power cords so that people cannot walk on, place objects on, or lean objects against them. This may pinch or damage the power cords. Pay particular attention to power cords at plugs, outlets, and the points where the power cords exit this equipment.
- Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with this equipment.
- Make sure the mounting surface or rack is stable and can support the size and weight of this equipment.
- The mounting surface or rack should be appropriately anchored according to manufacturer's specifications. Ensure this equipment is securely fastened to the mounting surface or rack where necessary to protect against damage due to any disturbance and subsequent fall.

Ventilation

This equipment has openings for ventilation to protect it from overheating. To ensure equipment reliability and safe operation, do not block or cover any of the ventilation openings. Install the equipment in accordance with the manufacturer's instructions.

Rack Mounting Safety Precautions

Mechanical Loading

Make sure that the rack is placed on a stable surface. If the rack has stabilizing devices, install these stabilizing devices before mounting any equipment in the rack.



WARNING:

Avoid personal injury and damage to this equipment. Mounting this equipment in the rack should be such that a hazardous condition is not caused due to uneven mechanical loading.

Reduced Airflow

When mounting this equipment in the rack, do not obstruct the cooling airflow through the rack. Be sure to mount the blanking plates to cover unused rack space. Additional components such as combiners and net strips should be mounted at the back of the rack, so that the free airflow is not restricted.



CAUTION:

Installation of this equipment in a rack should be such that the amount of airflow required for safe operation of this equipment is not compromised.

Elevated Operating Ambient Temperature

Only install this equipment in a humidity- and temperature-controlled environment that meets the requirements given in this equipment's technical specifications.



CAUTION:

If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient temperature. Therefore, install this equipment in an environment compatible with the manufacturer's maximum rated ambient temperature.

Handling Precautions

When moving a cart that contains this equipment, check for any of the following possible hazards:



WARNING:



Avoid personal injury and damage to this equipment! Move any equipment and cart combination with care. Quick stops, excessive force, and uneven surfaces may cause this equipment and cart to overturn.

- Use caution when moving this equipment/cart combination to avoid injury from tip-over.
- If the cart does not move easily, this condition may indicate obstructions or cables that may need to be disconnected before moving this equipment to another location.
- Avoid quick stops and starts when moving the cart.
- Check for uneven floor surfaces such as cracks or cables and cords.

Grounding

This section provides instructions for verifying that the equipment is properly grounded.

Safety Plugs (USA Only)

This equipment may be equipped with either a 3-terminal (grounding-type) safety plug or a 2-terminal (polarized) safety plug. The wide blade or the third terminal is provided for safety. Do not defeat the safety purpose of the grounding-type or polarized safety plug.

To properly ground this equipment, follow these safety guidelines:

- **Grounding-Type Plug** - For a 3-terminal plug (one terminal on this plug is a protective grounding pin), insert the plug into a grounded mains, 3-terminal outlet.
Note: This plug fits only one way. If this plug cannot be fully inserted into the outlet, contact an electrician to replace the obsolete 3-terminal outlet.
- **Polarized Plug** - For a 2-terminal plug (a polarized plug with one wide blade and one narrow blade), insert the plug into a polarized mains, 2-terminal outlet in which one socket is wider than the other.

Note: If this plug cannot be fully inserted into the outlet, try reversing the plug. If the plug still fails to fit, contact an electrician to replace the obsolete 2-terminal outlet.

Grounding Terminal

If this equipment is equipped with an external grounding terminal, attach one end of an 18-gauge wire (or larger) to the grounding terminal; then, attach the other end of the wire to a ground, such as a grounded equipment rack.

Safety Plugs (European Union)


- **Class I Mains Powered Equipment** – Provided with a 3-terminal AC inlet and requires connection to a 3-terminal mains supply outlet via a 3-terminal power cord for proper connection to the protective ground.

Note: The equipotential bonding terminal provided on some equipment is not designed to function as a protective ground connection.

- **Class II Mains Powered Equipment** – Provided with a 2-terminal AC inlet that may be connected by a 2-terminal power cord to the mains supply outlet. No connection to the protective ground is required as this class of equipment is provided with double or reinforced and/or supplementary insulation in addition to the basic insulation provided in Class I equipment.

Note: Class II equipment, which is subject to EN 50083-1, is provided with a chassis mounted equipotential bonding terminal. See the section titled **Equipotential Bonding** for connection instructions.

Equipotential Bonding

If this equipment is equipped with an external chassis terminal marked with the IEC 60417-5020 chassis icon () , the installer should refer to CENELEC standard EN 50083-1 or IEC standard IEC 60728-11 for correct equipotential bonding connection instructions.

AC Power

Important: If this equipment is a Class I equipment, it must be grounded.

- If this equipment plugs into an outlet, the outlet must be near this equipment, and must be easily accessible.
- Connect this equipment only to the power sources that are identified on the equipment-rating label normally located close to the power inlet connector(s).
- This equipment may have two power sources. Be sure to disconnect all power sources before working on this equipment.
- If this equipment **does not** have a main power switch, the power cord connector serves as the disconnect device.

Important Safety Instructions

- Always pull on the plug or the connector to disconnect a cable. Never pull on the cable itself.
- Unplug this equipment when unused for long periods of time.

Connection to -48 V DC/-60 V DC Power Sources

If this equipment is DC-powered, refer to the specific installation instructions in this manual or in companion manuals in this series for information on connecting this equipment to nominal -48 V DC/-60 V DC power sources.

Circuit Overload

Know the effects of circuit overloading before connecting this equipment to the power supply.



CAUTION:

Consider the connection of this equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Refer to the information on the equipment-rating label when addressing this concern.

General Servicing Precautions



WARNING:

Avoid electric shock! Opening or removing this equipment's cover may expose you to dangerous voltages.



CAUTION:

These servicing precautions are for the guidance of qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

Be aware of the following general precautions and guidelines:

- **Servicing** - Servicing is required when this equipment has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into this equipment, this equipment has been exposed to rain or moisture, does not operate normally, or has been dropped.
- **Wristwatch and Jewelry** - For personal safety and to avoid damage of this equipment during service and repair, do not wear electrically conducting objects such as a wristwatch or jewelry.
- **Lightning** - Do not work on this equipment, or connect or disconnect cables, during periods of lightning.
- **Labels** - Do not remove any warning labels. Replace damaged or illegible

warning labels with new ones.

- **Covers** - Do not open the cover of this equipment and attempt service unless instructed to do so in the instructions. Refer all servicing to qualified service personnel only.
- **Moisture** - Do not allow moisture to enter this equipment.
- **Cleaning** - Use a damp cloth for cleaning.
- **Safety Checks** - After service, assemble this equipment and perform safety checks to ensure it is safe to use before putting it back into operation.

Electrostatic Discharge

Electrostatic discharge (ESD) results from the static electricity buildup on the human body and other objects. This static discharge can degrade components and cause failures.

Take the following precautions against electrostatic discharge:

- Use an anti-static bench mat and a wrist strap or ankle strap designed to safely ground ESD potentials through a resistive element.
- Keep components in their anti-static packaging until installed.
- Avoid touching electronic components when installing a module.

Fuse Replacement

To replace a fuse, comply with the following:

- Disconnect the power before changing fuses.
- Identify and clear the condition that caused the original fuse failure.
- Always use a fuse of the correct type and rating. The correct type and rating are indicated on this equipment.

Batteries

This product may contain batteries. Special instructions apply regarding the safe use and disposal of batteries:

Safety

- Insert batteries correctly. There may be a risk of explosion if the batteries are incorrectly inserted.
- Do not attempt to recharge 'disposable' or 'non-reusable' batteries.
- Please follow instructions provided for charging 'rechargeable' batteries.

Important Safety Instructions

- Replace batteries with the same or equivalent type recommended by manufacturer.
- Do not expose batteries to temperatures above 100°C (212°F).

Disposal

- The batteries may contain substances that could be harmful to the environment
- Recycle or dispose of batteries in accordance with the battery manufacturer's instructions and local/national disposal and recycling regulations.



廢電池請回收

- The batteries may contain perchlorate, a known hazardous substance, so special handling and disposal of this product might be necessary. For more information about perchlorate and best management practices for perchlorate-containing substance, see www.dtsc.ca.gov/hazardouswaste/perchlorate.

Modifications

This equipment has been designed and tested to comply with applicable safety, laser safety, and EMC regulations, codes, and standards to ensure safe operation in its intended environment. Refer to this equipment's data sheet for details about regulatory compliance approvals.

Do not make modifications to this equipment. Any changes or modifications could void the user's authority to operate this equipment.

Modifications have the potential to degrade the level of protection built into this equipment, putting people and property at risk of injury or damage. Those persons making any modifications expose themselves to the penalties arising from proven non-compliance with regulatory requirements and to civil litigation for compensation in respect of consequential damages or injury.

Accessories

Use only attachments or accessories specified by the manufacturer.

Electromagnetic Compatibility Regulatory Requirements

This equipment meets applicable electromagnetic compatibility (EMC) regulatory requirements. Refer to this equipment's data sheet for details about regulatory compliance approvals. EMC performance is dependent upon the use of correctly shielded cables of good quality for all external connections, except the power source, when installing this equipment.

- Ensure compliance with cable/connector specifications and associated installation instructions where given elsewhere in this manual.

Otherwise, comply with the following good practices:

- Multi-conductor cables should be of single-braided, shielded type and have conductive connector bodies and backshells with cable clamps that are conductively bonded to the backshell and capable of making 360° connection to the cable shielding. Exceptions from this general rule will be clearly stated in the connector description for the excepted connector in question.
- Ethernet cables should be of single-shielded or double-shielded type.
- Coaxial cables should be of the double-braided shielded type.

EMC Compliance Statements

Where this equipment is subject to USA FCC and/or Industry Canada rules, the following statements apply:

FCC Statement for Class A Equipment

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 this 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 users will be required to correct the interference at their own expense.

Industry Canada - Industrie Canadienne Statement

This apparatus complies with Canadian ICES-003.
Cet appareil est conforme à la norme NMB-003 du Canada.

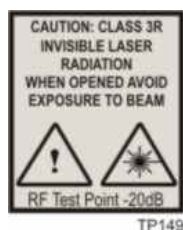
CENELEC/CISPR Statement with Respect to Class A Information Technology Equipment

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

Warning Labels

The following labels are located on this product.

Laser Warning Label *



Product and Laser Information Label



* Located on host module only (not applicable to receiver module).

1

Module Introduction

Overview

This chapter describes the Prisma® D-PON Dual Receiver. Prisma D-PON Receivers are plug-in modules for the Prisma II and Prisma II XD platforms.

Purpose

This guide provides information about the Prisma D-PON Dual Receiver.

Who Should Use This Document

This document is intended for authorized service personnel who have experience working with similar equipment. The service personnel should have appropriate background and knowledge to complete the procedures described in this document.

Qualified Personnel

Only appropriately qualified and skilled personnel should attempt to install, operate, maintain, and service this product.



WARNING:

Only appropriately qualified and skilled personnel should attempt to install, operate, maintain, and service this product.

Scope

This guide discusses the following topics.

- Description of the receiver
- Installation procedures
- Operation using the Command Line Interface (CLI)
- Operation using the ICIM Web Interface (WebGUI)
- Maintenance and troubleshooting
- Descriptions of module parameters

Document Version

This is the third release of this guide.

In This Chapter

- Related Publications 3
- Receiver Description..... 4
- Receiver Front and Back Panel..... 6
- Host Module 8
- Module Configuration 10

Related Publications

You may find the following publications useful as you implement the procedures in this document.

- *Prisma II Platform Remote User Interface Guide, System Release 2.03*, part number 4025477
- *Prisma II Platform System Guide, System Release 2.03*, part number 4025478
- *Prisma II XD Platform System Guide, System Release 2.03*, part number 4025479
- *Prisma D-PON iW-2030 ONT Installation and Operation Guide*, part number 4028196
- *Prisma D-PON System Installation and Operation Guide*, part number 4030614

Receiver Description

The receiver front panel is designed with two optical connectors for optical input. All connectors are easily accessible. ALARM and Power ON indicators on the front panel allow you to monitor power and alarm status at a glance.

Receiver Features

The receiver has the following features.

- Front panel green light emitting diode (LED) to indicate operating status
- Front panel red LED to indicate alarm status
- Optical input connectors
- Plug-and-play capability
- Blind-mate radio frequency (RF) connections

Receiver Operation

Prisma D-PON Dual Receivers are used to receive reverse path signals from Prisma D-PON iW-2030 Optical Network Terminal (ONT) units installed at end user sites and inject them into the headend.

The receiver module contains two separate optoelectronic receivers. Optical input is through two optical connectors mounted on the front of the module. RF output is through two connectors on the back of the module. Each receiver demodulates a wideband reverse path input signal and provides a 5-65 MHz reverse path output signal at its respective connector at the back of the module.

You can control the module via an ICIM2-MSO or ICIM2-XD using any of the following:

- Command Line Interface (CLI)
- ICIM Web Interface (WebGUI) software
- Simple Network Management Protocol (SNMP) commands
- ROSA® Element Manager (EM)

Receiver Optical Input

The optical inputs are standard LC-APC.

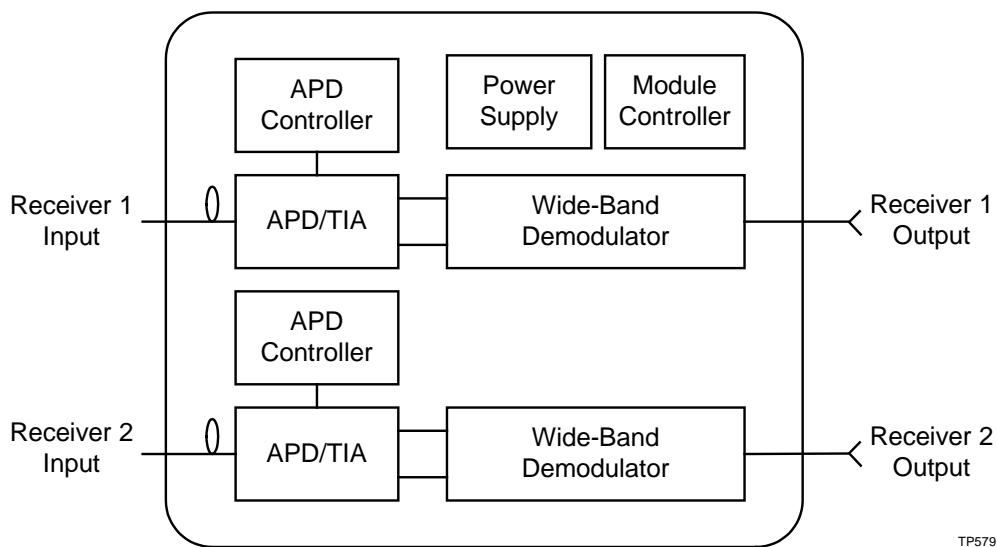
Laser Warning

**WARNING:**

Avoid damage to your eyes! Do not look into any optical connector while the system is active. Even if the unit is off, there may still be hazardous optical levels present.

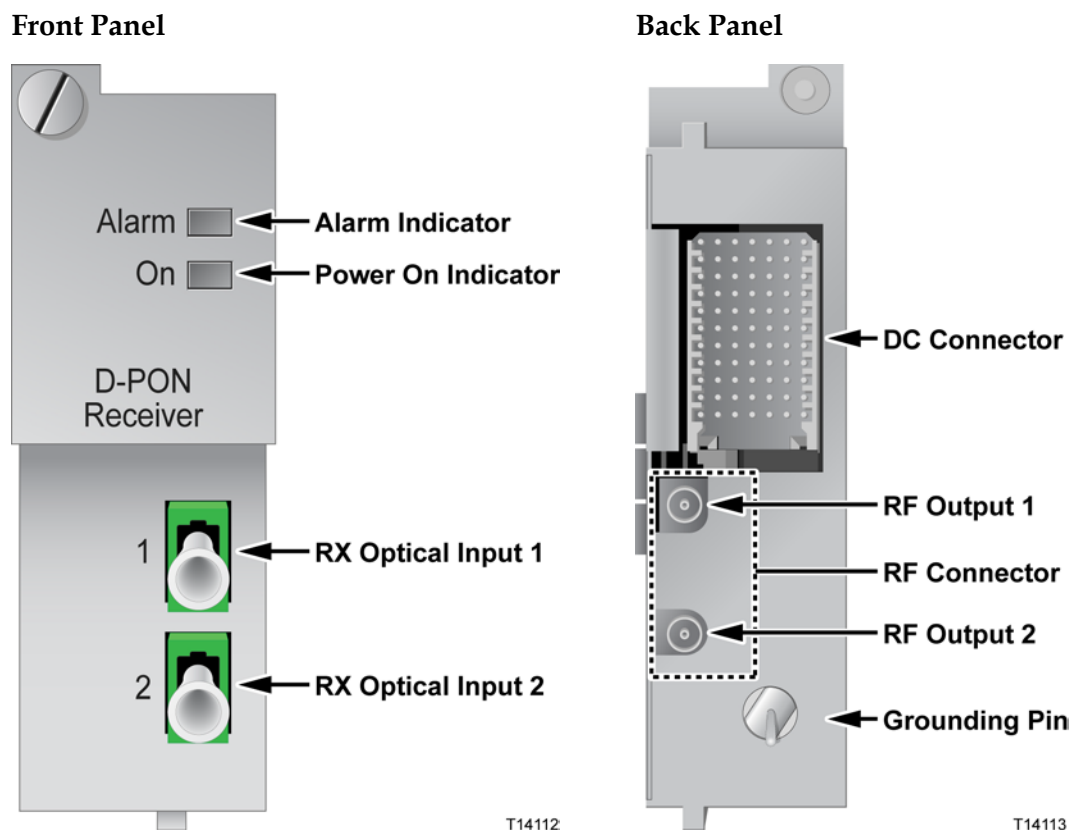
Receiver Block Diagram

A block diagram of the Prisma D-PON Dual Receiver module is shown below.



Receiver Front and Back Panel

Receiver Illustrations



D-PON Receiver Front Panel Features

Part	Function
Alarm Indicator	Red ON – Major Alarm active
	Red Blinking – Minor Alarm active
	Red OFF – No Alarm active
Power On Indicator	Green ON – Power applied
	Green Blinking – Communicating with ICIM
	Green OFF – Power not applied
Optical Inputs (LC-APC)	Connects the input optical cable to the receiver.

Back Panel Connectors

Blind-mate connectors make it easy to install this module. The push-on connector on the back of the module mates with the back plane bus connector inside the chassis or host module. This 55-pin connector and the two RF connectors provide the following facilities.

- RF signal connection
- Electrical power input connection
- Alarm communications connections
- Status-monitoring connections
- Communications and control connections

The ESD guide pin near the bottom of the back panel serves as both a guide pin and an ESD ground connection. The length of the pin ensures that ground is the first electrical connection made as the module is inserted, and the last connection to be broken as the module is removed.

Host Module

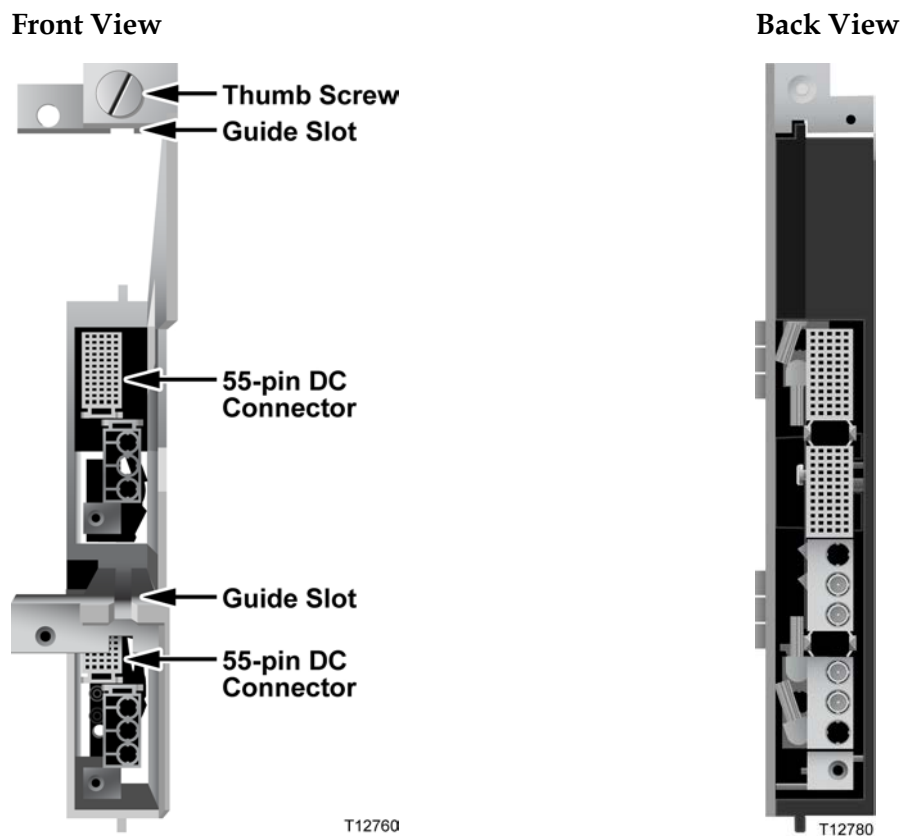
The host module is designed to double the density of the standard Prisma II Chassis. It provides two slots for the high density modules for each current Prisma II slot. The simple design provides an efficient route of RF and electrical signals between the chassis back plane and each high density module.

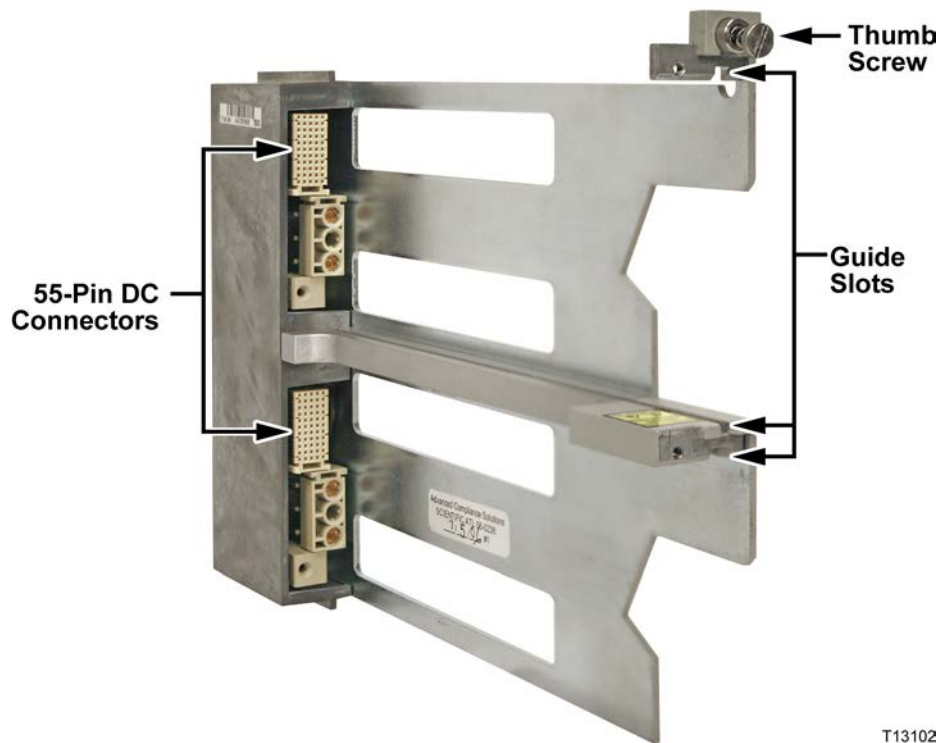
Host Module Features

The host module has the following features:

- Provides upper and lower slots for two high density modules
- Incorporates a passive design for high reliability
- Provides for RF and DC routing between the chassis back plane and each high density module

Host Module Illustration



Side View

T13102

Host Module Back Panel Connectors

Blind-mate connectors make it easy to install the host module. The push-on connector on the back of the module mates with the back plane bus connector inside the chassis. This 110-pin connector provides the following facilities:

- RF signal input connection
- Electrical power input connection
- Alarm communications connections
- Status-monitoring connections
- Communications and control connections

Module Configuration

The module is shipped from the factory with operational parameters set to factory defaults. However, you will probably choose to configure the operating parameters so that they are best suited for your application.

Configuration and Monitoring Methods

The module may be monitored and controlled using any of the following methods.

- CLI software

The CLI software running locally on a PC connected to the ICIM2 can be used to control and monitor the module. For instructions on operating this module using CLI, refer to **Module Operation** (on page 29) and the *Prisma II Platform Remote User Interface Guide, System Release 2.03*, part number 4025477.

- Prisma II ICIM front panel

If an ICIM is installed in the Prisma II Chassis, it may be used to monitor Prisma II application modules within its domain. For security reasons, this non-password protected front panel interface is limited to read-only monitoring. For instructions on using the ICIM front panel interface, refer to the *Prisma II Platform System Guide, System Release 2.03*, part number 4025478.

- ICIM Web Interface

The WebGUI software that runs on the ICIM2 can be used to control and monitor the module from a PC connected to the ICIM2 via an IP network. For instructions on operating this module via the WebGUI, see the ICIM Web Interface chapter of the *Prisma II Platform Remote User Interface Guide, System Release 2.03*, part number 4025477.

- SNMP software

The module may be controlled and monitored remotely via an SNMP connection using an appropriate Network Management System. For instructions on using SNMP, refer to the SNMP Management chapter of the *Prisma II Platform System Guide, System Release 2.03*, part number 4025478 or *Prisma II XD Platform System Guide, System Release 2.03*, part number 4025479.

- ROSA EM

The module may be controlled and monitored remotely via the ROSA EM system. This system interacts with the module via an SNMP connection to the ICIM2. For instructions on using SNMP, refer to appropriate ROSA EM documentation and the SNMP Management chapter of the *Prisma II Platform System Guide, System Release 2.03*, part number 4025478 or *Prisma II XD Platform System Guide, System Release 2.03*, part number 4025479.

Configuration Summary

Using any of the above methods, you can configure the following parameters.

- Enable or disable each receiver channel
- Configure Receiver Loss of Signal detection delay
- Enable or disable Loss of Signal alarm reporting for each receiver channel

For additional information on configurable parameters, refer to *Module Parameter Descriptions* (on page 87).

2

Module Installation

Introduction

This chapter contains instructions for installing the module and describes the site requirements, equipment, and tools needed for module installation.

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■ Preparing for Installation.....	14
■ Site Requirements	15
■ Connecting the RF Cables to the Chassis	19
■ Installing the Module in the Chassis.....	21
■ Cleaning Optical Connectors	25
■ Connecting Optical Cables	27

Preparing for Installation

Before you begin, make sure that the module is in good condition and that you have the tools and equipment listed here.

Unpacking and Inspecting the Module

As you unpack the module, inspect it for shipping damage. Inspect the rear connectors for bent pins.

If you find any damage, contact Customer Service. Refer to *Customer Support Information* (on page 73) for information on contacting Customer Service.

Equipment and Tools Needed

Before you begin, make sure that the module is in good condition. You need the following equipment and tools to install these modules.

You need . . .	To . . .
a Prisma II or Prisma II XD Chassis with power supply	provide housing, power, and signal connections to the module.
3/8-in. flat-blade screwdriver	secure the module in the chassis.
optical cables with connectors	carry optical signals.
optical cleaning materials	clean optical connectors.
optical power meter	verify proper optical signal levels.
spectrum analyzer	verify proper RF signal levels.

Site Requirements

Before you begin, make certain that your installation site meets the requirements discussed in this section.

Access Requirements

**WARNING:**

Use this product in locations that restrict access to all persons who are not authorized. Otherwise, personal injury or equipment damage may occur.

Ensure that only authorized personnel have access to this equipment. Otherwise, personal injury or equipment damage may occur.

Equipment Rack

To install this module, your site must be equipped with an Electronics Industry Association (EIA) equipment rack that properly houses the chassis with proper spacing for air circulation. For instructions on installing the chassis in the rack, refer to the guide that was shipped with the chassis.

Operating Environment

**CAUTION:**

Avoid damage to this product! Operating this product outside the specified operating temperature limits voids the warranty.

Follow these recommendations to maintain an acceptable operating temperature of the equipment.

- Temperature at the air inlet must be between 0°C and 50°C (32°F and 122°F).
- Keep cooling vents clear and free of obstructions.
- Provide ventilation as needed using air-deflecting baffles, forced-air ventilation, or air outlets above enclosures, either alone or in combination.

Power Requirements

All Prisma II application modules receive their electrical power from the chassis. The modules may be installed with the chassis under power.

Space Requirements

This is a single-width, half-height module. Actual space requirements depend on whether the module is installed in a standard Prisma II or a Prisma II XD chassis.

Prisma II Chassis Installation

When installed in a standard Prisma II Chassis, the module is placed in a host module and then inserted into the chassis in slots 5 through 16.

- If the module occupies the upper host module position, its slot number is the same (5 through 16) as that of the host module.
- If the module occupies the lower host module position, its slot number is 16 plus the host module slot number, or 21 through 32.

Slots 1 through 4 are usually reserved for the power supplies. If an ICIM is installed, it occupies slots 15 and 16. If an ICIM is not installed, any other module (or host module) can occupy these slots.

Slots 2 and 4 are reserved for an internal power supply, if installed. If an internal power supply is not installed here, any other module (or host module) can occupy these slots.

Prisma II XD Chassis Installation

When installed in a Prisma II XD Chassis, the module is inserted directly into an available application module slot on the chassis front panel. The application module slots are numbered 1 through 16.

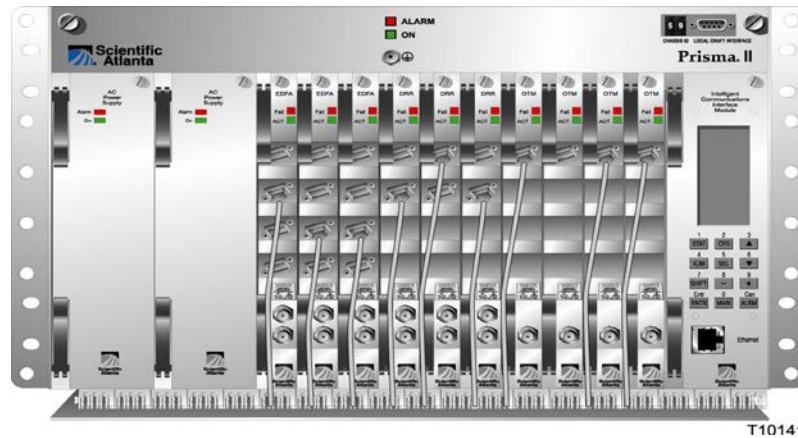
The chassis power supplies and ICIM are installed in dedicated slots on the chassis back panel, so slots 1 through 16 are available for application modules no matter how the chassis is configured.

Prisma II Chassis Style

The standard Prisma II chassis may be configured as front-access or rear-access depending on the system you have purchased. Power, RF input or output, and other connectors may be located on either the front or rear of the chassis. Connections to the chassis serve the same function and are made in the same manner regardless of the location of the connectors or chassis configuration.

Rear-Access Chassis - Front Panel Illustration

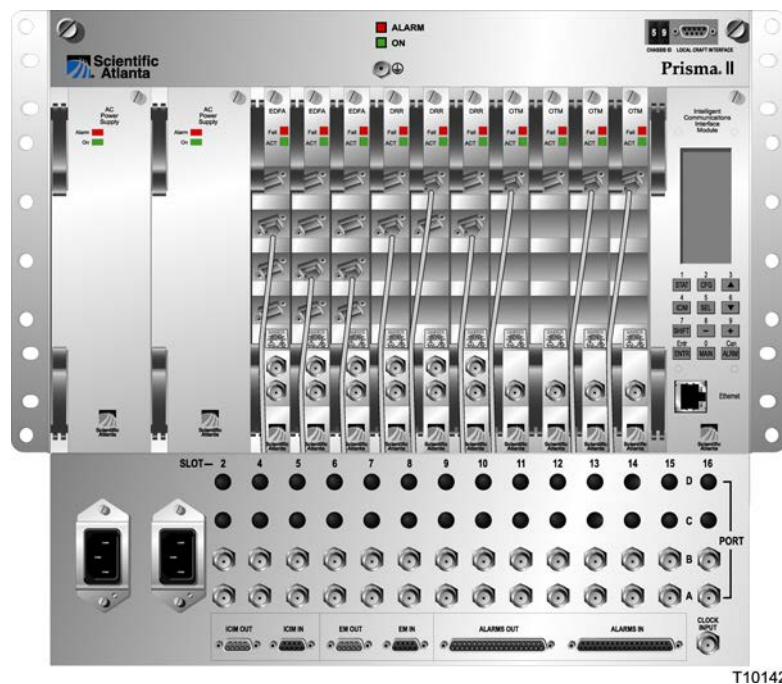
The following illustration shows the front of the rear-access Prisma II Chassis with two power supplies, 10 full-height modules, and the ICIM installed.



Front-Access Chassis - Front Panel Illustration

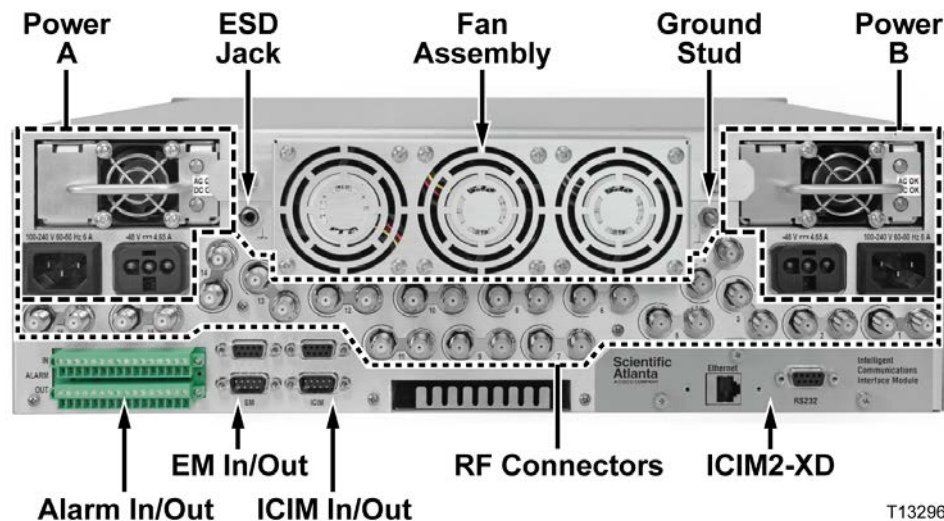
The following illustration shows the front of the front-access chassis with two power supplies, 10 full-height modules, and the ICIM installed.

The power inlets, RF input/output, and RF ports are located on the recessed bottom of the connector interface panel on the front-access version of the chassis.



Prisma II XD Chassis Style

The Prisma II XD chassis back panel serves as both a connector panel and a receptacle for AC power supply modules and the ICIM2-XD, when installed.



The RF connectors are arranged in numbered pairs to identify the corresponding application module slot. One connector in each pair has a black retaining nut and a black circle in the panel artwork to mark it as belonging to the upper connector on the chassis midplane.

Connecting the RF Cables to the Chassis

To Connect RF Cables for Each Module

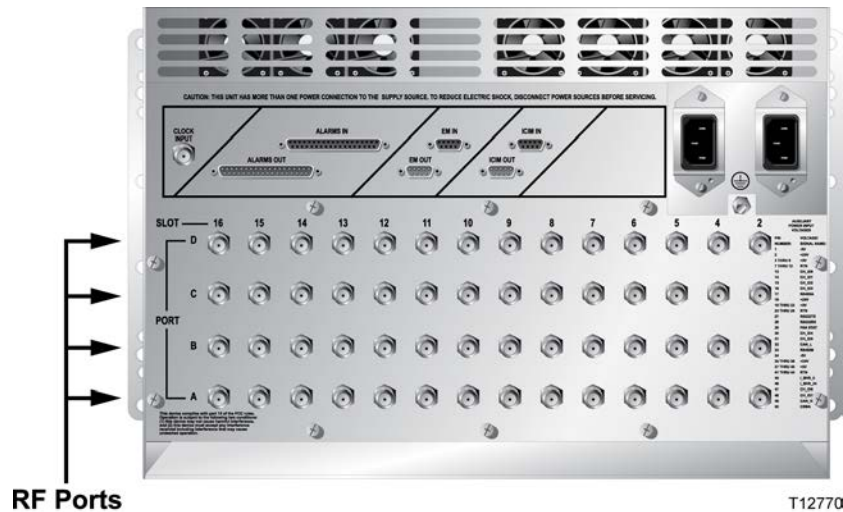
Complete the appropriate procedure below to connect RF cables for the module.

Note: This procedure assumes that the chassis is mounted in a rack.

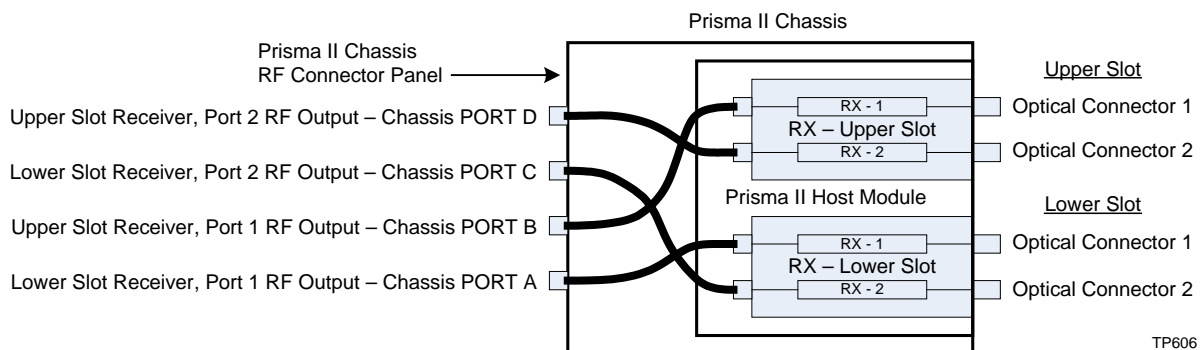
Standard Prisma II Chassis

Note: This procedure assumes a host module with receivers in both lower and upper half-slot positions. If only one receiver installed, it is not necessary to connect RF cables for the unused position.

- 1 Locate the RF ports on the chassis connector panel. The connector panel is on the front of a front-access chassis, and on the rear of a rear-access chassis. The figure below shows the connector panel for a rear-access chassis.



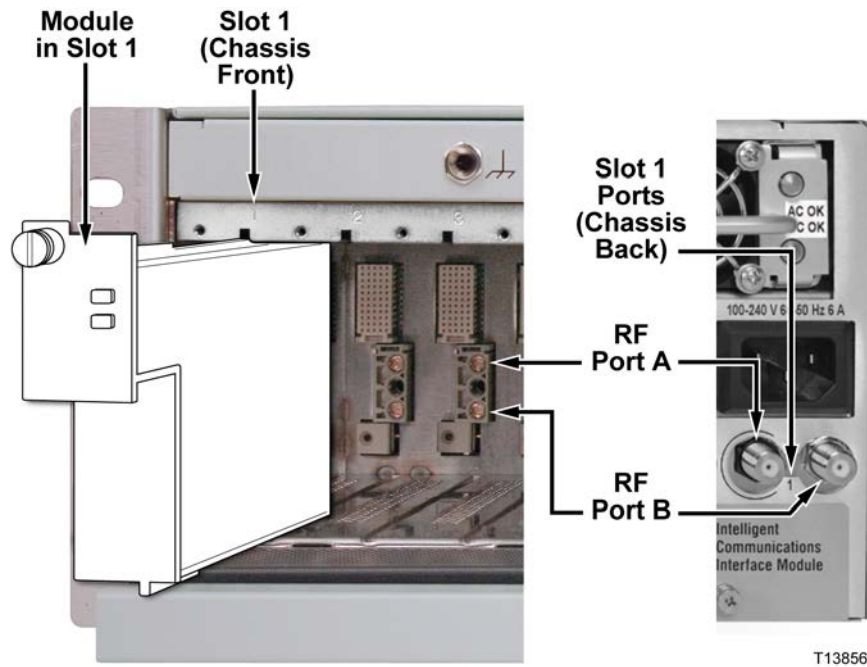
- 2 Connect RF cables to the RF port connectors for the chassis slot in which the host module will be installed. Use the following diagram as a guide. Hand-tighten the connectors.



- 3 Route the RF cables from all ports to the appropriate RF destinations.
- 4 If F connectors are installed, use a 7/16-in. open-end wrench to secure all cables to the connectors at the chassis.

Prisma II XD Chassis

- 1 Attach a 75-ohm RF cable to the appropriate RF destination.
- 2 Locate the RF ports at the back of the chassis.



- 3 Attach the other end of the RF cable to Port A connector of the corresponding slot where the module is to be installed. This is the RF output connection.
- 4 If F connectors are installed, use a 7/16-in. open-end wrench to secure all cables to the connectors at the chassis.

Installing the Module in the Chassis

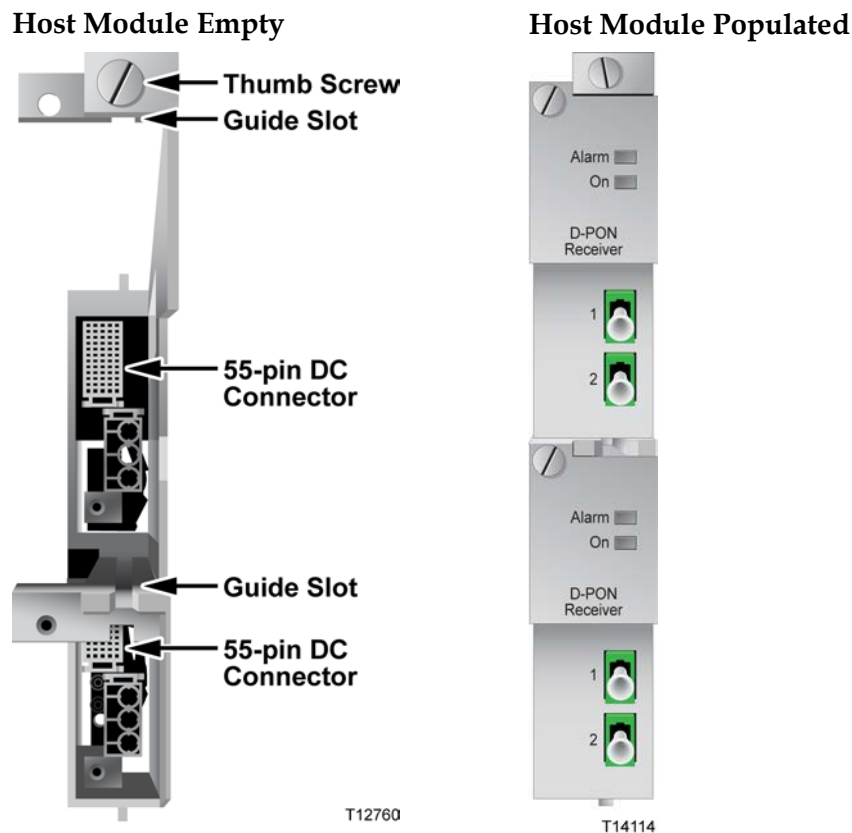
To Install the Receiver Modules in the Host Module

Note:

- All Prisma II high-density application modules must be installed in a host module before they can be mounted in a standard Prisma II Chassis.
- Prisma II host modules prior to Rev C (date codes through A2006) do not support the Controller Area Network (CAN) bus.
- To support CAN bus redundancy, the ICIM2 must be Rev B or later.

Complete the following steps to install the application modules in the host module.

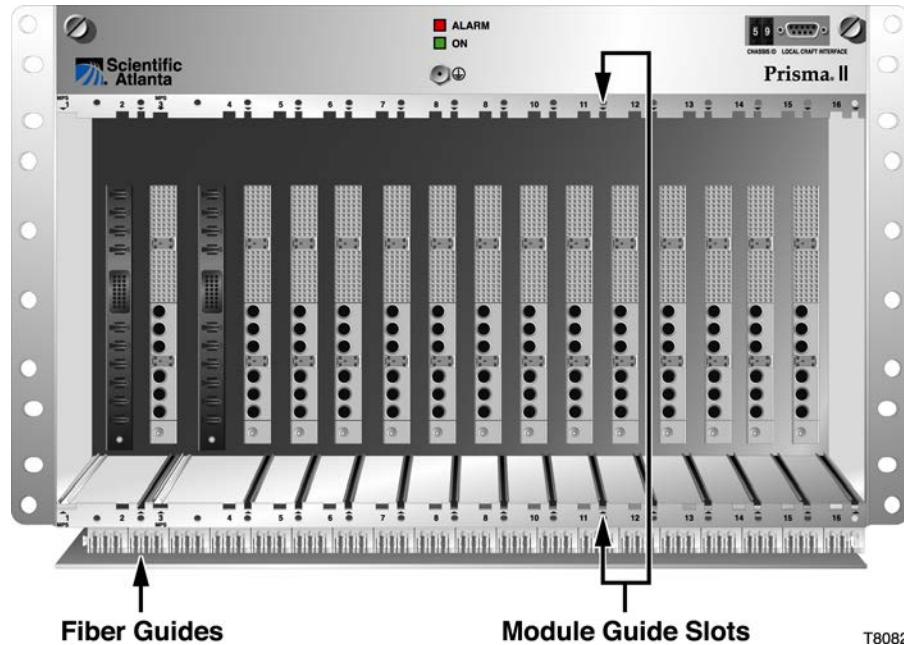
- 1 Align the ridges on the top and bottom of the module with the guide slots located on the host module and the chassis. Be careful to keep the module level as you slide it into the host to avoid bending the pins on the host back plane.
- 2 Gently slide the module into the host module until you feel the power and communications connections on the back of the module join connectors on the host module. Use the thumbscrew on the top of the module to lock it in place.



To Install the Host Module in the Chassis

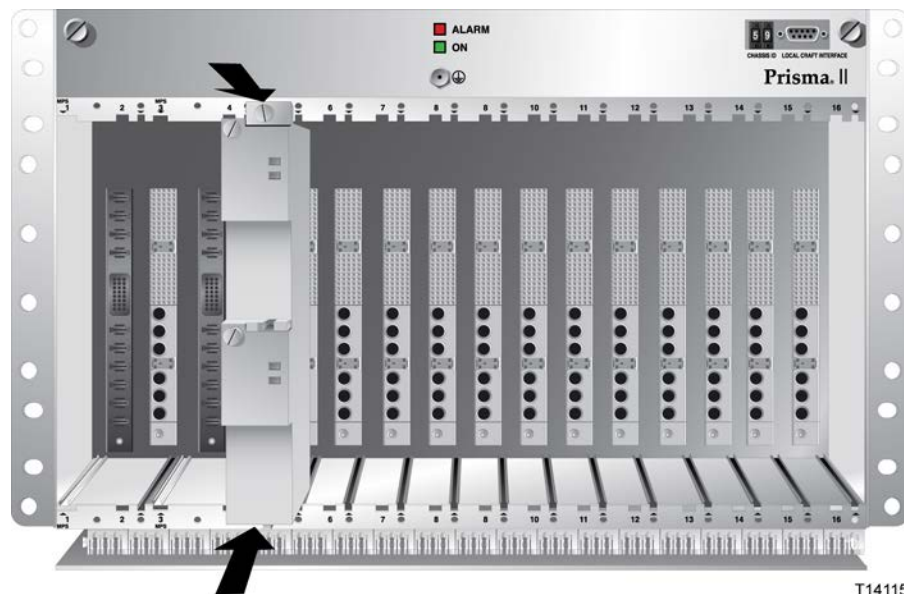
Note: This procedure assumes that the chassis is mounted in a rack.

- 1 Locate the fiber guides at the bottom of the chassis and the module guide slots inside the chassis as shown in the following illustration.



- 2 Align the ridges on the top and bottom of the host module with the guide slots on the chassis. Be careful to keep the host module level as you slide it into the chassis to avoid bending the pins on the back plane bus.
- 3 Gently slide the host module into the chassis until you feel the connections on the back of the host module join connectors on the back plane bus.

Note: Do not force or bang the host module into the chassis. If properly aligned, the host module should slide in with minimal force.



- 4 Hand-tighten the screw at the top of the host module to ensure that the first few threads engage smoothly. Use a 3/8-in. flat-blade screwdriver to secure the mounting screw. **Do not over-tighten.**
- 5 Fill any unused chassis slots with module blanks to help ensure proper cooling air flow. HD module blanks are available to fill unused host module slots.

To Install the Module in a Prisma II XD Chassis

Note: This procedure assumes that the chassis is installed in a rack.



WARNING:

Avoid damage to your eyes! Do not look into any optical connector while the system is active. Even if the unit is off, there may still be hazardous optical levels present.

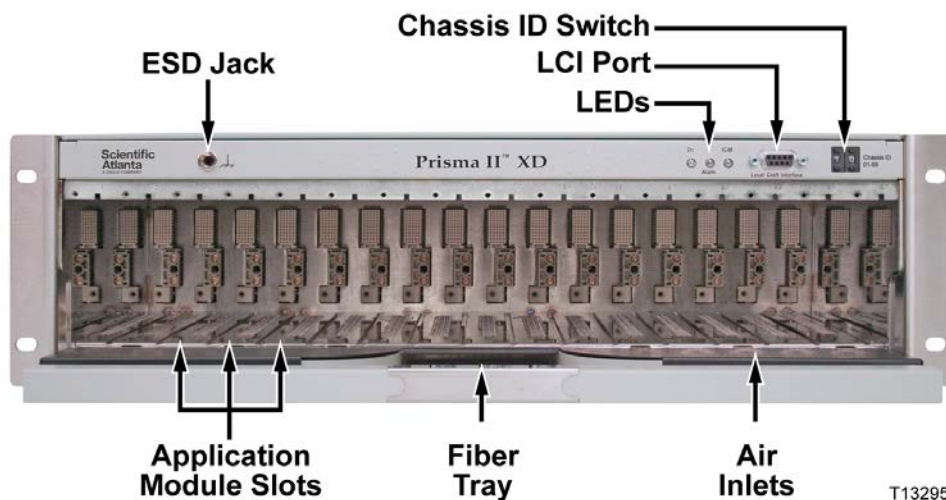
Complete the following steps to install the module in the chassis.



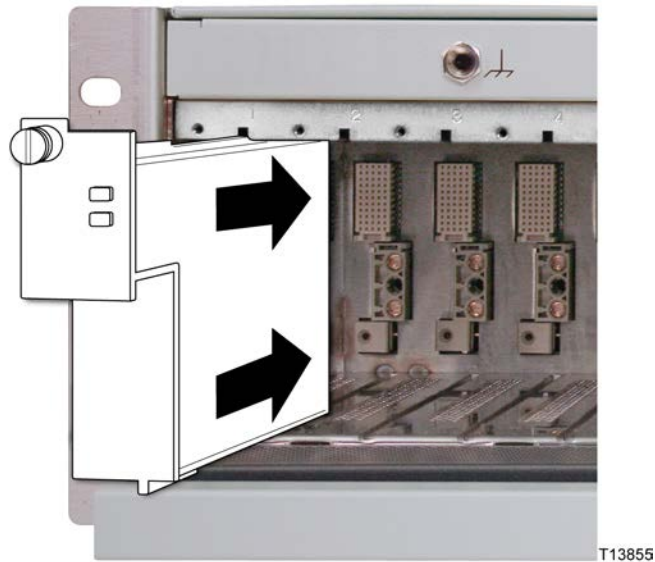
CAUTION:

Always use a screwdriver to loosen or tighten the screws holding the application modules, ICIM2-XD, fan assembly, power supply modules, DC-to-DC converters, or blanking panels in place. Do not attempt to loosen or tighten these screws solely by hand.

- 1 Locate the fiber tray at the bottom of the chassis and the application module slots inside the chassis as shown in the following illustration.



- 2 Align the ridges on the top and bottom of the module with the module guide slots located on the chassis.
- 3 Gently slide the module into the chassis until its power and communications connections join connectors on the midplane bus. *Do not force the module into the chassis.* If properly aligned, it should slide in with minimal force.



- 4 Tighten the screw at the top of the module to secure it in the chassis. Use a 3/8-in. flat-blade screwdriver to secure. *Do not over-tighten.*
- 5 Fill any unused chassis slots with module blanks to help ensure proper cooling air flow.

Cleaning Optical Connectors

**CAUTION:**

Proper operation of this equipment requires clean optical fibers. Dirty fibers will adversely affect performance. Proper cleaning is imperative.

The proper procedure for cleaning optical connectors depends on the connector type. The following describes general instructions for fiber optic cleaning. Use your company's established procedures, if any, but also consider the following.

Cleaning fiber optic connectors can help prevent interconnect problems and aid system performance. When optical connectors are disconnected or reconnected, the fiber surface can become dirty or scratched, reducing system performance.

Inspect connectors prior to mating, clean as needed, and then remove all residue. Inspect connectors after cleaning to confirm that they are clean and undamaged.

Recommended Equipment

- CLETOP or OPTIPOP ferrule cleaner (for specific connector type)
- Compressed air (also called “canned air”)
- Lint-free wipes moistened with optical-grade (99%) isopropyl alcohol
- Bulkhead swabs (for specific connector type)
- Optical connector scope with appropriate adaptor

Tips for Optimal Fiber Optic Connector Performance

- Do not connect or disconnect optical connectors with optical power present.
- Always use compressed air before cleaning the fiber optic connectors and when cleaning connector end caps.
- Always install or leave end caps on connectors when they are not in use.
- If you have any degraded signal problems, clean the fiber optic connector.
- Advance a clean portion of the ferrule cleaner reel for each cleaning.
- Turn off optical power before making or breaking optical connections to avoid microscopic damage to fiber mating surfaces.

To Clean Optical Connectors



Warning:

- **Avoid personal injury!** Use of controls, adjustments, or procedures other than those specified herein may result in hazardous radiation exposure.
- **Avoid personal injury!** The laser light source on this equipment (if a transmitter) or the fiber cables connected to this equipment emit invisible laser radiation.
- **Avoid personal injury!** Viewing the laser output (if a transmitter) or fiber cable with optical instruments (such as eye loupes, magnifiers, or microscopes) may pose an eye hazard.

- Do not apply power to this equipment if the fiber is unmated or unterminated.
- Do not stare into an unmated fiber or at any mirror-like surface that could reflect light emitted from an unterminated fiber.
- Use safety-approved optical fiber cable to maintain compliance with applicable laser safety requirements.

Important: Ensure that no optical power is present prior to this procedure.

- 1 Turn optical power off to the connector.
- 2 Using an optical connector scope, inspect the connector for scratches, burns, or other signs of damage.

Note: If the connector is damaged, replace the jumper.

- 3 If the connector requires cleaning, swipe it across the face of the appropriate ferrule cleaner several times.

Result: This will remove dust and some films.

Note: You may hear a slight "squeak" while cleaning the connector, indicating that it is clean.

- 4 Inspect the connector again. If the connector requires further cleaning, clean it using 99% isopropyl alcohol and a lint-free wipe.
- 5 Swipe the connector across the face of the appropriate ferrule cleaner several more times to remove any film left by the alcohol.
- 6 Repeat all the steps above as needed until the connector is clean.

Connecting Optical Cables

Fiber Fish Tool



WARNING:

Unterminated fiber cables and connectors may emit invisible laser radiation. Avoid direct exposure to the laser light source. Ensure that the fiber cable is terminated before "fishing."

The Fiber Fish tool that was shipped with the Prisma II Chassis is used to pull an optical cable from the rear of the chassis to the front of the chassis so the optical cables can be connected to optical connectors on the front panel of modules.



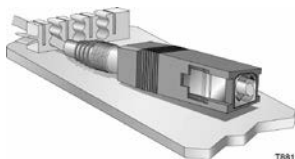
Fiber Fish Tool Hook

At the end of the Fiber Fish tool is a small hook that allows you to hold an optical cable so that you can pull it through to the front panel of chassis.



To Pull the Optical Cable to the Module

- 1 Insert the Fiber Fish tool through the slot located just above the bottom of the chassis.
- 2 At the rear of the chassis, locate the appropriate optical cable.
- 3 Insert the optical cable into the notched area of the Fiber Fish tool as shown below.



- 4 At the front of the chassis, pull the Fiber Fish tool (with cable attached) to the front of the chassis.
- 5 Disengage the optical cable from the Fiber Fish tool and attach to the appropriate connector on the desired module.

To Connect Optical Cables

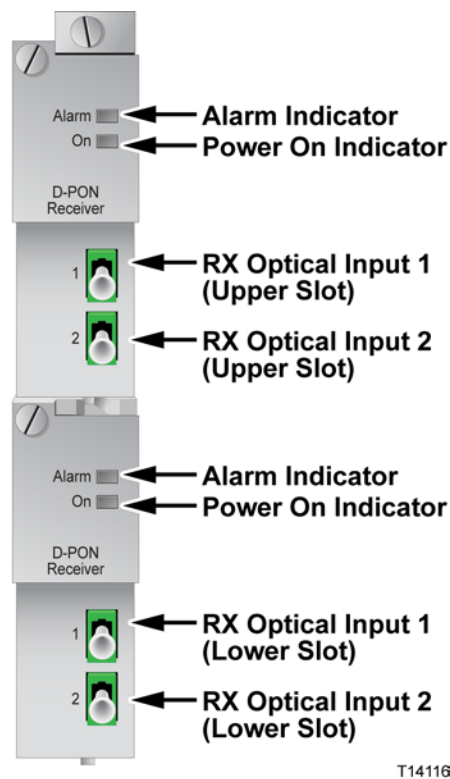
Note: This procedure assumes that the chassis is mounted in a rack.

Important: Observe laser safety precautions. Refer to the **Laser Safety** information earlier in this guide.

Complete the following steps for each optical cable to be connected to the module.

Verify that you are using the proper style optical connector for this module. Blue-bodied bulkhead adapters indicate UPC (straight) connectors, while green-bodied bulkhead adapters indicate APC (angled) connectors.

Attach one end of the optical cable to the optical input connector located on the front of the module.



Route the other end of the cable to the appropriate destination.

3

Module Operation

Introduction

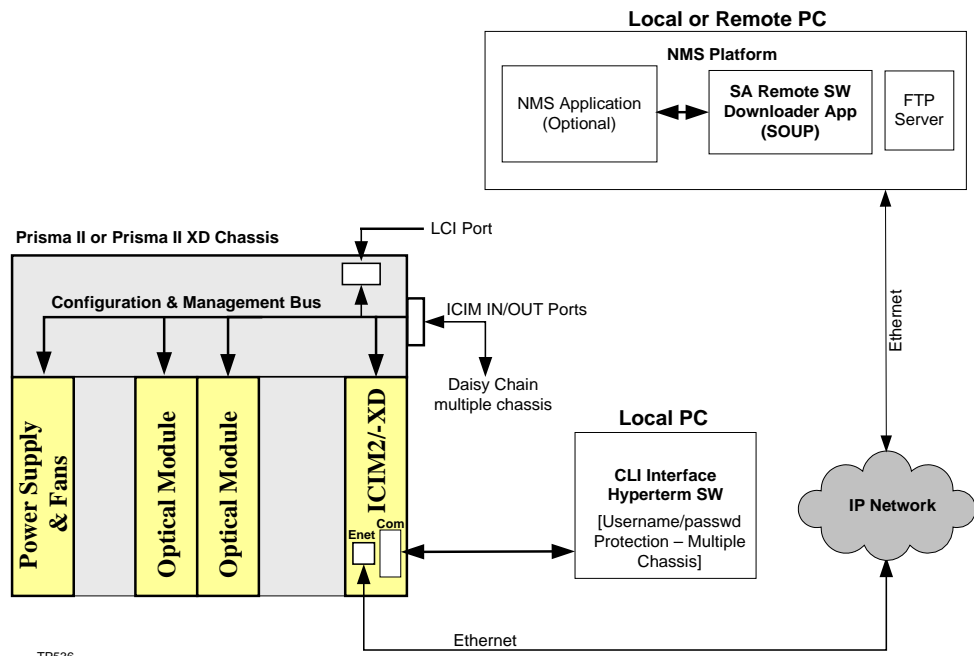
This chapter describes the procedures for using CLI commands to set up and monitor the Prisma D-PON Dual Receiver.

Refer to *Module Introduction* (on page 1) for an overview of module operating features, and for a list of other configuration and monitoring methods and related documents.

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■ Using the CLI.....	31
■ Module Commands.....	38
■ ICIM Commands	47
■ Terminal Commands.....	55
■ Using the ICIM Web Interface	64
■ Working with Receiver Parameters	67

Platform Configuration



Using the CLI

CLI Overview

The command line interface (CLI) supports monitoring and control of the ICIM2-MSO or ICIM2-XD and its domain. The ICIM domain includes the chassis in which the ICIM is installed, the application modules installed in the chassis, and any daisy-chained chassis and their application modules.

The CLI is designed for use by craft operators as well as by remote monitoring systems. To meet both needs, CLI accepts commands in either of two formats:

- A modal format allows craft operators to first select one of four command modes, and then make use of mode-specific monitoring or control commands and help screens.
- A non-modal format allows an operator or network management system to enter all parameters for a particular control or monitoring command, including command mode changes, on a single line.

CLI Command Modes

All CLI interactions occur in one of four command modes. Command modes affect the scope of the commands entered as well as how they are interpreted.

Mode	Description
CLI	The default command mode at login, used for issuing CLI commands to perform general control and monitoring tasks
Module	Used to issue Module mode commands, which are directed to a specific module or range of modules installed in the ICIM domain
ICIM	Used to issue ICIM mode commands, which are directed to the ICIM itself
Terminal	Used to issue Terminal mode commands, which control the way that information is displayed onscreen

The current command mode is indicated by the onscreen prompt, as follows:

Prompt	Meaning
CLI>	CLI command mode now in effect
/ MODULE>	Module command mode now in effect; no chassis or slot specified (see below for details)
ICIM>	ICIM command mode now in effect
TERMINAL>	Terminal command mode now in effect

Selecting Command Modes

CLI mode is the default command mode at login. A different command mode is selected by entering the desired mode name at the CLI command prompt.

The following sample dialog shows how you would change from CLI mode to Module mode:

```
CLI> module <Enter>
*/ * MODULE>
```

You can then use any CLI commands recognized in Module command mode.

To exit Module mode and return to CLI mode, use the **exit** command as follows:

```
*/ * MODULE> exit <Enter>
CLI>
```

If desired, you can then change to **icim** command mode as follows:

```
CLI> icim <Enter>
ICIM>
```

You cannot change command modes directly, e.g., by typing **terminal** at the ICIM> prompt. Instead, you must change the command mode by first returning to CLI mode, and then selecting the new mode, as shown below:

```
ICIM> exit <Enter>
CLI> terminal <Enter>
TERMINAL>
```

Entering Commands - Modal Format

Craft operators typically enter commands modally; that is, by first changing to the appropriate command mode and then entering the desired command.

The following sample dialog illustrates this process.

```
CLI> module <Enter>
*/ * MODULE> chassis 1 slot 6 <Enter>
01/06 MODULE> alarm <Enter>
No active alarms found

Success!
01/06 MODULE>
```

The first line of this example selects the Module command mode. In the next line, the prompt changes to reflect the new command mode. The command on this line selects chassis 1, slot 6 as the object of subsequent commands. On pressing Enter, the prompt changes from */ * MODULE> to 01/06 MODULE> to reflect this selection.

The next line issues the **alarm** command. The response on pressing **Enter** reflects the alarm status for all of the modules installed in or daisy-chained with Chassis 1.

Modal command entry is often helpful for human operators. It can minimize the need for keystrokes in some cases, saving time and eliminating a possible source of error. Modal operation can also help to streamline the work flow by focusing commands and human attention on a particular chassis or module of interest.

Entering Commands - Non-Modal Format

A non-modal command is entered all at once, on a single command line. For example, the **alarm** command entered above could have been entered as follows:

```
CLI> module chassis 1 slot 6 alarm exit <Enter>
No active alarms found

Success!
CLI>
```

Because of its relative efficiency, this is the preferred command entry format for network management systems. Craft operators may also find non-modal command entry to be more efficient when they are already very familiar with the syntax of the command being used.

Command Syntax

The general format of a non-modal CLI command, as it usually should be sent from a network management system, is as follows:

```
modename modeoptions action actionoptions values exit eol
```

where the keywords in the command serve the following functions:

Keyword	Function
modename	The name of a mode switch: cli , module , icim , or terminal
modeoptions	Options that may be associated with the modename
action	A command keyword such as set , show , info , etc.
actionoptions	Options that may be associated with the action
values	Values that may be associated with the action
eol	End of Line, equivalent to Carriage Return or Enter
exit	Used to return to CLI command mode

The general format of a modal CLI command, as a craft operator might send it, is as follows:

```
ModeName modeOptions eol
modeOptions eol
modeOptions Action actionOptions Values eol
Action actionOptions Values eol
Exit eol
```

where the keywords have the same functions as described above for the non-modal format.

Usage Guidelines

- CLI commands, unlike login passwords, are insensitive to case. For example, the keywords **Set**, **set**, and **SET** all have the same meaning in CLI.
- If a particular action requires modeoptions that are not included in the command, an error message will be issued.

- In general, CLI commands issued from a network monitoring system should have the non-modal "single-line" form shown above. Exceptions may be made where they will improve efficiency.
- Mode changes can be used to restrict the scope of most CLI commands. When the command mode changes, the prompt changes to reflect the new mode.

End of Line

The CLI syntax is command-line oriented. Accordingly, the **eol** delimiter (shown as \n in the grammar) is functionally equivalent to Carriage Return or Enter; that is, it terminates the command. The eol delimiter cannot be used to split a single command across two or more lines.

Shown below, for example, is a legal form of a **set** command within **module** mode as a craft operator might enter it:

```
20/11 Module> set control enable 1 eol
```

However, the following form of the same command is not legal:

```
20/11 Module> set control eol (continue the command on the next line)
20/11 Module> enable 1 eol
```

Wildcards

Some CLI command parameters can include one or more wildcard characters (*) to give added flexibility.

The following sample dialog shows how a craft operator could use a wildcard to check the output power on all modules in chassis 20:

```
CLI> module chassis 20 slot * <Enter>
20/* MODULE> show monitor outpwr <Enter>
```

MODID	NAME	VALUE	UNITS
20/05	OutPwr	-5.33429	dBm
20/07	OutPwr	10.086	dBm
20/13	OutPwr	-6.15736	dBm

```
SUCCESS!
20/* MODULE>
```

The first line in this example changes from CLI mode to Module mode and specifies chassis 20, any (*) slot. On the next line, the prompt has changed to reflect the new mode and chassis specification. The **show** command entered at this prompt, followed by the arguments **monitor** and **outpwr**, specifies that the response should include only those modules for which outpwr is a monitored parameter. The response to this command identifies each applicable module by chassis and slot location and displays the current output power level in dBm.

The next sample dialog shows how a craft operator could use a wildcard to check all monitored parameters whose name contained **pwr**:

```
CLI> module chassis 20 slot * <Enter>
20/* MODULE> show monitor *pwr* <Enter>

  MODID  NAME      VALUE      UNITS
  20/05   OutPwr    8.3       dBm
  20/07   OutPwr    5.91542   dBm
  20/14   OutPwrA   18.9057   dBm
  20/14   OutPwrB   18.8904   dBm

SUCCESS!
20/* MODULE>
```

As can be seen from the response, the pattern matching and keyword matching is caseless, so the OutPwr and InPwr parameters are included even though a lowercase P was used in the command line. Wildcards default to MS Windows filename pattern matching format, where **?**, *****, and **[x-y]** have special meaning. This format can be adjusted using the Terminal command Pattern to use POSIX regex wildcards. See *Terminal Commands* (on page 55) for additional information.

Note: Wildcards are never allowed anywhere in a Set command.

Command Hints and Help

Abbreviations and Shortcuts

In general, the CLI interpreter recognizes the shortest character string that unambiguously identifies a keyword (command or argument). In the CLI command mode, for example, the entry of either **m** (or **mod**, etc.) is recognized as the **module** command.

The table below lists other "shortcuts" available to users in all CLI command modes.

Shortcut	Description
TAB	Automatically completes typing of a keyword
ESC	Displays a list of expected keywords or tokens
BACKSPACE ^H	Erases characters to the left of the text cursor
^A	Displays the current input with all keywords expanded
^D	Performs a logout when typed at the beginning of a line
^L	Displays the current input as received by the command interpreter; used for testing line noise
^P	Moves the text cursor to a previous command line (limited)
^X	Cancels the current input line

Note: While useful for craft operators, avoid using abbreviations and shortcuts in network management system commands, as they are a potential source of error.

Alarm Information

You can use the **alarm** command in any command mode to get a list of currently active alarms in the ICIM domain. You can also change command modes or additional arguments to narrow the scope of the response, as explained later in this chapter.

Getting Online Help

Craft operators can type **help** (or the ? character) and then press **Enter** to view online help screens for each command mode.

The help screens for Module, ICIM, and Terminal modes can be viewed while in CLI mode by using the following commands:

- help module
- help terminal
- help icim

Note: A summary of recognized CLI commands by command mode is also provided in *Prisma II Permitted CLI Commands* (on page 75).

Login and Logout

To use the CLI, you must first establish communication with a chassis in one of three ways:

- Use Telnet as described in the *Prisma II Platform System Guide, System Release 2.03*, part number 4025478 or *Prisma II XD Platform System Guide, System Release 2.03*, part number 4025479.
- Use HyperTerminal as described in the *Prisma II Platform System Guide, System Release 2.03*, part number 4025478 or *Prisma II XD Platform System Guide, System Release 2.03*, part number 4025479.
- Use your network management system (see your network administrator for assistance).

Once communication is established, the control console or PC displays the following message from the ICIM:

```
-----  
                        W A R N I N G  
-----  
  
Unauthorized or improper use of this system may result in  
administrative disciplinary action and civil or criminal penalties.  
By continuing to use this system you indicate your awareness of and  
consent to these terms and conditions of use.  LOG OFF IMMEDIATELY  
if you do not agree to the conditions stated in this warning.  
  
login:
```


Login

Complete the following steps to log into the CLI.

- 1 At the login prompt, type your assigned user name (or if none is assigned, type **Administrat0r**), and then press **Enter**. The user name is case-sensitive.
- 2 At the password prompt, type your assigned password (or if none is assigned, type **AdminPassw0rd**), and then press **Enter**. The password is case-sensitive.

An acknowledgement similar to the following appears:

```
Login of user "Administrat0r" successful  
Welcome to the ICIM User Interface
```

```
Proceed to CLI at the shell prompt  
shell>
```

- 3 To enter the CLI, type **cli** at the shell prompt, then press **Enter**. The prompt changes as shown below.

```
CLI>
```

You can now use CLI commands to interact with the ICIM2.

Logout

To log out of the CLI and exit the session, type **logout**, then press **Enter**.

Note: CLI always recognizes the **logout** command, regardless of the current command mode.

Module Commands

Overview

Basic Command Syntax

The general non-modal form of a Module command is as follows:

```
MODULE Modspecs Command args ... Exit
```

Modspecs, or module specifications, are the parameters that identify the chassis and slot to be addressed by the command.

- The keyword **chassis** specifies the affected chassis.
- The keyword **slot** specifies the affected slot or slots.

For example, the command **module chassis 20 slot 11** selects slot 11 of chassis 20 as the object of the command arguments (if any) that follow. Once this command is entered, the Module prompt changes to reflect the current module specification.

The following exchange shows how a craft operator might specify slot 11 of chassis 20 before performing a series of checks on the module installed there:

```
/* MODULE> module chassis 20 slot 11 <Enter>
20/11 MODULE>
```

Entering Modspecs

The **chassis** keyword may be used to specify a single chassis, a range of chassis, or with the wildcard character (*), all chassis in the ICIM domain, as shown in this dialog:

```
/* MODULE> chassis 10
10/* MODULE> chassis [2-87]
[02-87]/* MODULE> chassis *
/* MODULE>
```

Similarly, the **slot** keyword may be used independently to specify a single slot, a range of slots, or all slots in the ICIM domain, as shown in this dialog:

```
10/* MODULE> slot [2-18]
10/[02-18] MODULE> slot 15
10/15 MODULE> slot *
10/* MODULE>
```

The chassis and slot also may be specified together by using the single keyword **modid**, as shown here:

```
[10-34]/01 MODULE> modid [1-5]/[4-13]
[01-05]/[04-13] MODULE> modid 0512
05/12 MODULE> modid *
/* MODULE>
```

The modid method can be somewhat faster to enter, but the resulting dialog may be less readable than when using the chassis and slot keywords.

Module Command Prompt

The Module command prompt always indicates the current module specification, as shown in the following examples.

Prompt	Meaning
<code>*/* MODULE></code>	The modspec is "wild." The command will include all slots and chassis in the ICIM domain.
<code>20/* MODULE></code>	The modspec specifies a chassis but not a slot. The command will address all slots (modules) in chassis 20.
<code>*/11 MODULE></code>	The modspec specifies a slot but not a chassis. The command will address slot 11 of all chassis in the ICIM domain.
<code>20/11 MODULE></code>	The modspec specifies a chassis and a slot. The command will address only slot 11 of chassis 20 in the ICIM domain.
<code>[1-7]/[4-15] MODULE></code>	The modspec indicates a range of slots and chassis. The command will address slots 4-15 of chassis 1-7 in the domain.

Note:

- Modspecs persist when exiting and re-entering Module command mode, but do not affect the scope of operation in other (CLI, ICIM, Terminal) command modes.
- When specifying a range of chassis or slots, the range need not be fully populated. For example, the chassis range [1-7] does not require that there be seven chassis; it only means that chassis numbers within that range will be included.
- For a network management system or other automatic control interface, a specific chassis and slot are required for backward compatibility, and should always be specified.
- For craft operators, ranges may be specified for non-set commands, and module specifications may be concatenated.

Alarm Command

The **alarm** command is used to display all active alarms in the domain of the ICIM.

The following sample dialog illustrates the use of this command:

```
20/* MODULE> alarm <Enter>
    No active alarms found
SUCCESS!
20/* MODULE>
```

This response indicates that no alarms are currently active anywhere in the ICIM domain. The scope of response is not limited to chassis 20, despite the current status of the Module prompt.

Alarm Module

The argument **module** can be added to modify the scope of the command to include only the active alarms in the range indicated by the current Module prompt.

The following sample dialog shows how this argument affects the response.

```
20/* MODULE> alarm module <Enter>

    No active alarms found

SUCCESS!
20/* MODULE>
```

This response indicates that no alarms are currently among the modules installed in chassis 20. Alarms that may exist in other chassis are not reflected.

Show Command

The **show** command (at the Module prompt) is used to display the values of parameters specified by one of four following arguments: **control**, **monitor**, **alarmstate**, or **alarmparam**. These arguments, in turn, are followed by the name of a control (or monitor or alarm) to match against. This name can be the complete name or a pattern that includes one or more wildcard characters (*).

Show Control

The following sample dialogs using the **control** argument show the use of both complete names and wildcards, as well as the kinds of information returned.

```
*/ * MODULE> show control enable <Enter>

MODID  NAME      SETTING  UNITS
20/05  Enable    On (1)
20/06  Enable    On (1)
20/07  Enable    On (1)
20/09  Enable    On (1)
20/13  Enable    Off (0)

SUCCESS!
*/ * MODULE>

*/ * MODULE> show control *serv* <Enter>

MODID  NAME      SETTING  UNITS
01/07  Service  Off (0)
01/08  ServiceA Off (0)
01/08  ServiceB On (1)

SUCCESS!
*/ * MODULE>
```

Show Monitor

The sample dialog below shows the kind of information returned by the **monitor** argument.

```
*/ * MODULE> show monitor *pwr <Enter>
```

MODID	NAME	VALUE	UNITS
20/05	OutPwr	8.29224	dBm
20/06	InPwr	5.91542	dBm
20/06	OutPwr	18.9929	dBm
20/13	InPwr	17.2202	dBm
20/13	OutPwr	19.4671	dBm

SUCCESS!

```
*/ * MODULE>
```

Note:

- The information returned by the monitor argument includes units of measurement.
- InPwr values are stated to several decimal places, but only the first 2 or 3 are significant.

Show Alarmstate

The following sample dialog shows the kind of information returned by the **alarmstate** argument.

```
*/ * MODULE> show alarmstate *pwr <Enter>
```

MODID	NAME	STATE
20/05	OutPwr	0 (major low)
20/06	InPwr	0 (major low)
20/06	MaxInPwr	0 (ok)
20/07	OutPwr	2 (ok)
20/08	XSPwr	0 (ok)
20/13	OutPwr	0 (major low)
20/13	InPwr	0 (major low)

SUCCESS!

```
*/ * MODULE>
```

Note: The information returned by the **alarmstate** argument provides both the numeric value and its meaning.

Show Alarmparam

Alarms also have parameters, such as thresholds. Accordingly, the **alarmparam** argument is in turn followed by an argument that specifies one of five parameters: **hysteresis**, **majorhigh**, **majorlow**, **minorhigh**, and **minorlow**.

The following sample dialog illustrates the use of these arguments.

```
*/ * MODULE> show alarmparam *pwr minorhigh <Enter>
```

MODID	NAME	MinorHigh
20/05	OutPwr	1
20/06	InPwr	5
20/06	MaxInPwr	N/A

SUCCESS!

```
*/ * MODULE>
```

Note:

- The returned value of **N/A** shown above indicates that the alarm does not have the requested parameter.
- Some alarm values can also be changed by a craft operator or network management system. See the **set alarmparam** command for details.

Show Module

This command is used to generate a list of information for specified modules that will help with their physical identification.

The following is a sample craft operator dialog using **show module** to display information for the modules in slots 3, 4, and 5 of all chassis in the ICIM domain:

```

/* MODULE> slot [3-5] <Enter>
*/[03-05] MODULE> show module <Enter>

MODID  MODTYPE      NAME                                SERIAL
20/03   Prisma II    Power Supply 3 / Fan Tray         ^ABCDEFGF
20/05   9x19dBm      Prisma II Hybrid Amp              ^AAG1AZI

SUCCESS!
*/[03-05] MODULE>

```

Info Command

The **info** command (at the Module prompt) is used to display more detailed information than is returned by using the **show** command. The command can be followed by the argument **control**, **monitor**, **alarm**, or **module**, which, in turn, is followed by one or more arguments further specifying the type of information to be returned.

The details or characteristics that can be requested for each argument include the following:

Argument	Details	Description
Alarm	Hysteresis	threshold hysteresis value
	Index	alarm number, starting at 1, in the list of alarms
	Label	name of the alarm
	Limitadjust	allowed if alarm is adjustable, not allowed if not
	Majorhigh	High Major threshold
	Majorlow	Low Major threshold
	Minorhigh	High Minor threshold
	Minorlow	Low Minor threshold
	Nominal	alarm nominal value
	Rangehi	upper limit for this threshold

Argument	Details	Description
	Rangelo	lower limit for this threshold
	Type	alarm type (1, 2, and 7 are adjustable)
	Value	alarm state
Control	Index	control number, starting at 1, in the list of controls
	Label	name of the control
	Rangehi	upper limit for this control
	Rangelo	lower limit for this control
	Rangestep	smallest increment allowed
	Statenames	list of symbolic control values
	Type	control type: D(igital), F(loat), B(oolean), S(tate)
	Units	control unit
	Value	control setting
Monitor	Index	monitor number, starting at 1, in the list of monitors
	Label	name of monitor
	Statenames	list of symbolic values
	Type	value type: D(igital), F(loat), B(oolean), S(tate)
	Units	units of measurement
	Value	value
Module	Activerev	active software image revision for the module
	Bootrev	current boot image revision for the module
	CLEI	Common Language Equipment ID code for module
	CLLI	Common Language Locator ID code for module
	Coderev	code revision
	Datecode	manufacturing date (encoded)
	Devtype	numeric type value used for element manager
	Downldable	module can be downloaded with new firmware
	Inactiverev	inactive software image revision for the module
	Mandata	manufacturing data
	Modtype	manufacturing data (alias for MANDATA)
	Name	name of module
	Nextimage	flash bank where active image resides

Argument	Details	Description
	Numanalogcontrols	number of analog controls
	Numcontrols	total number of controls
	Numdigitalcontrols	number of digital controls
	Nummonits	number of monitored values
	Numofalarms	number of alarms
	Scriptrev	script revisions
	Selftest	status of module self test
	Serial	serial number
	Tos	time of service

The following sample dialog illustrates the use of the **info** command to view the **value** and **statenames** characteristics for the **cross** control:

```

/* MODULE> info control cross value statenames <Enter>

MODID  NAME    VALUE      STATENAMES
20/08  Cross   False (0)  False (0), True (1)

SUCCESS!
/* MODULE>

```

In the example above, the control's name pattern was explicit (no wildcards). The details to be listed were Value and the available StateNames (not all controls and monitors have StateNames). In this case, the value is 0 (False).

The next example shows how a network management system might construct an **info** command to determine the domain of an ICIM. Note how a Terminal command is first issued to define the vertical bar (|) character as a column separator to be used for any subsequent output. See *Terminal Commands* (on page 55) for details.

```

CLI> terminal colsep "|" paging 0 exit

CLI> module chassis * slot * info module devtype name exit

CHASSIS|SLOT|TYPE|NAME
20|3|5000|Power Supply 3 / Fan Tray
20|5|1001|1310nm Forward Transmit
20|6|2002|Forward Receiver
20|7|1001|1310nm Forward Transmit
20|8|4000|Optical Switch
20|9|3011|FHEDA
20|13|3000|1550nm Optical Amplifier
20|14|2000|Reverse Data Receiver

SUCCESS!
CLI> logout

```

As can be seen from the resulting output, the Terminal command has an immediate effect on the output, with the columns in each line of the response separated by | characters. This makes it easy for the network management system to parse the response.

Reset Command

The reset command is used to set all controls and alarms in a specified application module to its factory defaults.

Because this action is potentially severe, this command can only be executed by an Admin user, and a dialog is presented for confirmation. The reset command is only supported by the new CCB3 modules.

Note: In the factory default state, this module has its outputs disabled. Thus, resetting the module results in loss of output signal.

Set Command

The set command is used to assign a value to one or more parameters specified by a subsequent **control** or **alarmparam** argument.

Set Control

The set control command is followed by two additional arguments. The first identifies the control, while the second specifies the value to be assigned.

Important: To avoid possible system disruption, broadcast **set** commands are not supported. This means that the **set control** command can only be applied to one module (chassis and slot number) at a time. If a specific chassis and slot number are not specified in advance, the CLI interpreter will disallow the command. In addition, the name of the control to be changed must be explicit; no wildcard characters are permitted.

The following example shows how a craft operator might use **set control** to disable the module in slot 5 of chassis 20, and then use **show control** to confirm the change.

```
*/05 MODULE> module chassis 20 <Enter>
20/05 MODULE> set control enable 0 <Enter>
```

```
SUCCESS!
20/05 MODULE> show control enable <Enter>
```

MODID	NAME	SETTING	UNITS
20/05	Enable	0	

```
SUCCESS!
20/05 MODULE>
```

This example shows what would happen if the operator had omitted the initial step of specifying the chassis:

```
*/05 MODULE> set control enable 0 <Enter>
```

```
Error: This command can only be used at an explicit Chassis and Slot prompt
Set the chassis and slot to specific values before using this command
```

```
*/05 MODULE>
```

Set Alarmparam

The CLI can be used to change the parameters of alarms that do not shut down a module. These alarms are the "user" alarms of types 1, 2, and 7. While a full description of the various alarm types is outside the scope of this document, it is important here to note that any attempt to change an alarm's parameter will only be effective if that alarm is of type 1, 2, or 7.

The **set alarmparam** command is typically used in conjunction with the **info** command to first learn about alarm type and status, and then change alarm status where appropriate and allowed.

The following sample dialog shows the **info** command can be used to first learn about all (*) alarms in Module 2006, i.e., the module installed in chassis 20, slot 06:

```
20/06 MODULE> info alarm * type majorlow minorlow majorhigh minorhigh <Enter>
```

MODID	NAME	TYPE	MAJORLOW	MINORLOW	MAJORHIGH	MINORHIGH
20/06	PsOk	6	N/A	N/A	N/A	N/A
20/06	OutPwr	1	-1	-0.7	1	0.7
20/06	IntPs	6	N/A	N/A	N/A	N/A
20/06	Enable	6	N/A	N/A	N/A	N/A
20/06	LasTemp	3	-20	-15	20	15
20/06	LasBias	1	-2	-1	-0.001	-0.01
20/06	InPwr	1	-16	-5	45	25
20/06	Service	5	N/A	N/A	N/A	N/A

SUCCESS!

```
20/06 MODULE>
```

This response shows that the OutPwr, LasTemp, LasBias, and InPwr alarms all have majorlow and majorhigh parameters. However, only InPwr, OutPwr, and LasBias can be changed, as LasTemp is of type 3 rather than 1, 2, or 7.

The following sample dialog shows how a craft operator would set the **majorhigh** parameter of **outpwr** to 35°C, and then confirm the change.

```
20/06 MODULE> set alarmparam outpwr majorhigh 35 <Enter>
```

SUCCESS!

```
20/06 MODULE>
```

```
20/06 MODULE> info alarm * type majorhigh
```

MODID	NAME	TYPE	MAJORHIGH
20/06	PsOk	6	N/A
20/06	OutPwr	1	35
20/06	IntPs	6	N/A
20/06	Enable	6	N/A
20/06	LasTemp	3	15
20/06	LasBias	1	-0.01
20/06	InPwr	1	25
20/06	Service	5	N/A

SUCCESS!

```
20/06 MODULE>
```

ICIM Commands

ICIM commands provide for monitoring and control of the ICIM itself and for the ICIM domain in general.

Alarm Command

The **alarm** command is used to display all active alarms in the domain of the ICIM.

The following sample dialog illustrates the use of this command:

```
ICIM> alarm <Enter>
    No active alarms found
SUCCESS!
ICIM>
```

This response indicates that no alarms are currently active anywhere in the ICIM domain. To narrow the command scope to specific chassis or modules, use this command in Module mode together with the **module** option, as described in *Module Commands* (on page 38).

Info Command

The **info** command is used to request a listing of one or more parameter values specific to the ICIM module itself.

The general command syntax is as follows:

```
info argument argument ... argument
```

where each **argument** can have one of the values listed in the table below.

Value	Function
ACTIVEREV	Active software image revision for the ICIM
ATTNSTATUS	Value for the Attention line (Low is normal)
BOOTREV	Current boot image revision for the ICIM
CHASSIS	Chassis containing the ICIM
CLEI	Common Language Equipment ID code for the ICIM
CLLI	Common Language Locator ID code for the ICIM
COMMREAD	Sets the SNMP Community Read string
COMMTRAP	Sets the SNMP Community Trap string
COMMWRITE	Sets the SNMP Community Write string
DEVTYPE	Devtype for the ICIM2 or ICIM2-XD
DOWNLDCMD	Download command (used by SOUP)

Value	Function
DOWNLDDIR	Directory path for FTP, excluding filename (used by SOUP)
DOWNLDFILE	Filename only of image to FTP (used by SOUP)
DOWNLDRESULT	Download progress status and result (used by SOUP)
DOWNLDSEM	Application security semaphore (used by SOUP)
DOWNLDSIG	Application security information (used by SOUP)
DOWNLDSTATE	State machine value to indicate FTP/download progress (used by SOUP)
DOWNLDTGT	Module (chassis and slot) to upgrade with release image (used by SOUP)
DOWNLDUSER	Application User ID to ensure only one instance (used by SOUP)
FTPSEVER	IP address of FTP Server (used by SOUP)
FTPUSER	User name for an FTP account
GATEWAY	IP address of TCP/IP gateway, for packet routing
HWREV	Hardware Revision
INACTIVEREV	Inactive software image revision for the ICIM
IP	TCP/IP address of the ICIM
IPSEC	Reserved for future use
MAC	MAC Address, used in low-level Ethernet routing
MANDATA	Manufacturing data
NEXTIMAGE	The image to be active after the next reboot
PREVIOUSIP	Value of the TCP/IP before it was last changed
SELFTEST	Results of the ICIM self test
SERIAL	Serial number of the ICIM
SIZE	Number of modules in the ICIM domain
SLOT	Chassis slot number for the ICIM (15 for ICIM2, 17 for ICIM2-XD)
SMC	The value (Chassis * 100) + Slot for the ICIM
STATUSMSG	Status and Error message information
SUBNET	Subnet mask, such as 255.255.255.0
SWDATE	Software date (obsolete)
SWREV	Software revision (obsolete)
THRESHOLD	Login attempts threshold value
TIMEOUT	User session inactivity timeout value
TOS	Time of Service of the ICIM

Value	Function
TZONE	Time zone string setting
UPDATEID	Always zero (0); this is a write-only value

Any number of these values can be listed, and the output returns the values in the order requested.

The sample dialog below shows how this command might be sent by a network management system.

```
CLI> icim info IP devtype serial swrev attnstatus size exit
IP          DEVTYPER SERIAL   SWREV    ATTNSTATUS  SIZE
172.23.200.154 5011    AADORTI  0.00.15   0           8
SUCCESS!
CLI>
```

Show Command

The **show** command is used to request information about the ICIM settings in the **info** command and about the elements in the ICIM domain, how they are currently provisioned (configured), and what traps are defined in the Traps table. The basic command syntax is:

```
show argument
```

where **argument** specifies whether the request is for those items in the **info** command, or for **domain**, **provisioning**, **traps**, or **clock** information, as further explained below.

Show Domain

This command displays a list of all of the modules in the ICIM domain. The sample dialog below illustrates the use of this command.

```
ICIM> show domain <Enter>

MODID  DEVTYPER SERIAL   ACTIVEREV  CODEREV  NAME
20/03  5010    1234567  1.00.05    CF_CCB3  Power Supply 3 / Fan Tray
20/05  1031    12345678 1.65.00    CF_CCB3  1550nm EM TX FTTP
20/07  3030    AACZOIF  1.00.05    CF_CCB3  1550nm Pre-Amp FTTP
20/08  3031    !AAGJUHB 1.00.05    CF_CCB3  1550nm Post-Amp FTTP
20/05  3019    AAG1AZI  1.01.02    CF_CCB   Prisma II Hybrid Amp

SUCCESS!
ICIM>
```

In the response, each module is identified by its chassis and slot number (MODID) as well as by object type (DEVTYPER), serial number (SERIAL), software revision number (ACTIVEREV), and product description (NAME).

Show Provisioning

This command displays a list of the CLI commands needed to restore any replacement modules in the ICIM domain to their current operating states. This list can serve as a command reference to quickly configure a replacement module so that it operates identically to the original.

The output is intended primarily for use by a network management system, which would store the provisioning commands until needed. In the event that a module is replaced, the system would then send the provisioning commands required to configure the replacement module to match the operating state of the original.

The following sample dialog shows how a network management system might send the command, and includes a portion of a typical response.

```
CLI> icim show provisioning exit
. . . . .
Module  Chassis 20 Slot 5 Set Control Enable On EXIT
Module  Chassis 20 Slot 5 Set Control AGC On EXIT
Module  Chassis 20 Slot 5 Set Control RFDrive 0 EXIT
Module  Chassis 20 Slot 5 Set Control OMISet 0 EXIT
Module  Chassis 20 Slot 5 Set Control Master Master EXIT
Module  Chassis 20 Slot 5 Set Control CWMode Off EXIT
Module  Chassis 20 Slot 5 Set Control LenMode Off EXIT
. . . . .
```

Using the list requires first locating all command lines that target the chassis and slot location of the replacement module. The commands are then sent to the replacement module one at a time in the order listed. For example, after replacing the module in chassis 20 slot 6 in the above example, the commands on lines 6-9 of the response would be sent to configure the replacement module.

Note: The CLI has no mechanism for accepting multiple commands at a single prompt from either a craft operator or a network management system. It is necessary to send the first command, wait for a new prompt, send the next command, and so on until all commands are sent.

Show Traps

This command is used to display the current status of the Trap table. The basic syntax is as follows:

```
show traps
```

A typical response to this command is shown in the sample craft operator dialog below:

```
CLI> icim <Enter>
ICIM> show traps

IDX   STATE      IP Address
0     Enabled    172.18.50.41
1     Enabled    172.18.50.1
2     Enabled    172.18.50.6
3     Disabled   0.0.0.0
4     Disabled   0.0.0.0

SUCCESS!
ICIM>
```

Show Clock

Note that the **show** command supports access to the ICIM real time clock (RTC), as follows:

```
ICIM> show clock exit

MM-DD-YYYY   HH:mm:ss
11-15-2005   12:01:40

SUCCESS!
ICIM>
```

Set Command

The set command allows a single value to be set in the ICIM. The basic syntax is:

```
set argument value
```

Where **argument** is one of the values listed in the following table.

Value	Function
CLLI	Common Language Locator ID code for the ICIM
CLOCK	Date and Time as maintained by the ICIM
COMMREAD	SNMP Read Community string
COMMWRITE	SNMP Write Community string
COMMTRAP	SNMP Trap Community string
GATEWAY	IP address of the TCP/IP gateway, for packet routing
IP	TCP/IP address of the ICIM
STATUSMSG	Error or Status message
SUBNET	Subnet mask, such as 255.255.255.0
UPDATEID	Write-only; value of 1 causes ICIM to re-read ID of all modules

Some of these values (IP and GATEWAY, for example) result in changes to the ICIM NVRAM, but do not take effect until the next reboot.

Set Clock

This command allows the ICIM real time clock (RTC) to be set and confirmed by a single command, as shown in the following example.

```
ICIM> set clock 10/5/2005 12:40:00

MM-DD-YYYY   HH:mm:ss
10-05-2005   12:40:00

SUCCESS!
ICIM>
```

User Command

The **user** command permits control and monitoring of system users and their authorization levels. The basic syntax is as follows:

```
user argument value
```

where **argument** specifies whether the command is to **add**, **change**, **delete**, or **show** user information, as further explained below.

User Add

This command can be used by the Admin user to add a new login and password to the authentication table. A dialog is used to obtain the and validate the password. The new authorization level s given on the command line, and can be one of the following.

Authorization	Description
ADMIN	Equivalent to a Unix superuser (root) and should be allowed for only the most trusted logins. An Admin can change passwords, IP addresses, and other critical values.
READWRITE	Allows typical operations, including the ability to change control values and alarm parameters.
READ	Allows the user to read non-critical values only, and has no write permissions.

User Change

This command can be used by the Admin user to change the password of an existing user. A dialog is used to obtain and validate the new password. The basic syntax is as follows:

```
user change (username)
user add (username) (authorization level)
```

where

- **username** must be 6 to 14 characters in length, must contain both letters and numbers, and cannot contain special characters; for example, abc123.
- **authorization level** is either admin, readwrite, or read.

Note:

- After entering this command, you will be prompted to enter a password for the user. The password must be 6 to 14 characters in length, must contain both letters and numbers, but may contain special characters.
- This command cannot be used to change the authorization level of the user. To change authorization level, the user must be deleted and then added to the system again, but specifying a different new authorization level.

User Delete

This command can be used by the Admin user to delete a login. The command syntax is as follows:

```
user delete (username)
```

Note: Deleting a user that is already logged in does not terminate their current session.

User Show

This command can be used by the Admin user to list all the available logins and authorization levels. It does not display the passwords.

IPRoute Command

The **iproute** command permits control and monitoring of a list of up to four alternate gateways for routing TCP/IP packets. The basic syntax is as follows:

```
iproute argument
```

where **argument** specifies whether the command is to **add**, **delete**, or **show** the route information, as further explained below.

IPRoute Add

This command can be used to add a new entry to the list of alternate gateways for routing TCP/IP packets. If the list already contains four entries, at least one entry must be deleted using the **iproute delete** command before the new entry can be added.

IPRoute Delete

This command can be used to remove an entry from the list of alternate gateways for routing TCP/IP packets.

IPRoute Show

This command can be used to list all current entries in the listing of alternate gateways for routing TCP/IP packets.

Reboot Command

The **reboot** command causes the ICIM to be reset. The basic syntax is as follows:

```
reboot
```

Note: User of this command requires Admin user permissions.

Traps Command

The **traps** command allows the entries in the Trap table to be enabled or disabled, and allows the IP address of the Trap table to be set. The basic syntax is as follows:

```
traps trapenable trapindex [IPAddress]
```

where

trapenable is **enable** or **disable** to specify the command function.

trapindex is the table index (0-4).

[IPAddress] is the optional IP address to put in the table.

Note:

- Admin permissions are required to use this command.
- The Trap table has 5 entries, indexed 0-4. Each entry can be enabled by supplying a valid IP address, or if the table entry already has a valid IP address.
- When disabling an entry in the Traps table, you can specify an empty IP address, i.e., 0.0.0.0.

See the **Show Traps** section of *Show Command* (on page 49) for instructions on viewing selected portions of the Trap table.

Terminal Commands

Overview

Terminal commands are intended for control of the output or pattern matching format.

Note:

- Using the **alarm** command while in this mode shows a list of all active alarms in the ICIM domain.
- Using the **show** command while in this mode lists the current values for all terminal states.

Colsep Command

The **colsep** command controls the separation between columns of output in the display. By default, output is displayed in columns only slightly wider than are needed for the longest value in the column. Adding spaces between columns can make the output more legible to a craft operator, but may make output parsing more difficult for a remote network management system.

On the other hand, if network management software recognizes a specific character (such as |) as a column separator, the colsep command can be used to insert this character between columns in the output.

The basic command syntax is as follows:

```
colsep "string"
```

where **string** is the column separation character or characters, or is empty (") to specify default column separation.

In the sample dialog below, a network management system sends this command to enforce default column separation just before it sends a command requesting columns of output.

```
CLI> terminal colsep "" exit

CLI> module modid * show control *serv* exit

  MODID  NAME      SETTING  UNITS
  01/07  Service    Off (0)
  01/08  Service    Off (0)
  01/09  ServiceA    On (1)
  01/09  ServiceB    Off (0)

SUCCESS!
CLI>
```

The next example shows how the output could be modified to make it more easily parsed by another program, such as Microsoft Excel:

```
CLI> terminal colsep "," exit

CLI> module modid * show control *serv* exit

CHASSIS,SLOT,NAME,SETTING,UNITS
1,7,Service,Off(0),
1,8,Service,Off(0),
1,9,ServiceA,On(1),
1,9,ServiceB,Off(0),

SUCCESS!
CLI>
```

If the output data itself might contain columns, another character such as | can be used as a column separator, as shown in the following example:

```
CLI> terminal colsep "|" exit

CLI> module modid * show control *serv* exit

CHASSIS|SLOT|NAME|SETTING|UNITS
1|7|Service|Off(0)
1|8|Service|Off(0)
1|9|ServiceA|On(1)
1|9|ServiceB|Off(0)

SUCCESS!
CLI>
```

Paging Command

The paging command is used to control paging behavior for long CLI output. The basic syntax is as follows:

```
paging value
```

where **value** is zero (0) to disable paging completely, or a number 24 or greater to specify the height of the paging window in lines of text.

Disabling Paging

Normally, when a CLI response is too long to fit in a single 24-line Telnet window, the output is automatically paged using the familiar “more” format, as shown in the following example:

```
CLI> module modid * show control * exit
```

MODID	NAME	SETTING	UNITS
20/05	Enable	1	
20/05	CwMode	0	
20/05	LoRFInh	0	
20/05	Master	Slave (0)	
20/05	RFDrive	0	dB
20/06	Enable	1	
20/06	Master	1	
20/06	WaveLen	1550nm (1)	
20/06	NomPin	0	dBm
20/07	Enable	1	
20/07	CwMode	1	
20/07	LoRFInh	1	
20/07	Master	Master (1)	
20/07	RFDrive	0	dB
20/08	Cross	False (0)	
20/08	Bar	False (0)	
20/08	Mode	Auto (1)	
20/08	WaveLen	1550nm (1)	
20/08	NomPin3	0	dBm
20/08	NomPin4	0	dBm
20/08	Delta	6	dB
20/08	HystAmpl	3	dB

```
---line 23 of 51 total lines--Enter 'Q' to quit:
```

Craft operators can simply press **Enter** to display the next page of output. However, network management software may have difficulty working with this output format.

The **paging** command can address this problem by turning off all paging, as follows:

```
CLI> terminal paging 0 exit
CLI> module modid * show control * exit
```

MODID	NAME	SETTING	UNITS
01/05	Enable	On (1)	
01/05	AGC	On (1)	
01/05	RFDrive	0	dB
01/05	OMISet	0	dB
01/05	Master	Master (1)	
01/05	CWMode	Off (0)	
01/05	LenMode	Off (0)	
01/07	Enable	On (1)	
01/07	SetAtten	0	dB
01/07	Master	Master (1)	
01/07	LoInpEna	Off (0)	
01/07	Service	Off (0)	
01/08	Enable	On (1)	
01/08	SetAtten	0	dB
01/08	Master	Master (1)	
01/08	LoInpEna	Off (0)	
01/08	Service	Off (0)	
01/09	Enable	On (1)	
01/09	SetAtten	0	dB
01/09	Master	Master (1)	
01/09	ServiceA	Off (0)	
01/09	ServiceB	Off (0)	
01/12	Enable	On (1)	
01/12	SetAtten	0	dB
01/12	Master	Master (1)	
01/12	ServiceA	Off (0)	
01/12	ServiceB	Off (0)	
10/09	Enable	On (1)	
10/09	SetAtten	0	dB
10/09	Master	Master (1)	
10/09	LoInpEna	Off (0)	
10/09	Service	Off (0)	
76/06	Cross	False (0)	
76/06	Bar	False (0)	
76/06	Mode	Auto (1)	
76/06	WaveLen	1550nm (1)	
76/06	NomPin3	19	dBm
76/06	NomPin4	19	dBm
76/06	Delta	2	dB
76/06	HystAmpl	1	dB
76/06	HystTime	1	sec
76/06	Revert	Auto (1)	
76/06	PrimInp	Port_4 (1)	
76/06	DfltSw	Bar (1)	
76/08	Enable	On (1)	
76/08	SetAtten	0	dB
76/08	Master	Master (1)	
76/08	LoInpEna	Off (0)	
76/08	Service	Off (0)	
76/10	Enable	On (1)	
76/10	SetAtten	0	dB
76/10	Master	Master (1)	
76/10	ServiceA	Off (0)	
76/10	ServiceB	Off (0)	

```
SUCCESS!
CLI>
```

The **paging 0** setting can be useful in allowing a network management system or other interacting program to capture all CLI output at once.

Enabling Paging

When paging is enabled in CLI, a feature called Smart Paging attempts to determine the best Telnet window size automatically. If it cannot do so, Smart Paging uses the number of lines specified in the Paging command as the Telnet window size. Smart Paging has no effect when paging is disabled.

Pattern Command

The **pattern** command is used to select one of two pattern matching styles for the names of monitors, controls, and alarms:

- **wildcard** pattern matching specifies the standard Windows method, which uses `*`, `?`, and `[xyz]` patterns.
- **regex** pattern matching specifies POSIX regular expressions as used in many Unix or Perl programs.

The default is Windows-style wildcards. When this style is in effect, CLI interprets wildcards as shown in the following sample dialogs:

```
20/03 MODULE> show monitor ps*

MODID  NAME      VALUE      UNITS
20/03  Ps1Inst   0           Inst
20/03  Ps1+24V   0           V
20/03  Ps1+5V    0           V
20/03  Ps1-5V    0           V
20/03  Ps1Temp   0           degC
20/03  Ps3Inst   1           Inst
20/03  Ps3+24V   24.4629     V
20/03  Ps3+5V    5.39218     V
20/03  Ps3-5V    -5.43724    V
20/03  Ps3Temp   30.4215     degC

SUCCESS!
20/03 MODULE>

20/03 MODULE> show monitor ps*5*

MODID  NAME      VALUE      UNITS
20/03  Ps1+5V    0           V
20/03  Ps1-5V    0           V
20/03  Ps3+5V    5.39218     V
20/03  Ps3-5V    -5.43724    V

SUCCESS!
20/03 MODULE>
```

The Regex pattern matching style includes a much more powerful, but also more complex, pattern matching format, a description of which is beyond the scope of this document. For further information, refer to resources available on the public internet for Perl or Boost, such as:

- <http://perldoc.perl.org/>
- <http://www.boost.org/>

Headers Command

The **headers** command is used to enable or disable the display of column headers that may appear in CLI output. The basic command syntax is as follows:

```
headers value
```

where **value** is 0 to disable header display, and 1 (or any number other than 0) to enable header display.

Headers are enabled (1) by default, as shown in the sample craft operator dialog below:

```
20/03 MODULE> show monitor ps*5* <Enter>
```

MODID	NAME	VALUE	UNITS
20/03	Ps1+5V	0	V
20/03	Ps1-5V	0	V
20/03	Ps3+5V	5.39218	V
20/03	Ps3-5V	-5.43724	V

```
SUCCESS!
```

```
20/03 MODULE>
```

The following sample dialog shows how a craft operator might disable the column headers and confirm the change:

```
20/03 MODULE> terminal <Enter>
```

```
TERMINAL> headers 0 <Enter>
```

```
TERMINAL> module modid 2003 <Enter>
```

```
20/03 MODULE> show monitor ps*5* <Enter>
```

20/03	Ps1+5V	0	V
20/03	Ps1-5V	0	V
20/03	Ps3+5V	5.39218	V
20/03	Ps3-5V	-5.43724	V

```
SUCCESS!
```

```
20/03 MODULE>
```

Show Command

The **show** command is used to display the current values for terminal states. The basic command syntax is as follows:

```
show
```

A typical response to this command is shown in the following sample craft operator dialog:

```
TERMINAL> show <Enter>
Terminal Settings:
  COLSEP  " "
  PAGING  24 LINES PER PAGE
  PATTERN WILDCARD
  HEADERS  1 (Enabled)

SUCCESS!
TERMINAL>
```

Using the ICIM Web Interface

You can also use the ICIM Web Interface to configure equipment in the domain of the ICIM2 or ICIM2-XD. The ICIM Web Interface is menu-based and requires no knowledge of CLI or SNMP commands.

Note: The ICIM Ethernet port must be connected to an IP-based Ethernet network, or directory to a PC with similar subnet address.

This section describes the steps for logging in and out of the Web Interface. For additional details, see the *Prisma II Platform Remote User Interface Guide, System Release 2.03*, part number 4025477.

Login Settings

To use the Web Interface, you must enter a valid user name and password. The default user name and password are given below.

- User name: **Administrat0r**
- Password: **AdminPassw0rd**

Note:

- Both the default user name and the default password have a zero (0) in place of the expected "o" character.
- For security reasons, it is recommended that the default user name be changed immediately. For additional information, see **User Management** in the appropriate system guide.

To Change Login Defaults

Complete the following steps to change the default user name and password.

- 1 Add a new user having Admin Level privileges.
- 2 Log out of the default user account, and then log back in using the new Admin level account.
- 3 Locate the original default user name in the list of users. Click the **Delete** button beside the default user name to delete it from the list.

Important: Note your new login defaults for future reference. Failure to remember your new user ID and password may result in being locked out of the ICIM2 or ICIM2-XD permanently. You cannot revert to the default user name and password once they are deleted.

To Log In

Complete the following steps to log into the ICIM2 or ICIM2-XD.

- 1 Confirm that your web browser is set up as described in the *Prisma II Platform Remote User Interface Guide, System Release 2.03*, part number 4025477.
- 2 Obtain the actual IP address of the Web Interface Login page from your system administrator.
- 3 Open your web browser and type the IP address of the ICIM2 (e.g., **172.8.50.151**) in the browser address bar.
- 4 Press the **Enter** key or click the **Go** button. The ICIM Login page appears as shown below.

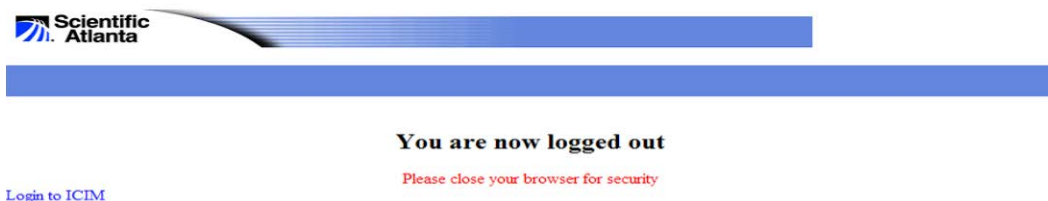
- 5 Type your **User** name and **Password** in the fields provided, and then click the **Login** button. The ICIM Welcome page appears as shown below.

- 6 Use one of the following navigation methods as appropriate:
 - Click **Next** to go to the System View page. Or, wait 10 seconds to be taken to System View automatically.
 - Use the menu at the left of the screen to go directly to System View or to choose another page of interest.

To Log Out

Complete the following steps to log out of the Web Interface.

- 1 Click **Logout** in the main menu. The Web Interface Logout page appears as shown below.



TP449

- 2 Close your browser window as a security precaution.



CAUTION:

Before closing the browser or tab in which the Web Interface session is running, be sure to log out of the Web Interface using the Logout link at the bottom left of the navigation pane.

If you close the browser or tab before logging out, the session will hang open for the duration of a timeout interval. This may prevent access to the ICIM2 through either the CLI or the Web Interface by you or other users. This may also create a breach of security by enabling unauthorized users to access the Web Interface at the previous user authorization level by opening a new browser tab.

Working with Receiver Parameters

When using the ICIM2 or ICIM2-XD to review and control module parameters, you have a choice of several interface options, including the user-friendly ICIM Web Interface (WebGUI). We recommend using the WebGUI whenever possible.

The following illustrations show examples of Controls and Monitors pages for the receiver module.

Note: After changing a parameter, you must refresh the page to see updated information.

Receiver Controls Page

Label	Value	Units / Choices	Low	High	Step	
Enable1	1	(0) Off (1) On	0	1	1	Apply
Enable2	0	(0) Off (1) On	0	1	1	Apply
LOSDelay	5	secs	0	10	0.1	Apply
LOS1Mute	0	(0) Off (1) On	0	1	1	Apply
LOS2Mute	0	(0) Off (1) On	0	1	1	Apply

Control

Receiver Monitors Page

Note: This page current as of 11/15/2008 09:43:57 EST -- refresh to see latest information

Label	Value	Units
ModTemp	28.25	degC
IntPs1	66.9169	V
IntPs2	8.19118	V

4

Maintenance and Troubleshooting

Introduction

This chapter describes the maintenance guidelines and troubleshooting procedures for this module.

Qualified Personnel

Only appropriately qualified and skilled personnel should attempt to maintain or troubleshoot module faults.



WARNING:

Allow only qualified and skilled personnel to install, operate, maintain, and service these products. Otherwise, personal injury or equipment damage may occur.

In This Chapter

- Module Maintenance..... 70
- General Troubleshooting Information..... 71
- Troubleshooting Alarm Conditions 72

Module Maintenance

The following maintenance is recommended to ensure optimal performance.

Frequency	Maintenance Required
Yearly	<ul style="list-style-type: none">■ Check all parameters and test points.■ Record data.■ Make adjustments as needed.■ Make sure all cables are mated properly.■ Inspect cables for stress and chafing.■ Make sure all retaining screws are tight.■ Replace chassis air filter, if present. Depending on office environment cleanliness and filtration, the chassis air filter may require more frequent servicing.
When needed	Carefully clean the module with a soft cloth that is dampened with mild detergent.

Maintenance Record

It may be helpful to establish a maintenance record or log for this module. You may want to record input and output levels, module temperature, and chassis filter change dates.

Large variations in any of the parameters above should be investigated prior to failure.

General Troubleshooting Information

Introduction

This troubleshooting information describes the most common alarms and gives typical symptoms, causes, and items to check before consulting Customer Service.

Equipment Needed

You may need the following equipment to troubleshoot the module.

- Digital voltmeter
- Fiber connector cleaning materials
- Optical power meter
- Spectrum analyzer

Additional Assistance

If you need additional assistance, telephone one of our Technical Service Centers or your local sales subsidiary. The chapter *Customer Support Information* (on page 73) contains a list of telephone numbers.

Troubleshooting



WARNING:

Avoid electric shock and damage to this product! Do not open the enclosure of this product. There are no user-serviceable parts inside. Refer servicing to qualified service personnel.

Refer to the following section, *Troubleshooting Alarm Conditions* (on page 72), to identify and correct module faults.

Troubleshooting Alarm Conditions

Receiver Alarm Conditions

If the red ALARM indicator is illuminated or is blinking, check the ICIM2 display to determine the cause of the alarm.

Alarm	Function	Possible Cause	Possible Solutions
ModTemp	Module temperature	■ Fan Tray Failure	■ Check Fan Tray for alarms
PsOk	Bus voltage status	■ Power supply faulty	■ Check power supply
IntPsOk	Internal power supply voltage status	■ Module Failure	■ Module requires servicing
In1_LOS	Input 1 loss of signal	■ Broken fiber	■ Check fiber
		■ No ONTs connected to the PON	■ Verify PON contains active ONTs
In2_LOS	Input 2 loss of signal	■ Broken fiber	■ Check fiber
		■ No ONTs connected to the PON	■ Verify PON contains active ONTs

5

Customer Support Information

If You Have Questions

If you have technical questions, call Cisco Services for assistance. Follow the menu options to speak with a service engineer.

Access your company's extranet site to view or order additional technical publications. For accessing instructions, contact the representative who handles your account. Check your extranet site often as the information is updated frequently.



Prisma II Permitted CLI Commands

Introduction

The following tables summarize the available CLI commands for the Prisma II and Prisma II XD platforms. Each table lists the commands available for one of the four major CLI prompts: CLI, */* MODULE, TERMINAL, and ICIM.

Entries shown in parenthesis () are module-specific and must be typed in full. Hints are given to display available entries for those cases. All other entries may be abbreviated to the shortest unambiguous form, as explained in the CLI online help screens.

Note: Some commands are limited to Admin level users only.

For further information and assistance when working with CLI, type **help** at the appropriate CLI prompt, and then press **Enter** to display the corresponding help screens.

In This Appendix

■ From CLI	76
■ From ICIM	77
■ From */* MODULE	83
■ From TERMINAL	86

From CLI

ALARM	
CLEAR	
DATE	
EXIT	
HELP	ALARM
	CLEAR
	COMMANDS
	DATE
	EDIT
	EXIT
	ICIM
	LOGOUT
	MANUAL
	MODULE
	TERMINAL
	WHO
	WHOAMI
ICIM	
LOGOUT	
MANUAL	
MODULE	
TERMINAL	
WHO	
WHOAMI	
'?'	

From ICIM

ALARM		
EVENTLOGCLEAR		
EVENTLOGFILTER	HARDWARE	ON/OFF
	PROVISIONING	ON/OFF
	SYSTEM	ON/OFF
EXIT		
FILE	IP	(IP_ADDRESS)
	NAME	(FILENAME)
	PASSWORD	(PASSWORD)
	PATH	(PATH)
	USER	(USERNAME)
HELP		
IKE *	ADD	(IP_ADDRESS)
	DELETE	(IP_ADDRESS)
INFO	ACTIVEREV	
	ATTNSTATUS	
	BOOTREV	
	CHASSIS	
	CLEI *	
	CLLI *	
	COMMREAD	
	COMMTRAP	
	COMMWRITE	
	DEVTYPE	
	DOWNLDCMD	
	DOWNLDDIR	
	DOWNLDFILE	
	DOWNLDRESULT	
	DOWNLDSEM	
	DOWNLDSIG	
	DOWNLDSTATE	

Appendix A
Prisma II Permitted CLI Commands

	DOWNLDTGT	
	DOWNLDUSER	
	FTPSEVER	
	FTPUSER	
	GATEWAY	
	HWREV	
	INACTIVEREV	
	IP	
	IPSEC *	
	LOCKOUT	
	MAC	
	MANDATA	
	NEXTIMAGE	
	PREVIOUSIP	
	SELFTEST	
	SERIAL	
	SIZE	
	SLOT	
	SMC	
	STATUSMSG	
	SUBNET	
	SWDATE	
	SWREV	
	THRESHOLD	
	TIMEOUT	
	TOS	
	TZONE	
	UPDATEID	
IPROUTE	ADD	(DESTINATION)
		(GATEWAY)
	DELETE	(DESTINATION)
		(GATEWAY)
IPSEC *	DISABLE	

	ENABLE	
LOGOUT		
MANUAL		
REBOOT		
SET	CLLI *	(CLLI)
	CLOCK	(DATE_TIME)
	COMMREAD	(READ_STRING)
	COMMTRAP	(TRAP_STRING)
	COMMWRITE	(WRITE_STRING)
	GATEWAY	(GATEWAY)
	IP	(IP_ADDRESS)
	LOCKOUT	(INTERVAL)
	STATUSMSG- CLEARKEY	(1)
	SUBNET	(SUBNET_MASK)
	THRESHOLD	(THRESHOLD)
	TIMEOUT	(TIMEOUT)
	TZONE	(TIMEZONE)
	UPDATEID	(1)
SHOW	ACTIVEREV	
	ATTNSTATUS	
	BOOTREV	
	CHASSIS	
	CLEI *	
	CLLI *	
	CLOCK	
	COMMREAD	
	COMMTRAP	
	COMMWRITE	
	DEVTYPE	
	DOMAIN	
	DOWNLDCMD	
	DOWNLDDIR	
	DOWNLDFILE	

Appendix A
Prisma II Permitted CLI Commands

	DOWNLDRESULT	
	DOWNLDSEM	
	DOWNLDSIG	
	DOWNLDSTATE	
	DOWNLDTGT	
	DOWNLDUSER	
	EVENTLOG	
	EVENTLOGALL	
	EVENTLOGFILTER	
	FILE	
	FTPSERVER	
	FTPUSER	
	GATEWAY	
	HWREV	
	IKE *	
	INACTIVEREV	
	IP	
	IPROUTE	
	IPSEC *	
	LOCKOUT	
	LOCKEDUSERS	
	MAC	
	MANDATA	
	NEXTIMAGE	
	PREVIOUSIP	
	PROVISIONING	
	SELFTEST	
	SERIAL	
	SIZE	
	SLOT	
	SMC	
	SNTP *	
	STATUSMSG	

	SUBNET	
	SWDATE	
	SWREV	
	THRESHOLD	
	TIMEOUT	
	TOS	
	TRAPS	
	TZONE	
	UPDATEID	
	USER	
SNTP *	INTERVAL	
	IP	
	MODE	
	STATE	
	TIMEOUT	
TRAPS	DISABLE	(INDEX)
		(IP_ADDRESS)
	ENABLE	(INDEX)
		(IP_ADDRESS)

USER	ADD	(USER_ID)	ADMIN	DISABLE
				ENABLE
			READ	DISABLE
				ENABLE
			READWRITE	DISABLE
				ENABLE
	CHANGE	ACCESS_RIGHTS	(USER_ID)	ADMIN
				READ
				READWRITE
		ACCOUNT_STATUS	(USER_ID)	DISABLE
				ENABLE
		PASSWORD	(USER_ID)	(PASSWORD)
	DELETE	(USER_ID)		
	UNLOCK	(USER_ID)		

Appendix A
Prisma II Permitted CLI Commands

'?'				
-----	--	--	--	--

* Reserved for future use.

From */* MODULE

ALARM	DOMAIN		
	MODULE		
CHASSIS	(digits)		
	*		
	[range]		
EXIT			
HELP			
INFO	ALARM	(ALARMNAME)	HYSTERESIS
		use show alarms *	INDEX
			LABEL
			LIMITADJUST
			MAJORHIGH
			MAJORLOW
			MINORHIGH
			MINORLOW
			NOMINAL
			RANGEHI
			RANGELO
			TYPE
			VALUE
	CONTROL	(CONTROLNAME)	INDEX
		use show control *	LABEL
			RANGEHI
			RANGELO
			RANGESTEP
			STATENAMES
			TYPE
			UNITS
			VALUE
	MODULE	ACTIVEREV	
		BOOTREV	
		CLEI ¹	

Appendix A
Prisma II Permitted CLI Commands

		CLLI ¹	
		CODEREV	
		DATECODE	
		DEVTYPE	
		DOWNLOADABLE	
		INACTIVEREV	
		MANDATA	
		MODTYPE	
		NAME	
		NEXTIMAGE	
		NUMANALOGCONTROLS	
		NUMCONTROLS	
		NUMDIGITALCONTROLS	
		NUMMONITS	
		NUMOFALARMS	
		SCRIPTREV	
		SELFTEST	
		SERIAL	
		TOS	
	MONITOR	(MONITORNAME)	INDEX
		use show mon *	LABEL
			STATENAMES
			TYPE
			UNITS
			VALUE
LOGOUT			
MANUAL			
MODID	digits		
	*		
	[range]		
RESET			
SET	ALARMPARAM	(ALARMNAME)	HYSTERESIS
			MAJORHIGH

			MAJORLOW
			MINORHIGH
			MINORLOW
	CONTROL	(CONTROLNAME)	(VALUE)
	MODULE	CLLI ¹	(CLLI)
SHOW	ALARMPARAM	(ALARMNAME)	HYSTERESIS
		use show alarms *	MAJORHIGH
			MAJORLOW
			MINORHIGH
			MINORLOW
	ALARMSTATE	(ALARMNAME)	
	CONTROL	(CONTROLNAME)	
	MODULE		
	MONITOR	(MONITORNAME)	
SLOT	digits		
	*		
	[range]		
'?'			

¹ Reserved for future use.

From TERMINAL

ALARM	
COLSEP	(string)
EXIT	
HEADERS	(digits)
HELP	
LOGOUT	
MANUAL	
PAGING	(digits)
PATTERN	REGEX
	WILDCARD
SHOW	
'?	

B

Module Parameter Descriptions

Introduction

This appendix provides control, alarm, monitor, and manufacturing data parameters for this equipment.

In This Appendix

■ Receiver Parameters	88
-----------------------------	----

Receiver Parameters

Receiver Operating Status Parameters

LCI Parameter Name	ICIM Abbreviation	Function	Operating Range
Module Temperature	ModTemp	Displays module temperature.	0°C to 60°C
Int Power Supply 1	IntPs1	Displays the voltage of internal power supply 1.	62 VDC to 68 VDC
Int Power Supply 2	IntPs2	Displays the voltage of internal power supply 2.	7 VDC to 9 VDC

Receiver Configurable Parameters

LCI Parameter Name	ICIM Abbreviation	Description	Values	Default
Enable1	Enable1	Enables or disables RF Path 1. If set to Off, the receiver is muted and alarms are inhibited.	OFF = Disabled ON = Enabled	ON
Enable2	Enable2	Enables or disables RF Path 2. If set to Off, the receiver is muted and alarms are inhibited.	OFF = Disabled ON = Enabled	ON
LosDelay	LosDelay	Length of time in seconds that the receiver needs to detect Loss of Signal before activating the Loss of Signal alarm for that RF Path.	0 to 10 seconds in 0.1 second increments	5.0 seconds
LosAlm1	LosAlm1	Enables or Disables Loss of Signal alarm reporting for RF Path 1.	OFF = Disabled ON = Enabled	ON
LosAlm2	LosAlm2	Enables or Disables Loss of Signal alarm reporting for RF Path 2.	OFF = Disabled ON = Enabled	ON

Receiver Alarm Data Parameters

LCI Parameter Name	ICIM Abbrev.	Nom. Value	Major Low Limit	Minor Low Limit	Minor High Limit	Major High Limit	Hysteresis	Operating Range
Module Temperature	ModTemp	-	-10	0	60	70	0.5	OK or Alarm
Power Supply Status	PsOk	-	-	-	-	-	-	OK or Alarm
Internal Power Supply Status	IntPsOk	-	-	-	-	-	-	OK or Alarm
Input 1 Loss of Signal	In1_LOS	-	-	-	-	-	-	OK or Alarm
Input 2 Loss of Signal	In2_LOS	-	-	-	-	-	-	OK or Alarm

Receiver Manufacturing Data Parameter Examples

LCI Parameter Name	ICIM Abbreviation	Typical Values
Generic Name	-	Receiver
Description	Module	HD Dual D-PON RX
Software Revision	Sw Ver	1.01.00
-	Script Ver	CF_CCB3
Serial Number	Serial #	^ABCDEFG
Time of Service	In Service Hours	444
-	Spec Data	Reserved for special data
Date Code	Date Code	A06
Module Type	Module Type	2021

Glossary

ac, AC

alternating current. An electric current that reverses its direction at regularly recurring intervals.

AGC

automatic gain control. A process or means by which gain is automatically adjusted in a specified manner as a function of input level or other specified parameters.

CAN

Controller Area Network bus. A high-speed backplane interface for future applications, available in the Prisma II and Prisma XD Chassis.

dc, DC

direct current. An electric current flowing in one direction only and substantially constant in value.

DFB laser

distributed feedback laser. An injection laser diode that has a Bragg reflection grating in the active region in order to suppress multiple longitudinal modes and enhance a single longitudinal mode.

DRR

dual reverse receiver.

EDFA

erbium doped fiber amplifier. Optical fibers doped with the rare earth element, erbium, which can amplify light in the 1550 nm region when pumped by an external light source.

EIA

Electronic Industries Association. A United States association that provides standards for use between manufacturers and purchasers of electronic products.

Glossary

EMC

electromagnetic compatibility. A measure of equipment tolerance to external electromagnetic fields.

EMT

externally-modulated transmitter.

ESD

electrostatic discharge. Discharge of stored static electricity that can damage electronic equipment and impair electrical circuitry, resulting in complete or intermittent failures.

HD

high density.

I/O

input/output.

ICIM

intelligent communications interface module.

IP

Internet protocol. A standard that was originally developed by the United States Department of Defense to support the internetworking of dissimilar computers across a network. IP is perhaps the most important of the protocols on which the Internet is based. It is the standard that describes software that keeps track of the internetwork addresses for different nodes, routes, and outgoing/incoming messages on a network. Some examples of IP applications include email, chat, and Web browsers.

LCD

liquid crystal display. A display medium made of liquid crystal. Liquid crystal's reflectance changes when an electric field is applied. Commonly used in monitors, televisions, cell phones, digital watches, etc.

LCI

local craft interface.

LED

light-emitting diode. An electronic device that lights up when electricity passes through it.

MIB

management information base. SNMP collects management information from devices on the network and records the information in a management information base. The MIB information includes device features, data throughput statistics, traffic overloads, and errors.

nm

nanometer. One billionth of a meter.

NMS

network management system. A software system designed specifically to monitor a network and to facilitate troubleshooting.

OMI

optical modulation index, expressed in decimal or percentage notation.

PLL

phase lock loop. An electronic servo system controlling an oscillator to maintain a constant phase angle relative to a reference signal.

QAM

quadrature amplitude modulation. An amplitude and phase modulation technique for representing digital information and transmitting that data with minimal bandwidth. Both phase and amplitude of carrier waves are altered to represent the binary code. By manipulating two factors, more discrete digital states are possible and therefore larger binary schemes can be represented.

RF

radio frequency. The frequency in the portion of the electromagnetic spectrum that is above the audio frequencies and below the infrared frequencies, used in radio transmission systems.

RMA

return material authorization. A form used to return products.

RT

remote terminal. Remote equipment of a supervisory system.

RX

receive or receiver.

Glossary

SBS

stimulated Brillouin scattering. The easiest fiber nonlinearity to trigger. When a powerful lightwave travels through a fiber, it interacts with acoustical vibration modes in the glass. This causes a scattering mechanism to be formed that reflects some of the light back to the source.

SMC

status monitoring and control. The process by which the operation, configuration, and performance of individual elements in a network or system are monitored and controlled from a central location.

SNMP

simple network management protocol. A protocol that governs network management and the monitoring of network devices and their functions.

TEC

thermoelectric cooler. A device used to dissipate heat in electronic assemblies.

TNCS

Transmission Network Control System. A Cisco application that allows status monitoring and control of all transmission equipment located in headends and hubs plus optical nodes, power supplies, and amplifiers in the outside plant. TNCS provides access to and information on the entire network in an easy to understand, topology driven, graphical user display.

torque

A force that produces rotation or torsion. Usually expressed in lb-ft (pound-feet) or N-m (Newton-meters). The application of one pound of force on a lever at a point on the lever that is one foot from the pivot point would produce 1 lb-ft of torque.

TX

transmit or transmitter.

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Cisco Systems, Inc.
5030 Sugarloaf Parkway, Box 465447
Lawrenceville, GA 30042

678 277-1120
800 722-2009
www.cisco.com

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