



Prisma II Forward and Reverse Headend Driver Amplifiers

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**
 - 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.

Important Safety Instructions, Continued

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.

Important Safety Instructions, Continued

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 and 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, consideration should be given to installing 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.

Important Safety Instructions, Continued

- 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 is 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.

Important Safety Instructions, Continued

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.
- 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

Refer to this equipment's specific installation instructions in this manual or in companion manuals in this series for connection 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:

Consideration should be given to the connection of this equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Appropriate consideration of information given on the equipment-rating label should be used when addressing this concern.

General Servicing Precautions



WARNING:

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

Be aware of the following general precautions and guidelines:

- **Servicing** - Refer all servicing to qualified service personnel. 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.

Important Safety Instructions, Continued

- **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.

Lithium Battery

For equipment with a lithium battery, observe the following rules:

- Do not dispose of used batteries through the regular garbage collection system, but follow the local regulations. The batteries may contain substances that could be harmful to the environment.
- Replace batteries with the same or equivalent type recommended by Cisco.
- Insert batteries correctly. There may be a risk of explosion if the batteries are incorrectly inserted.
- When disposing of this equipment, remove the batteries and dispose of them separately in accordance with local regulations.
- Do not recharge the batteries or expose them to temperatures above 100°C (212°F).

Important Safety Instructions, Continued

Electromagnetic Compatibility Regulatory Requirements

This equipment meets applicable electromagnetic compatibility (EMC) regulatory requirements. 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

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.

Important Safety Instructions, Continued

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.

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.

Chapter 1

Introduction

Overview

Introduction

This chapter describes the front and back panels, and gives a setup summary for the Prisma II™ Forward and Reverse Headend Driver Amplifier (FHEDA/RHEDA) modules.

Qualified Personnel

Only appropriately qualified and trained personnel should attempt to install this product.



WARNING:

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

Who Should Use This Guide

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

In This Chapter

This chapter contains the following topics.

Topic	See Page
Introduction	1-2
The Front Panel	1-5
The Back of the Module	1-6
Configuration Overview	1-7

Introduction

Overview

The Prisma II FHEDA/ RHEDA modules are two of a family of products in the Prisma II product line.

Both the Prisma II FHEDA/RHEDA modules are designed to boost the RF signal level to meet the input requirements of headend/hub equipment including the Prisma optical transmitters. The FHEDA is used in forward frequency (45-870 MHz). The RHEDA is used the reverse frequency (5-200 MHz) transmissions and the reverse combining process to amplify the return path signals.

Features

The Prisma II FHEDA and RHEDA has the following features:

- Front panel green LED shows operating status
- Front panel red LED shows alarm status
- -20 dB test point
- Plug-and-play capability
- Compatible with Cisco LCI and TNCS Software
- Blind mate RF connections

Prisma II FHEDA and RHEDA Operation

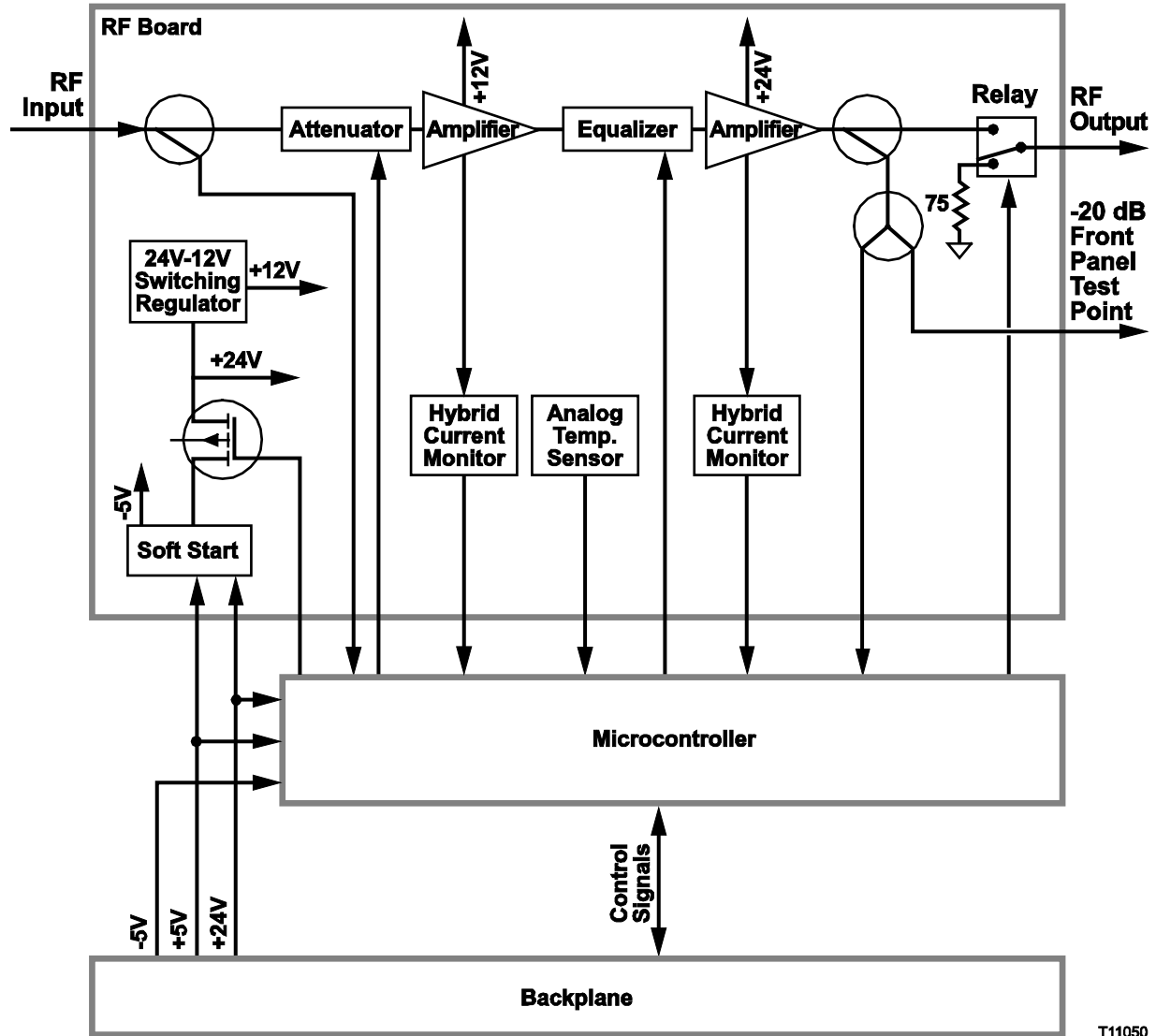
The Prisma II FHEDA and RHEDA modules are used in conjunction with an optical transmitter to receive signals from the hub or headend.

The module is controlled by an ICIM, the LCI software, or TNCS software.

Introduction, Continued

FHEDA Block Diagram

A block diagram of the Prisma II FHEDA is shown below.

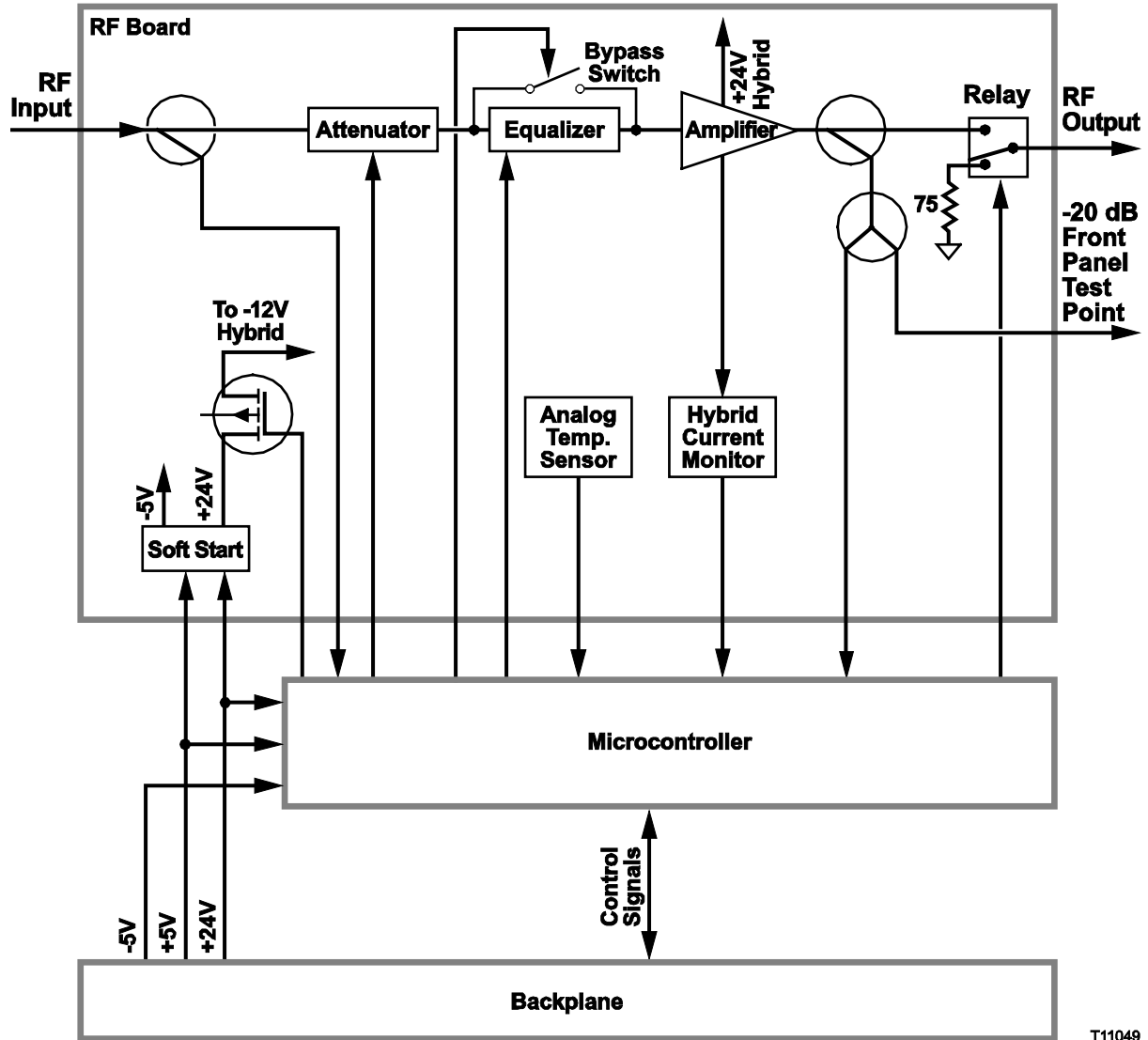


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Introduction, Continued

RHEDA Block Diagram

A block diagram of the Prisma II RHEDA is shown below.



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The Front Panel

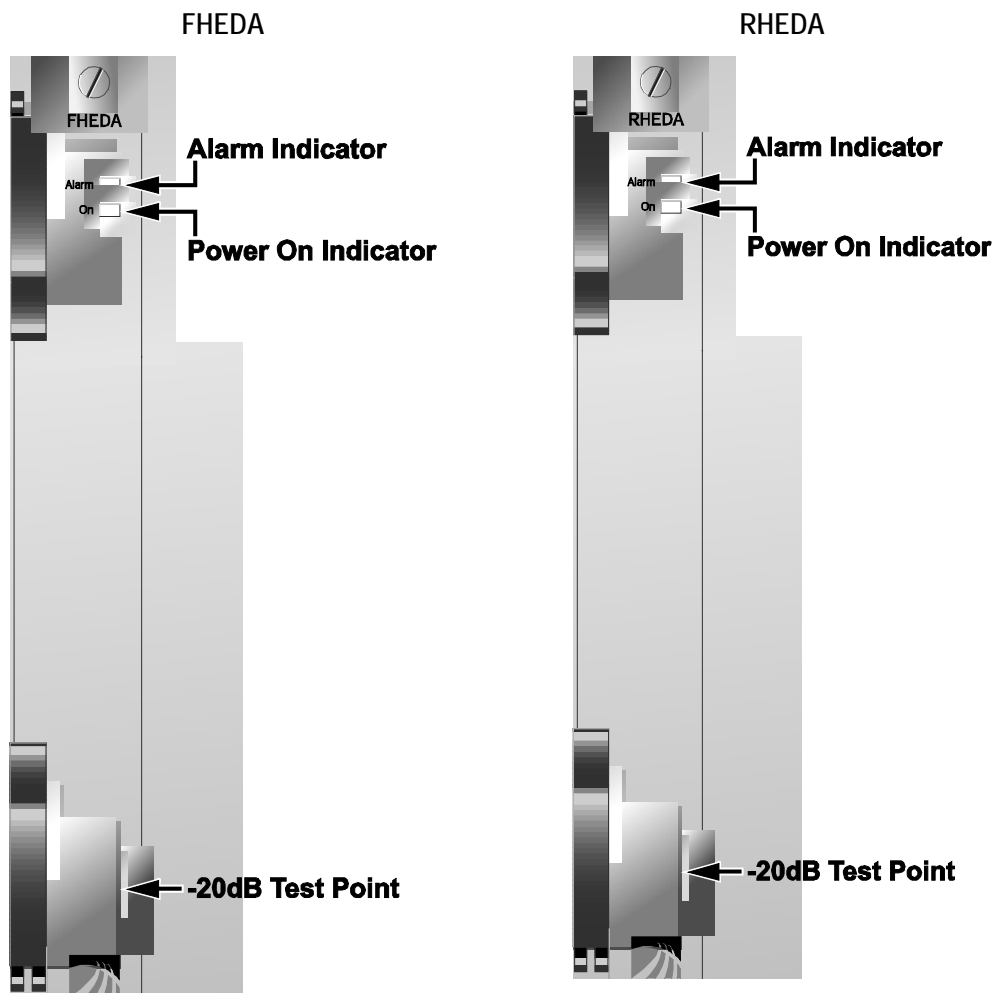
Overview

The Prisma II Module's front panel includes the following features.

Part	Function
Alarm indicator	Illuminates or blinks when an alarm condition occurs.
Power ON indicator	Illuminates when power is supplied to the module.
-20 dB test point	Provides a -20 dB sample of the RF output signal.

Front Panel Illustration

The front panels of the Prisma II Modules are shown below.

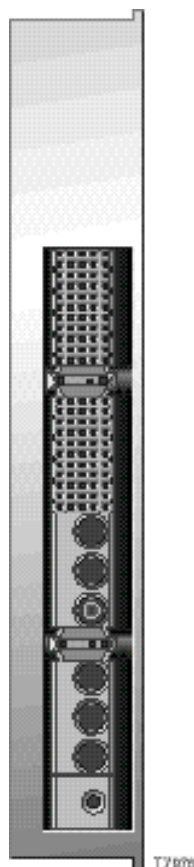


The Back of the Module

Back of the Module Connectors

Blind-mate connectors make it easy to install this module. The connector on the back of the module mates with a connector inside the chassis. The 110-pin connector provides the following:

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



Power and Communications Connector

The power and communications connector on the back of the module mates with a connector inside of the chassis, and supplies power from the chassis to the module. The 110-pin connector also routes alarm and status-monitoring information from the transmitter to the Prisma II Chassis.

Configuration Overview

Overview

The Prisma II FHEDA and RHEDA 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 Prisma II FHEDA and RHEDA may be controlled using one of three different methods.

- The Prisma II Intelligent Communications Interface Module (ICIM)

If an ICIM is installed in the Prisma II Chassis, it may be used to configure and monitor Prisma II application modules within its domain. For instructions on operating this module using the ICIM, refer to Chapter 3, **Operation Using the ICIM**.

- The Local Craft Interface (LCI) software

The LCI software running on a locally connected PC may be used to configure operating parameters of Prisma II modules. For instructions on operating this module using the LCI software, refer to Chapter 4, **Operation Using LCI**.

- Cisco's Transmission Network Control System (TNCS) software

If the ICIM is installed, TNCS software may be used to configure and monitor all functions of the Prisma II modules. For instructions on operating this module using TNCS, see the manual that was shipped with the TNCS software, *TNCS Administrator Software User's Guide*, part number 730201.

Configuration Summary

Using any of the above methods, you can configure the FHEDA/RHEDA for the following:

- FHEDA/RHEDA On/Off
- FHEDA/RHEDA Master/Slave
- FHEDA/RHEDA Nominal RF Input
- FHEDA/RHEDA Nominal RF Output
- FHEDA/RHEDA Attenuation Level
- FHEDA/RHEDA Equalization Level

For detailed information on configuring this module, see Chapter 3, **Operation Using the ICIM** or Chapter 4, **Operation Using LCI**.

Chapter 2 Installation

Overview

Introduction

This chapter contains instructions, site requirements, equipment, and tools needed to install the Prisma II FHEDA and RHEDA.

Qualified Personnel



WARNING:

Allow only qualified personnel to install, operate, maintain, or service this product. Otherwise, personal injury or equipment damage may occur.

In This Chapter

This chapter gives step-by-step instructions on installing the Prisma II FHEDA and RHEDA.

Topic	See Page
Preparing for Installation	2-2
Site Requirements	2-3
Connecting the Cables to the Chassis	2-6
Installing the Module in the Chassis	2-7
Communications Connections	2-9
Connecting the Chassis to the TNCS Server	2-10
External Alarms Connections	2-12

Preparing for Installation

Overview

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. If you find any damage, contact Cisco. Refer to Chapter 6 for information on contacting Cisco Services.

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 Chassis with power supply	provide housing, power and input/output connections to the module
3/8-in. flat-blade screwdriver	secure the module in the chassis
RF cable with connectors	carry RF signals

Site Requirements

Overview

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

Access Requirements

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



WARNING:

Use this product in locations that restrict access to all persons who are not authorized. 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 Prisma II 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 above the maximum operating temperature specified voids the warranty.

Follow these recommendations to maintain an acceptable operating temperature.

- Temperature inside the rack must be between -40°C and 65°C (-40°F and 149°F)
- Keep cooling vents clear and free of obstructions.
- Provide ventilation, as needed, using one or more of the following methods.
 - air-deflecting baffles
 - forced-air ventilation
 - air outlets above enclosures

Site Requirements, Continued

Power Requirements

Prisma II modules receive their electrical power from the Prisma II Chassis. The module may be installed with the chassis powered-up.

Space Requirements

This module is a single-width module. It is usually installed in slots 5 through 16. Slots 1 through 4 are usually reserved for the power supplies. Slots 15 and 16 are reserved for the Intelligent Communications Interface Module (ICIM), if installed. If an ICIM is not installed, this module could be installed in these slots. Slot 2 and slot 4 are reserved for an internal power supply if installed. If an internal power supply is not installed here, this module could be installed in these slots.

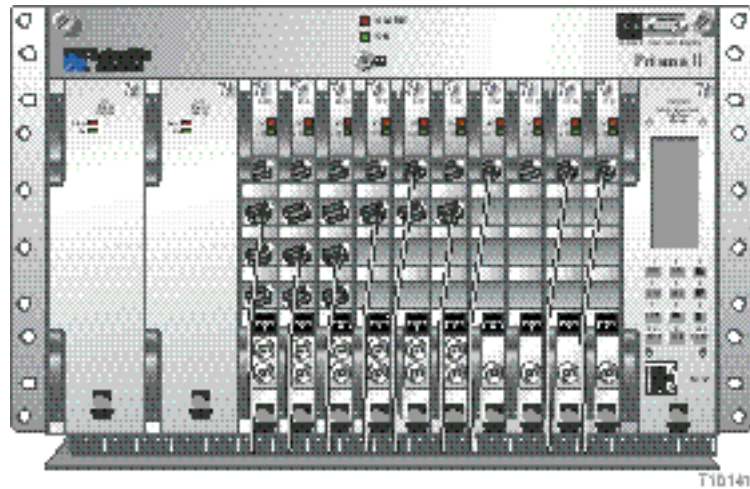
Chassis Style

The Prisma II Chassis may be configured with front or rear connectors depending on the system you have purchased. Power, RF input/output, and other connectors may be located on either the front or rear of the Prisma II 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.

Site Requirements, Continued

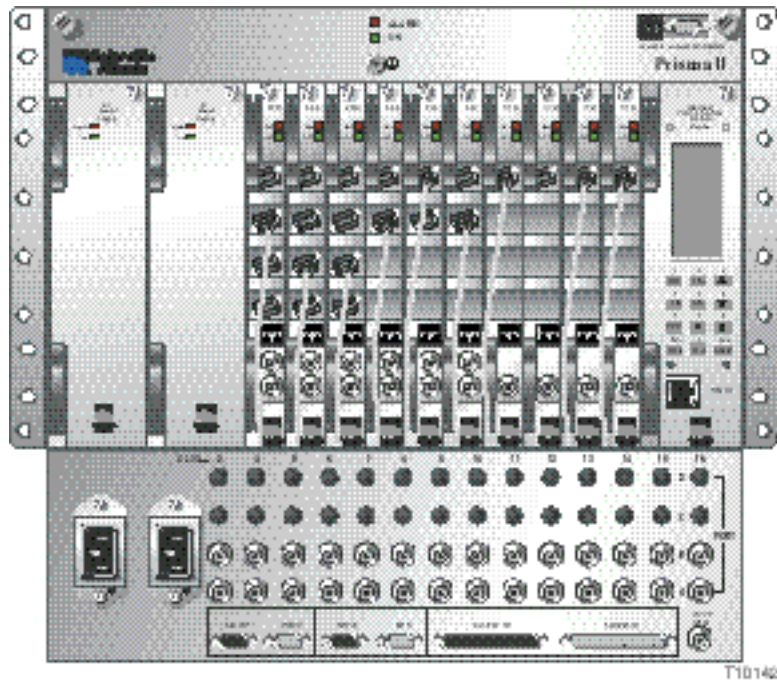
Rear Access Chassis Illustration

The Prisma II Chassis may be configured with front or rear connectors depending on the system you have purchased. The rear access chassis is shown here.



Front Access Chassis Illustration

The front access chassis is shown here.



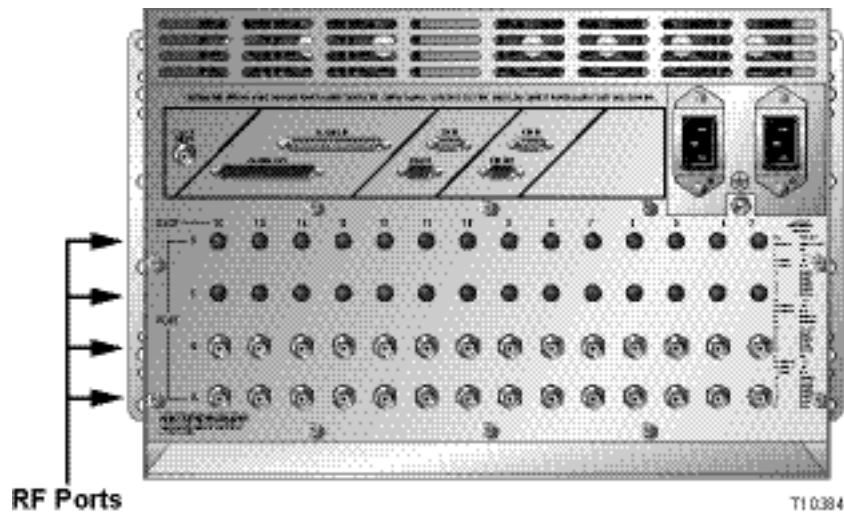
Connecting the Cables to the Chassis

RF Cable Connection Procedure

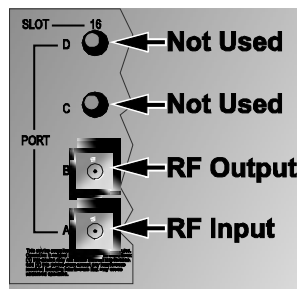
Important: The following procedure assumes the Prisma II Chassis is mounted in a rack.

Follow this procedure to make the RF cable connections for each module to be installed. This module is usually installed in slots five through sixteen.

1. Locate one 75 ohm RF cable and route it to the appropriate RF destination.
2. At the rear of the Prisma II Chassis, attach the other end of the RF source cable to Port A (RF Input) of the slot where the module is to be installed. This is the RF input connection.



3. Connect another RF cable from Port B (RF Output) of the slot where the HEDA is to be installed. Hand-tighten the connector.



4. Route the RF cable from Port B (RF Output) to the appropriate destination.
5. If F-connectors are installed, use a 7/16-in. open-end wrench to secure both cables to the connectors at the chassis. If BNC connectors are used, twist firmly to connect.

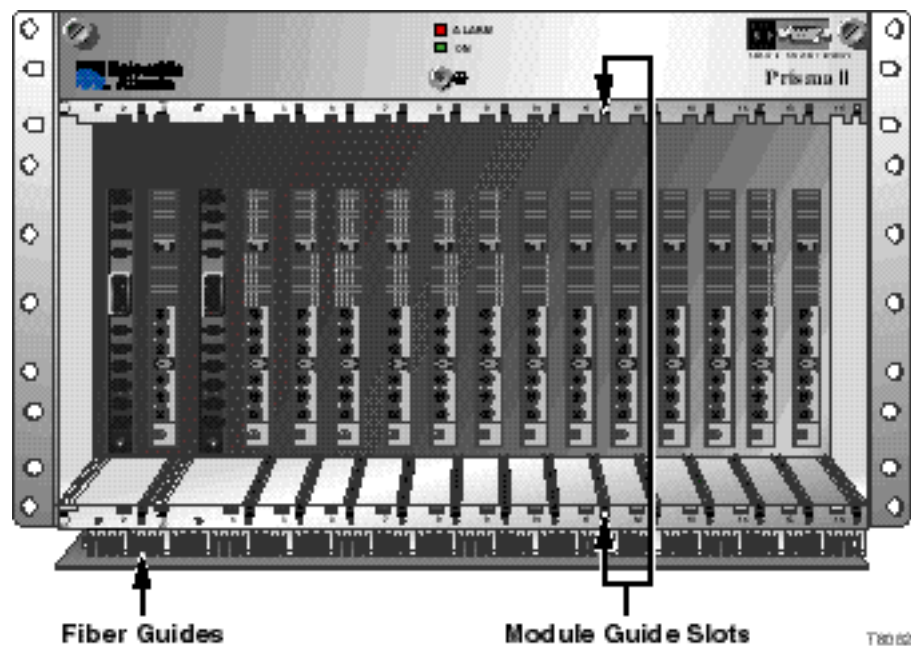
Installing the Module in the Chassis

Installing the Module

Important: The following procedure assumes the chassis is mounted in a rack. This procedure applies to both chassis styles.

To install the module in the chassis, follow these steps.

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.

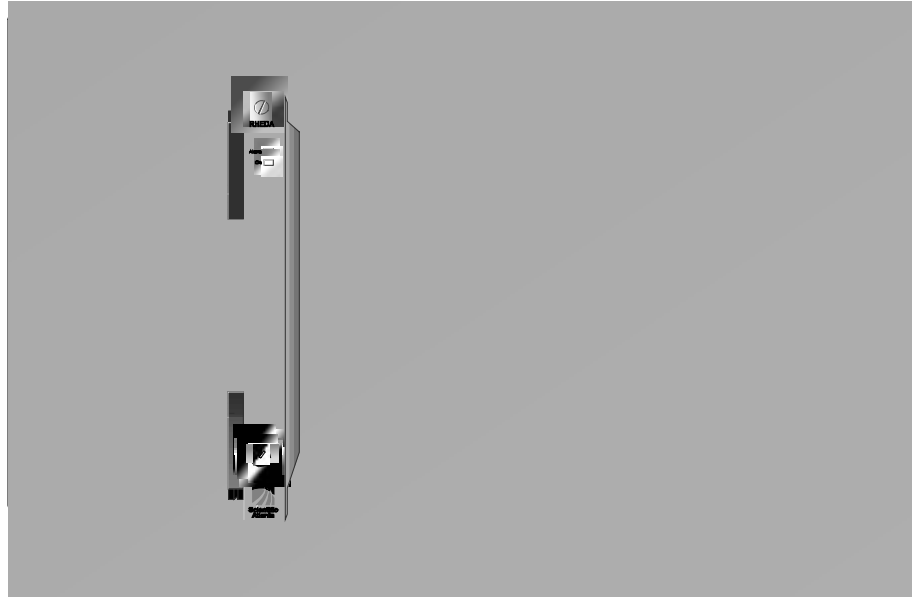


2. Align the ridges on the top and bottom of the module with the module guide slots located on the chassis. Module ejectors must be fully extended when inserting the module.

Installing the Module in the Chassis, Continued

3. Gently slide the module into the chassis until you feel the connectors on the back of the module join the receptacles at the back of the slot.

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



4. Secure the module by pressing the two ejectors located on the left side of the module until they lock. When the levers are locked, the power and communications connections at the rear of the module mates with the communications connectors at the back of the chassis slot.
5. Hand-tighten the screw at the top of the module, to secure it in the chassis. Use a $\frac{3}{8}$ -in. flat-blade screwdriver to secure. **Do not over tighten.**

Communications Connections

Chassis-to-Chassis ICIM Connections

The Prisma II platform allows the ICIM to be located in one chassis and control application modules located in several other chassis. This communication “daisy-chain” can be enabled by connecting cables to the **ICIM IN** and **ICIM OUT** connectors located on the connector interface panel of the chassis. This connection is required if an ICIM in one chassis is to communicate with or control any application module located in a separate chassis.

Note: An ICIM can control a maximum of 140 modules. Depending on your application, this is typically 6 or 7 chassis to a rack. Do not exceed these limits.

ICIM IN and ICIM OUT Connectors

Every Prisma II Chassis has a DB9 **ICIM IN** and a DB9 **ICIM OUT** connector for the purpose of chassis-to-chassis ICIM connections. **ICIM OUT** is a male connector and **ICIM IN** is a female connector.



ICIM IN and ICIM OUT Cables

The cable required for both **ICIM IN** and **ICIM OUT** connections is a standard “off the shelf” serial extension cable, DB9 Female to DB9 Male. This cable can be purchased at your local computer store or from Cisco.

The Cisco part number for a 6-foot DB9 Female to DB9 Male serial extension cable is 180143. The connectors are a serial 9-pin D-shell (EIA 574/232).

ICIM IN and ICIM OUT Cable Connection Procedure

To make chassis-to-chassis **ICIM IN** and **ICIM OUT** connections, follow these steps.

1. Connect the serial extension cable from the **ICIM OUT** of the chassis containing the ICIM to the **ICIM IN** connector of the second chassis.
2. Connect a serial extension cable from the **ICIM OUT** of the second chassis to the **ICIM IN** of the third chassis.
3. Continue this “daisy-chain” connection until all chassis are connected.

Notes: All chassis connected in this “daisy-chain” must be powered and have a fan tray installed. A chassis that is connected but is either not powered, or does not have a fan tray installed, will cause faulty operation of the ICIM.

All chassis connected in this “daisy-chain” must have a unique chassis ID number.

Connecting the Chassis to the TNCS Server

Connecting a Prisma II Chassis to the TNCS Server Using the EM Connectors

Connecting the Prisma II Chassis to the TNCS server requires two special cable kits that are available from Cisco.

- The RS-485 cable kit, part number 735748, includes the following:
 - 4 ea. Breakout boxes
 - 4 ea. RS-485 cable assemblies (50')
 - 4 ea. Breakout box mounting brackets
 - 100 ea. 6-32 screws (1.25")
- The Prisma II cable kit, part number 738686, includes the following:
 - 4 ea. Prisma II cable assemblies

The RS-485 cable kit is used to communicate with the RS-485/422/TTL devices.

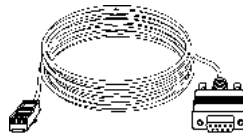
EM IN to TNCS Connection

To connect TNCS to a Prisma II Chassis, follow these steps.

1. Mount one of the breakout boxes (included in the RS-485 cable kit) in a rack location central to the appropriate Prisma II Chassis.



2. Connect a RS-485 cable assembly (included in the RS-485 cable kit) from the breakout box to the **RS-485 COM** port on the TNCS server.
3. Connect one Prisma II cable assembly (included in the Prisma II cable kit) from the breakout box to the **EM IN** port of each Prisma II Chassis containing an ICIM.

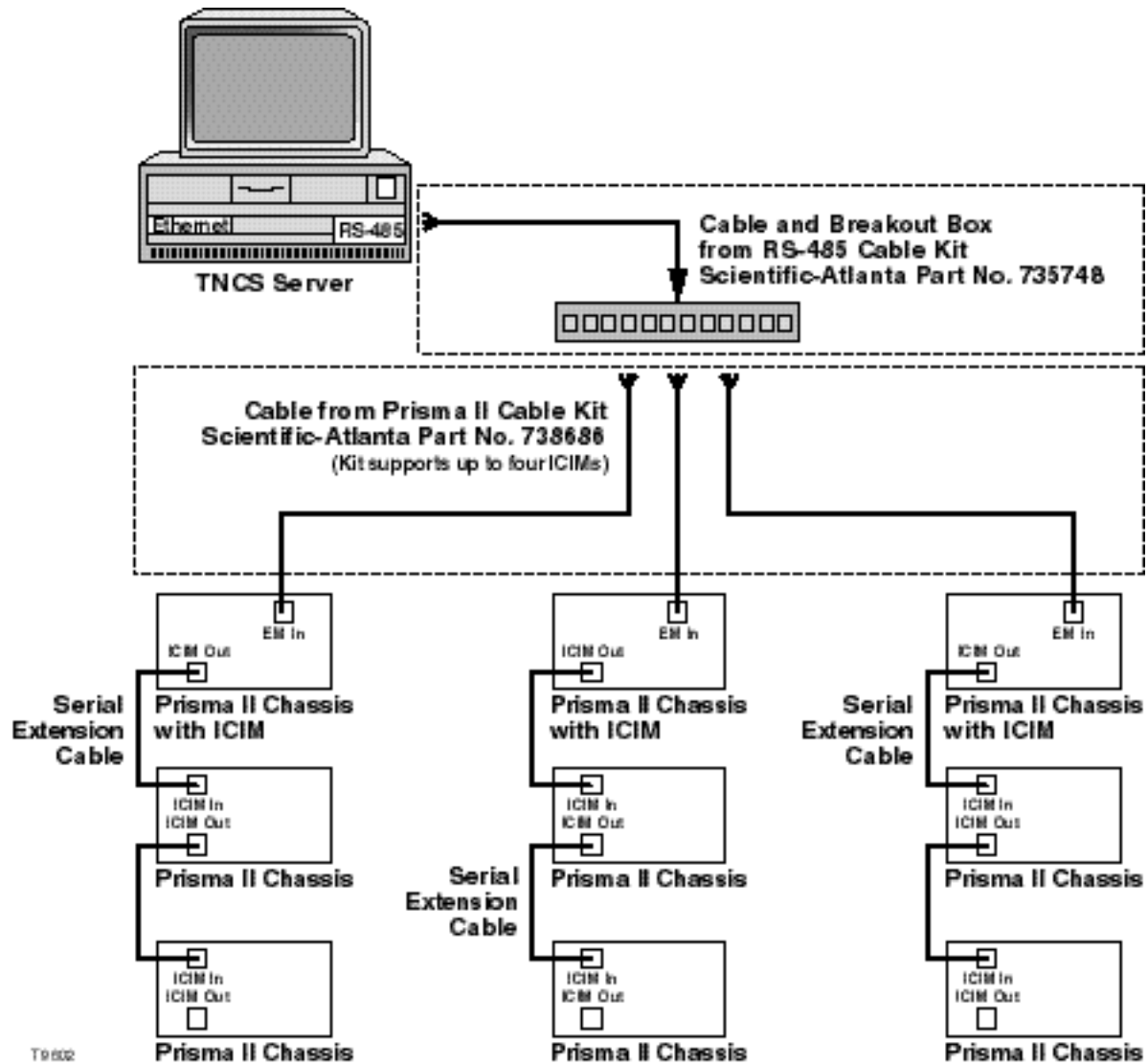


Note: As a general rule, it is recommended that the total number of ICIMs connected to any single COM port on the TNCS server be limited to four (4). However, you may connect more than four ICIMs per TNCS COM port as long as the total number of devices (modules) monitored by a single COM port does not exceed four-hundred (400) *and* the total number of devices monitored by any single ICIM does not exceed 140.

Connecting the Chassis to the TNCS Server, Continued

Using TNCS with Multiple Prisma II Chassis

All chassis within an ICIM's domain are connected in series via the ICIM IN/OUT connectors using standard "off the shelf" serial extension cable, DB9 Female to DB9 Male. Using the EM IN/OUT connectors, a chassis with an ICIM installed is connected to a breakout box as shown below. The breakout box is connected to the TNCS server with the cable included in the RS-485 cable kit.



External Alarms Connections

Master/Slave Operation

All Prisma II modules ship from the factory configured as a "Master". The LCI or TNCS software, or the ICIM can be used to reconfigure a module as a "Slave" or as redundant. The Prisma II Chassis allows for local hard-wired redundancy by using the **ALARM IN** and **ALARM OUT** connectors located on the connector interface panel. You can configure a pair of modules so that if the master fails, the slave takes over by using the **ALARM IN** and **ALARM OUT** connectors.

ALARMS IN and ALARMS OUT Connections

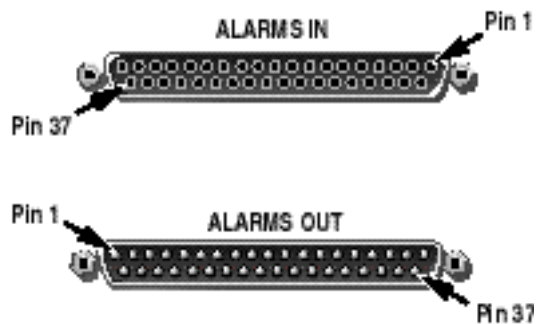
The Prisma II Chassis provides two connections for external alarms to and from each module slot. These alarm connections are located in two 37-pin D-connectors (DB-37) and are labeled **ALARMS IN** and **ALARMS OUT**. See the section titled **Alarms Connectors** in Chapter 2 of the *Prisma II Chassis Installation and Operation Guide*, part number 713375.

When a critical alarm occurs in a master module, the master turns off and the slave (redundant module) is enabled. To make that happen, the pin representing the master module's slot in the **ALARM OUT** connector must be externally wired to the pin representing the slave module's slot in the **ALARM IN** connector. Once those contacts are wired, care must be taken to ensure that the master and slave modules are not moved to other slots. Otherwise, the **ALARM IN** and **ALARM OUT** connectors will need to be rewired to the appropriate pins.

Notes:

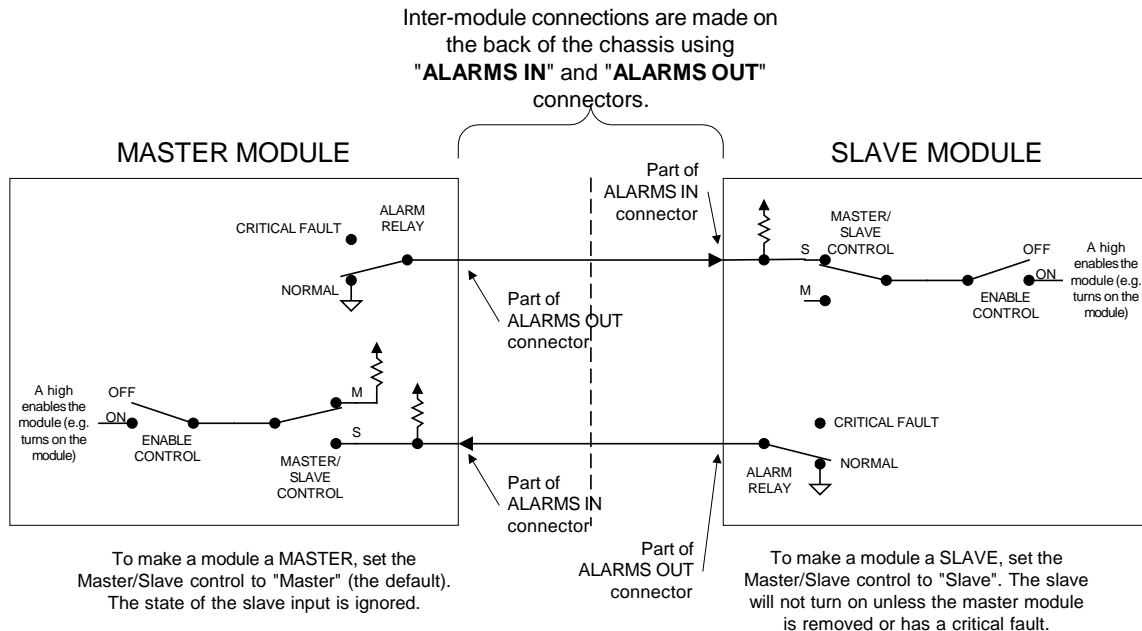
- Any device configured as a master ignores its **ALARM IN** contacts.
- To verify proper wiring and redundant configuration, simply unplug the master device and observe that the slave module turns on. For detailed information on **ALARM IN** and **ALARM OUT** connectors, see the section titled **Alarms Connectors** in Chapter 2 of the *Prisma II Chassis Installation and Operation Guide*, part number 713375.

ALARMS IN and ALARMS OUT Connector Illustrations



External Alarms Connections, Continued

Master/Slave Illustration



Prisma II Redundancy Interface Panel

The Prisma II Redundancy Interface Panel is an accessory to the Prisma II platform. It is intended to be used with the master/slave feature and the contact closure alarm feature of the Prisma II platform.

The Prisma II Redundancy Interface Panel serves as an extension to the two DB-37 connectors labeled **ALARM IN** and **ALARM OUT** on the connector interface panel of the Prisma II Chassis. The terminals on the redundancy interface panel are extensions of pins on the **ALARMS OUT** and **ALARMS IN** connectors on the Prisma II Chassis.

Refer the section titled **The Prisma II Redundancy Interface Panel** in Chapter 2 of the *Prisma II Chassis Installation and Operation Guide*, part number 713375.

Chapter 3

Operation Using ICIM

Overview

Introduction

The procedures in this chapter apply if you are using the Prisma II Intelligent Communications Interface Module (ICIM) to configure and operate the Prisma II FHEDA and RHEDA.

Scope of this Chapter

Included in this chapter are descriptions of the ICIM front panel and the ICIM LCD, and detailed procedures on how to use the software menus to configure the module.

In This Chapter

This chapter contains the following topics.

Topic	See Page
ICIM Introduction	3-2
The ICIM Front Panel	3-3
The ICIM Password	3-6
Operating the ICIM	3-13
Monitoring Operating Status Using the ICIM	3-17
Configuring the Module Using the ICIM	3-19
Checking Alarms Using the ICIM	3-22
Checking Manufacturing Data Using the ICIM	3-28
Using the ICIM to Save the Configuration	3-31
SNMP Configuration Capability	3-32
Community Names	3-36
Setting SNMP Trap Receiver Parameters	3-37
SNMP Variables	3-38

ICIM Introduction

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.

ICIM Function

The ICIM functions as the module-user interface as well as the interface between the Prisma II modules and the Transmission Networks Control Systems (TNCS). The ICIM allows local module configuration and status monitoring for up to 140 modules located in multiple chassis. The ICIM features easy-to-use software that is navigated using the numeric keypad and the LCD display.

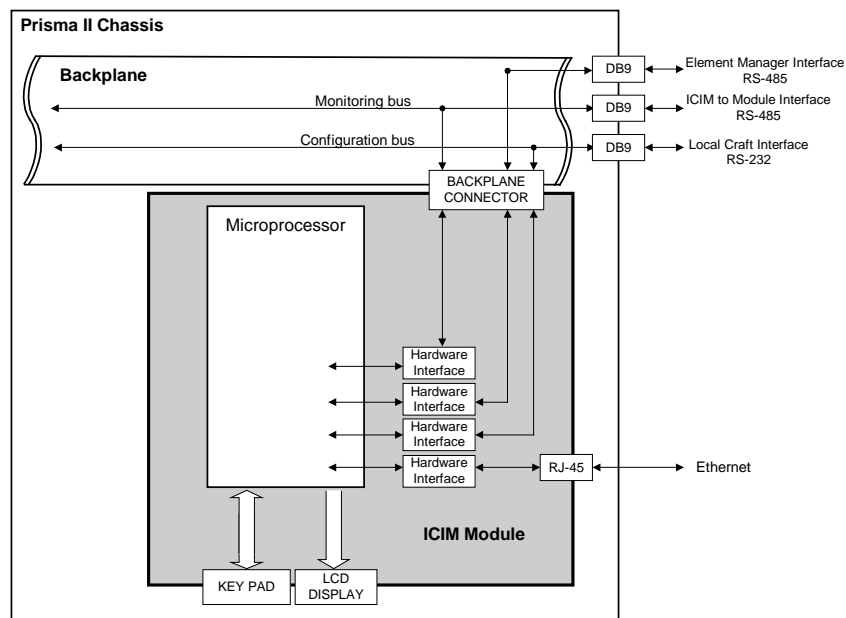
Important: Do not operate any Prisma II Chassis without a fan tray installed properly. If a fan tray is not installed in the Prisma II Chassis, the ICIM will not communicate with any of the modules in that chassis.

Important: All chassis connected in a “daisy-chain” must be powered and have a fan tray installed. A chassis that is connected but is either not powered, or does not have a fan tray installed will cause faulty operation of the ICIM.

Important: All chassis connected in this “daisy-chain” must have a unique chassis identification (I.D.) number.

ICIM Block Diagram

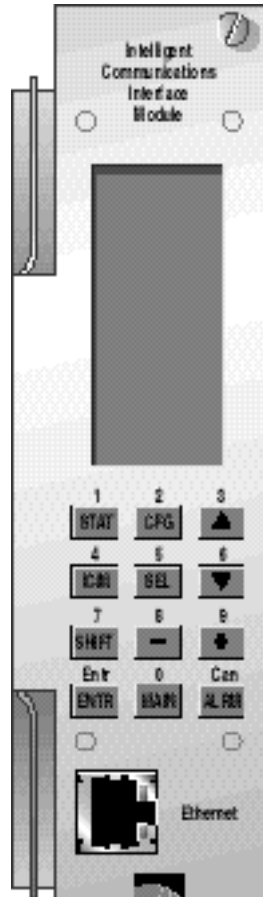
The ICIM is illustrated in the block diagram below.



The ICIM Front Panel

ICIM Front Panel Illustration

The following illustration shows the front panel of the ICIM.



The ICIM Front Panel, Continued

ICIM Front Panel Features

Part	Function
LCD screen	Displays the ICIM menus, alarms, and status information.
12-key numeric keypad	Used to navigate the ICIM's menus and configure the application modules.
Ethernet Connector	Directly connects the ICIM to a network (future release).

The ICIM LCD

The ICIM LCD is the operator's visual link to the ICIM software. When the ICIM is installed and powered up, the **MAIN** menu is displayed on the LCD. The following illustration shows the ICIM's **MAIN** menu.

MAIN

Offline

Modules
15

Alarms
0













Scroll

Module
Shelf
Slot

The ICIM Front Panel, Continued

The ICIM Keypad

The ICIM keypad has twelve keys that allow you to input and monitor operational parameters. The table below lists each key and a brief description of its function.

Button	Function
	Displays status information for the selected module
	Displays configuration information for the selected module
	Displays all of the parameters in alarm for a selected module
	Moves the menu selection area up. Also increases numerical readings of selected configuration parameters
	Moves the menu selection area down. Also decreases numerical readings of selected configuration parameters
	Selects the highlighted parameter
	Displays ICIM module information such as firmware version, serial number, and baud rate
	Shifts function of a keypad button to the function or number label just above that button
	Decreases numerical readings of selected configuration parameters
	Increases numerical readings of selected configuration parameters
	Enters input data (if valid)
	Exits the current menu and displays the MAIN ICIM menu

The ICIM Password

Introduction

The ICIM allows you to send configuration commands, to change alarm thresholds, and restore factory default settings in Prisma II modules. In order to ensure that no unauthorized changing of these parameters occurs, you have the option of using a password protection system. Password authorization only applies to the configurable parameters. Status and alarm information is always available on the ICIM regardless of password implementation.

Password Protection System

The table below shows the ICIM menu options available in the password protection system.

ICIM Menu Option	Description
User Psw	A user-settable password. <ul style="list-style-type: none">• Created, entered, and changed by the system operator(s)• Must be exactly eight digits, using only the 0-9 number keys
Change Psw	Changes an existing user password
Disable Psw	Disables the user password function
SA Psw	A service password that is used by Cisco personnel only

Important: If you only want to monitor status and alarm data, simply skip the password function when it appears on the ICIM menu. You can access all module status and alarm information without a password. However, once a user password is entered, you are required to enter it every time you want to set configurable parameters to any module controlled by that ICIM. See **Expired Password or Inactive Password Messages** and **Entering the User Password** that follow.

The ICIM Password, Continued

Entering the User Password

If you wish to use the user password feature, you must create and enter a password of exactly eight digits using only the 0-9 number keys. The password remains active for 10 minutes after your last keystroke. If you want to change configuration parameters after more than 10 minutes, you are required to re-enter your password.

Follow these steps to enter a user password.

1. Access the Password menu as shown earlier in **Accessing the Password Menu**.
2. Press the **SEL** key.

Result: The user password menu displays.

3. When **User Psw/Shift Off** displays, press the **SHIFT** key to display **Shift On** - then enter the eight digits of your password, using the 0-9 number keys.

If at any time you input a digit that is incorrect or you wish to change a digit, use the **CAN** (Cancel) function by pressing the **ALRM** key to delete that digit.

4. Press the **ENTER** key to enter the password.

Results:

- The ICIM updates the display to show if your password entry was accepted or rejected.
- If the entry was accepted, you are able to return to the MAIN menu.

The ICIM Password, Continued

5. If the password you entered is rejected, press the **SHIFT** key to return to the password menu, then re-enter an 8-digit password using only the 0-9 number keys. Press the **ENTER** key to input the password.

Reasons for a password to be rejected include:

- Entering more than eight digits for the password
- Pressing keys other than the 0-9 number keys
- Entering an incorrect password if a valid password has been entered




ICIM	ICIM	ICIM	ICIM
----- Shelf 0 Slot 15 -----	----- Shelf 0 Slot 15 -----	----- Shelf 0 Slot 15 -----	----- Shelf 0 Slot 15 -----
User Psw	User Psw *****	User Psw 1234****	User Psw 12345678
-----	-----	-----	-----
Shift Off	Shift On	Rejected Shift Off	Accepted Shift Off


The ICIM Password, Continued


Changing the User Password

If a user password has been entered, it may be changed. However, the current password must be active prior to changing it. If the current password has expired (more than 10 minutes have passed since your last keystroke), you must re-enter the current password before changing to a new one.

Follow these steps to change a user password.

1. Access the Password menu as shown in the procedure **Accessing the Password Menu**.
2. Use the  key to scroll down until **Change Psw** is highlighted.
3. Press the  key to select **Change Psw**.
4. When **Change Psw/Shift Off** displays, press the  key to display **Shift On** - then enter the eight digits of your new password, using the 0-9 number keys.

If at any time you input a digit that is incorrect or wish to change a digit, use the **CAN** (Cancel) function by pressing the  key to delete that digit.

5. Press the  key to input the new password.

Results:

- The ICIM updates the display to show if your password entry was accepted or rejected.
- If the entry was accepted, you are able to return to the MAIN menu.

The ICIM Password, Continued

6. If the new password you entered is rejected, press the **SHIFT** key to return to the password entry menu. Clear all digits using the **CAN** (Cancel) function, then re-enter an 8-digit password using only the 0-9 number keys. Press the **ENTER** key to input the password.

ICIM	ICIM	ICIM	ICIM
Shelf 7	Shelf 7	Shelf 7	Shelf 7
Slot 15	Slot 15	Slot 15	Slot 15
User Psw	Change Psw	Change Psw	Change Psw
SA Psw		*****	87654321
Change Psw			
Disable Psw			
	Shift Off	Shift On	Shift On

The ICIM Password, Continued

Disabling the User Password

If a user password has been entered, you may disable it at any time. However, the current password must be active prior to disabling it. If the current password has expired (more than 10 minutes have passed since your last keystroke), you must re-enter the current password before disabling it.

Follow these steps to disable a user password.

1. Press the **ICIM** key.
2. Use the **▼** key to scroll down until **Password** is highlighted.
3. Press the **SEL** key.
4. Use the **▼** key to scroll down until **Disable Psw** is highlighted.
5. Press the **SEL** key to select **Disable Psw**.
6. If the current password is active, the menu displays **Password Is Now Disabled**. You can now make changes to parameters without any password.
7. If the current password has expired (more than 10 minutes have passed since your last keystroke), the menu displays **Failed, Password Not Active**. You must re-enter the current password and then repeat this procedure.

ICIM	ICIM	ICIM
-----	-----	-----
Shelf 7	Shelf 7	Shelf 7
Slot 15	Slot 15	Slot 15
-----	-----	-----
User Psw	Enter Psw	Enter Psw
-----	8765****	87654321
SA Psw	-----	-----
-----	-----	-----
Change Psw	Password	Failed,
-----	Is Now	Password
Disable	Disabled	Not Active
Psw	-----	-----
-----	Shift Off	Shift Off

Operating the ICIM

Using the ICIM

Once the module is installed as described in Chapter 2, it runs without the aid of an operator. Unless alarms are generated or your system configuration changes, you should not need to make any adjustments to the module beyond the initial setup.

Accessing the ICIM LCD Contrast

To access the ICIM LCD contrast control from the MAIN menu, press the **ICIM** key. Use the **+** key to increase or the **-** key to decrease ICIM display contrast.

The MAIN Menu

A few seconds after power-up, the MAIN menu (shown below) is displayed. Press the **SEL** key to select the specific option.

Display	Description
Offline	Indicates TNCS communication status with the ICIM.
Modules	Indicates the number of modules in the ICIM domain.
Alarms	Displays the number of modules that are in alarm. Selecting this option allows scrolling through all modules in alarm condition.
Scroll	Allows scrolling through all modules in the ICIM domain.
Module Shelf Slot	Allows selection of any specific module in the ICIM domain.

MAIN

Offline

Modules
15

Alarms
0

Scroll

Module
Shelf
Slot

Operating the ICIM, Continued

Prisma II ICIM Menu

To display the ICIM menu, press the **ICIM** key. The ICIM menu (shown below) is displayed. Press the **SEL** key to select the specific option.

Display	Description
Shelf Slot	Displays the location of the ICIM module.
Mfg Data	Displays manufacturing data about the ICIM.
Password	Allows you to enter, change, or disable a system password. See Using the ICIM Password earlier in this chapter.
Update Adr	If the Chassis ID number switch has been changed, you must highlight the Update Adr menu and press the SEL key for the ICIM to recognize the change.

ICIM	
Shelf	7
Slot	15

Mfg Data	

Password	

Update Adr	

ICIM	
Shelf	7
Slot	15

Mfg Data	

Password	

Update Adr	

ICIM	
Shelf	7
Slot	15

Mfg Data	

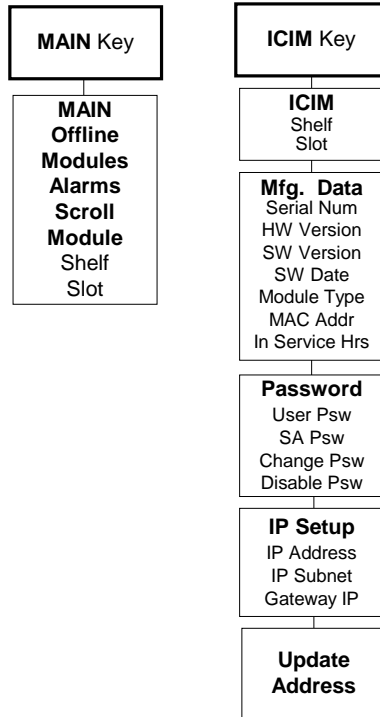
Password	

Update Adr	

Operating the ICIM, Continued

Prisma II MAIN Menu and ICIM Menu Structure

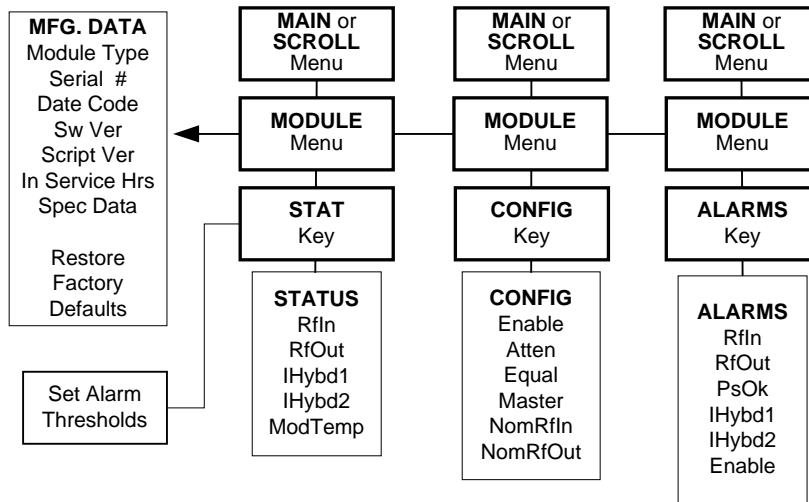
Pressing the **MAIN** key initiates the MAIN software menu. Pressing the **ICIM** key initiates the ICIM software menu. The MAIN and ICIM software structures are shown below.



Operating the ICIM, Continued

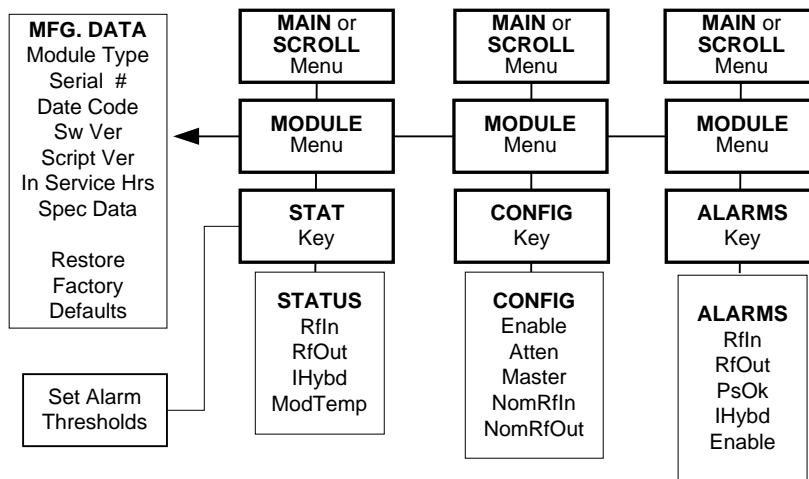
Prisma II FHEDA Software Menu Structure

From the MAIN or SCROLL menus, you can navigate to the Prisma II FHEDA MODULE menu. From the MODULE menu, press the **STAT**, **CFG**, or **ALRM** key to display the desired parameter menu. The structure for the Prisma II FHEDA software is shown below.



Prisma II RHEDA Software Menu Structure

From the MAIN or SCROLL menus, you can navigate to the Prisma II RHEDA MODULE menu. From the MODULE menu, press the **STAT**, **CFG**, or **ALRM** key to display the desired parameter menu. The structure for the Prisma II RHEDA software is shown below.



Monitoring Operating Status Using the ICIM

Checking Operating Status

Using the ICIM, you can check the status of all operating parameters of the FHEDA and RHEDA modules. All status information is displayed on the ICIM LCD.

Follow these steps to monitor operating parameters.

1. At the MAIN menu, press the key to highlight the **Shelf** and **Slot** fields.
2. Press the key to address the **Shelf** number. Then press the key or the key to scroll to the number of the desired shelf.
3. Press the key.
Result: The **Slot** field is highlighted.
4. Press the key or the key to scroll to the number of the desired slot.
5. Press the key.
Result: The **MODULE** menu displays on the ICIM.
6. Press the key.
7. Press the key or the key to scroll through the monitored parameters until you find the parameter of interest.
8. Check the status of the desired parameter or select other parameters to monitor. When finished, press the key to return to the **MAIN** menu.

Monitored Parameters

You can monitor the status of all operating parameters of the module. The tables below describe the monitored parameters for the module.

FHEDA Monitored Parameters

FHEDA Parameter	Units	Function
RfIn	dBmV	Actual RF input level
RfOut	dBmV	Actual RF output level
IHybd1	A	Hybrid Amplifier 1 current
IHybd2	A	Hybrid Amplifier 2 current
ModTemp	degC	Module temperature

Monitoring Operating Status Using the ICIM, Continued

RHEDA Monitored Parameters

RHEDA Parameter	Units	Function
RfIn	dBmV	Actual RF input level
RfOut	dBmV	Actual RF output level
IHybd	A	Hybrid Amplifier current
ModTemp	degC	Module temperature

STATUS Menus

Press **STAT** to select the **STATUS** menu. Typical **STATUS** menus are shown below.






STATUS ----- Shelf 0 Slot 6 ----- FHEDA ----- RfIn 32.0 dBmV ----- RfOut 52.0 dBmV ----- ▲ ▼	STATUS ----- Shelf 0 Slot 6 ----- FHEDA ----- IHybdCur1 0.200 A ----- IHybdCur2 0.400 A ----- ▲ ▼	STATUS ----- Shelf 0 Slot 6 ----- FHEDA ----- ModTemp 35.8 ----- ▲ ▼
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Configuring the Module Using the ICIM




Configuring Parameters

Using the ICIM, you can configure the parameters listed below. A list of configurable parameters and CONFIG menus follow these procedures.








Follow these steps to configure parameters.

1. From the **MAIN** menu, press the  key to highlight the **Shelf** and **Slot** fields.
2. Press the  key to address the **Shelf** number. Then press the  key or the  key to scroll to the number of the desired shelf.
3. Press the  key.

Result: The **Slot** field is highlighted.

4. Press the  key or the  keys to scroll to the number of the desired slot.
5. Press the  key.

Result: The **MODULE** menu displays on the ICIM.

6. To configure the module, press the  key.
7. Press the  key or the  key to scroll through the configurable controls until you find the parameter of interest.
8. Press the  key to select the highlighted control.
9. Press the  key or the  key to activate or change the value of the selected control.
10. Press the  key to save the changes and return to the **MAIN** menu.

Configuring the Module Using the ICIM, Continued

Configurable Parameters

Configurable parameters for the module include the following.

FHEDA Configurable Parameters

FHEDA Control	Function	Values	Default
Enable	Amplifier On/Off	On or Off	On
Atten	Pin Attenuator	0 to 10.0 dB (0.5 dB steps)	0 dB
Equal	Signal Equalization	0 to 9.0 dB (1.5 dB steps)	0 dB
Master	Master/Slave. When set to Slave, amplifier begins operation with external alarm signal	Master/Slave	Master
NomRfIn	Sets value of nominal Rf Input level	20 to 40 dBmV (0.5 dB steps)	32.0 dBmV
NomRfOut	Sets value of nominal Rf Output level	40 to 60 dBmV (0.5 dB steps)	52.0 dBmV

RHEDA Configurable Parameters

RHEDA Control	Function	Values	Default
Enable	Amplifier On/Off	On or Off	On
Atten	Pin Attenuator	0 to 10.0 dB (0.5 dB steps)	0 dB
Master	Master/Slave. When set to Slave, amplifier begins operation with external alarm signal	Master/Slave	Master
NomRfIn	Sets value of nominal Rf Input level	10 to 40 dBmV (0.5 dB steps)	32.0 dBmV
NomRfOut	Sets value of nominal Rf Output level	30 to 60 dBmV (0.5 dB steps)	42.0 dBmV

Configuring the Module Using the ICIM, Continued

CONFIG Menus

Some typical module **CONFIG** menus are shown below.

<pre>CONF I G ----- Shelf 0 Slot 6 ----- FHEDA ----- Enable Atten Equal Master ▲ ▼</pre>	<pre>CONF I G ----- Shelf 0 Slot 6 ----- FHEDA ----- Enable ON</pre>	<pre>CONF I G ----- Shelf 0 Slot 6 ----- FHEDA ----- Master Slave</pre>
---	--	---

Checking Alarms Using the ICIM

Checking Alarms

If the red ALARM LED on the front panel is blinking a minor alarm condition is indicated. If the red ALARM LED on the front panel is illuminated, a major alarm condition is indicated.

Alarms fall into one of the following categories.

- Major low
- Minor low
- Minor high
- Major high

Follow these steps to check alarm conditions.

1. From the MAIN menu, press the key to highlight the **Shelf** and **Slot** fields.
2. Press the key to address the **Shelf** number. Then press the key or the keys to scroll to the number of the desired shelf.
3. Press the key.
Result: The **Slot** field is highlighted.
4. Press the key or the key to Scroll to the number of the desired slot.
5. Press the key.
Result: The **MODULE** menu displays on the ICIM.
6. Press the key.
Result: Module alarm conditions display.
7. Use the key or the key to scroll through alarm conditions until the desired alarm is displayed.
8. Monitor the alarm condition(s). Take appropriate action. Verify that all settings and thresholds relating to the alarm indication are set correctly to rule out an unintended alarm.
9. When finished, press the key to return to the MAIN menu.

Checking Alarms Using the ICIM, Continued

User Alarm Data Display

The alarm display data for the modules are shown below.

FHEDA User Alarm Data Display Parameters

FHEDA Alarm	Alarm Condition	Type	Typical Range
RfIn	Rf Input = >7.0 or <-7.0 dBmV above or below Nominal Rf Input level	Minor	13.0 to 47 dBmV
	Rf Input = > 15.0 or <-15 dBmV above or below Nominal Rf Input level	Major	5 to 55 dBmV
RfOut	Rf Output = >7.0 or <-7.0 dBmV above or below Nominal Rf Output level	Minor	33.0 to 67 dBmV
	Rf Output = > 15.0 or <-15 dBmV above or below Nominal Rf Output level	Major	45 to 75 dBmV
PsOk	Bus Fault	Major	Ok/Bus fault
IHybd1	Current = > 0.300A or < 0.100A	Minor	0.100A to 0.300A
	Current = > 0.350A or < 0.050A	Major	0.050A to 0.350A
IHybd2	Current = > 0.550A or < 0.250A	Minor	0.250A to 0.550A
	Current = > 0.600A or < 0.200A	Major	0.050A to 0.600A
Enable	Unit disabled by user	Major	Enabled/Disabled



Checking Alarms Using the ICIM, Continued

RHEDA User Alarm Data Display Parameters

RHEDA Alarm	Alarm Condition	Type	Typical Range
RfIn	Rf Input = >7.0 or <-7.0 dBmV above or below Nominal Rf Input level	Minor	3.0 to 47 dBmV
	Rf Input = > 15.0 or <-15 dBmV above or below Nominal Rf Input level	Major	5 to 55 dBmV
RfOut	Rf Output = >7.0 or <-7.0 dBmV above or below Nominal Rf Output level	Minor	37.0 to 67 dBmV
	Rf Output = > 15.0 or <-15 dBmV above or below Nominal Rf Output level	Major	45 to 75 dBmV
PsOk	Bus Fault	Major	Ok/Bus fault
IHybd	Current = > 0.300A or < 0.150A	Minor	0.150A to 0.300A
	Current = > 0.400A or < 0.050A	Major	0.050A to 0.400A
Enable	Unit disabled by user	Major	Enabled/Disabled

Checking Alarms Using the ICIM, Continued

User Alarm Menus

When a module's **ALARMS** menu is selected, press the  key or the  key to scroll through alarms. Typical user **ALARMS** menus are shown below.

ALARMS	ALARMS	ALARMS
Shelf 0 Slot 6	Shelf 0 Slot 6	Shelf 0 Slot 6

FHEDA	FHEDA	FHEDA

RfIn MajL	HybdCur1 MinH	Enable FAULT
RfOut MajH	ModTemp MajL	PsOk FAULT
▲ ▼	▲ ▼	▲ ▼

Checking Alarms Using the ICIM, Continued

Setting Adjustable Alarm Thresholds

Follow these steps to change an adjustable alarm threshold from the factory default.

1. At the MODULE menu, press the **STAT** key.
Result: The STATUS menu displays on the ICIM.
2. Press the **SEL** key. The alarm thresholds previously set are displayed. If the label **n/a** is displayed, you cannot configure that alarm threshold. Press the **▼** key to highlight the next parameter's alarm threshold.
3. When the threshold that you wish to set is highlighted, press the **ENTER** key.
4. Press the **▼** key or the **▲** key to change the increment size.
5. Press the **+** key or the **-** key to adjust the alarm threshold.
Note: Press Cancel (**ALRM**) key to return to the previous menu.
6. Press the **ENTER** key to save the changes.
Result: **Data Saved** displays.
7. When finished, press the **MAIN** key to return to the MAIN menu.

Checking Alarms Using the ICIM, Continued

Alarm Threshold Values

Alarm threshold is the value at which an alarm is triggered. The alarm threshold data for the modules are shown below.

FHEDA Alarm Threshold Value Parameters

Alarm Display	Major Low Limit	Minor Low Limit	Minor High Limit	Major High Limit	Hysterisis
RfIn	-15.0 dB	-7.0 dB	7.0 dB	15.0 dB	1.0 dB
RfOut	-15.0 dB	-7.0 dB	7.0 dB	15.0 dB	1.0 dB
PsOk	N/A	N/A	N/A	N/A	N/A
IHybd1	0.050A	0.100A	0.300A	0.350A	0.001A
IHybd2	0.200A	0.250A	0.550A	0.600A	0.001A
Enable	N/A	N/A	N/A	N/A	N/A






RHEDA Alarm Threshold Value Parameters

Alarm Display	Major Low Limit	Minor Low Limit	Minor High Limit	Major High Limit	Hysterisis
RfIn	-15.0 dB	-7.0 dB	7.0 dB	15.0 dB	1.0 dB
RfOut	-15.0 dB	-7.0 dB	7.0 dB	15.0 dB	1.0 dB
PsOk	N/A	N/A	N/A	N/A	N/A
IHybd	0.050A	0.100A	0.300A	0.350A	0.001A
Enable	N/A	N/A	N/A	N/A	N/A





Checking Manufacturing Data Using the ICIM

Checking Manufacturing Data

The Manufacturing Data information listed later can be displayed on the ICIM menu. To access the module's Manufacturing Data, follow these steps.



1. From the MAIN menu, press the  key to highlight the **Shelf** and **Slot** fields.
2. Press the  key to address the **Shelf** number. Then press the  key or the  keys to Scroll to the number of the desired shelf.
3. Press the  key.

Result: The **Slot** field is highlighted.

4. Press the  key or the  key to scroll to the number of the desired slot.
5. Press the  key. The **MODULE** menu for this module will be selected, as shown on the left below. Press the  key to enter the start of the manufacturing data menus, as shown on the right below.

MODULE	
Shelf	0
Slot	6
FHEDA	
Alarms	
1	
Mfg. Data	
▲ ▼	

MFG. DATA	
Shelf	0
Slot	6
FHEDA	
Module	
Type	
3011	
▲ ▼	

6. The  or  keys allow you to scroll through the manufacturing data.

Checking Manufacturing Data Using the ICIM, Continued



Manufacturing Data Display y y

The tables below describe the manufacturing data available for the modules.

Manufacturing Data	Typical Values	
Module	FHEDA	RHEDA
Module Type	3011	3012
Serial #	!ABCDEFG	
Date Code	F00	
Sw Ver (Software Version)	CCB606	
Script Ver (Script Version)	14	
In Service Hours	1	
Spec data	Special data	
Restore Factory Defaults	Restores the module's factory default configuration settings.	

Checking Manufacturing Data Using the ICIM, Continued

MFG. DATA Screens

When the **MFG. DATA** menu is selected, the  key or the  key allows you to scroll through the manufacturing parameters specific to this module. Sample **MFG. DATA** menus are shown below. Data is dependant on transmitter type.

MFG. DATA	

Shelf	0
Slot	6

FHEDA	

Module Type	
3011	
▲ ▼	

MFG. DATA	

Shelf	0
Slot	6

FHEDA	

Serial #	!ABCDEFG
Date Code	F00
▲ ▼	

MFG. DATA	

Shelf	0
Slot	6

FHEDA	

SW Ver	CCB606
Script Ver	14
▲ ▼	

MFG. DATA	

Shelf	0
Slot	6

FHEDA	

In Service Hours	1
▲ ▼	

Using the ICIM to Save the Configuration

Saving the Current Configuration

To save the current module configuration, follow these steps after every change.

1. After you have changed a parameter or entered data, press the **ENTER** key to save the changes and return to the MAIN menu.
2. If you do not save your changes for two minutes, or if you press the **SHIFT** **CAN** keys at the same time, changes are aborted and the display returns to the MAIN menu.

Configuration Complete

Once you have configured this module to your system's specifications using the ICIM and no alarms are indicated, no further action is necessary. The module operates without further input. Alarms, changes in operating parameters, electrical power fluctuations, or changes in system design may be cause for additional action.

SNMP Configuration Capability

Introduction

The IP Setup menu item in the ICIM menu allows you to enter an IP address, IP subnet, and gateway IP in order to configure the ICIM for remote status monitoring and control by an Simple Network Management Protocol (SNMP) network management system.

Note: Contact Cisco Services for MIB files.

SNMP Considerations

The following items should be considered when implementing SNMP:

- The SNMP connection is made through the Ethernet port on the front of the ICIM. (Use 10baseT cable with an RJ-45 connector.) In order to meet the requirements of GR-1089-CORE, a shielded cable must be used and both ends must be grounded.
- The Network Management System (NMS) must be installed behind a firewall to prevent any ill-intentioned persons with an SNMP manager from accessing, and tampering with, the ICIM.
- When the ICIM has to handle excessive SNMP traffic, it will respond slowly to both SNMP control and front panel input. If this occurs, reduce the update rate of the SNMP manager.

Important: If an HDRX chassis is set to chassis ID 41, the ICIM will not detect receiver 9 in that chassis.

Basic SNMP Setup

Refer to your SNMP manager documentation and/or Management Information Base (MIB) information for instructions on implementing SNMP. Before you can use and reconfigure SNMP services, you need to know the community names in your network and the IP addresses or computer names for SNMP management hosts that traps are sent to.

Setting Up the IP Configuration Parameters for SNMP Support

Follow these steps to set up the IP configuration parameters.

1. Press the ICIM key.

Result: The ICIM menu displays.

2. Select the **Password** menu and enter the User Password.

Result: The ICIM allows configuration changes for the next 10 minutes.

Note: Refer to your specific hardware Installation and Operation Guide for more information on using, entering, or changing the ICIM user password.

SNMP Configuration Capability, Continued

3. Press the key.

Result: The ICIM menu displays.

4. Use the key to scroll down until **IP Setup** is highlighted.
5. Press the key.

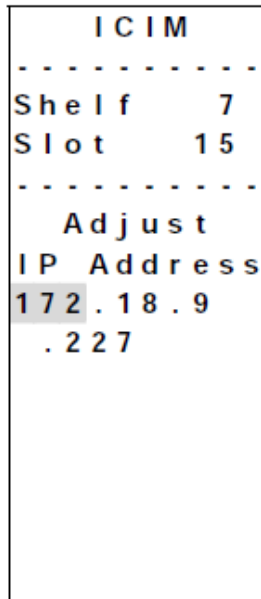
```
      I C I M
-----
S h e l f      7
S l o t      1 5
-----
I P A d d r e s s
1 7 2 . 1 8 . 9
. 2 2 7
I P S u b n e t
2 5 5 . 2 5 5
. 2 5 5 . 0
G a t e w a y I P
1 7 2 . 1 8 . 9
. 2 5 4
```

Result: The IP Setup menu displays, as shown above.

6. Use the or keys to scroll to and highlight the desired configuration parameter; IP Address, IP Subnet, or Gateway IP.

SNMP Configuration Capability, Continued

7. Press the **SEL** key.



Result: The Adjust menu for the selected IP parameter displays and the first segment of the address is highlighted.

Note: The example above shows the IP Address parameter Adjust menu. The Adjust menus for IP Subnet and Gateway IP are similar.

8. Enter the correct numbers for the first segment of the address.

Notes: One of two methods can be used to enter the numbers, as follows:

- Press the **+** or **-** keys to increase/decrease the number to set value.
- Press the **SHIFT** key to change to the numeric entry mode. (“Numlock On” displays on the front panel LCD.) Then enter the exact number using the number keys on the 12-key numeric keypad.

9. Press the **ENTR** key to accept your entry and move to the next address segment to the right. (You can also use the **▼** or **▲** keys to move to the address segment of your choice.)

Note: If you are using the numeric entry mode, the cursor moves to the next address segment to the right automatically after you enter the last digit of the current address segment.

10. Repeat steps 8 and 9 until all address segments are entered.

Result: After you enter the last address segment and press the Enter key, the system returns to the IP Setup menu.

SNMP Configuration Capability, Continued

11. Repeat steps 6 through 10 for each IP Setup parameter that you need to enter.
12. Restart the ICIM.

Important: IP Setup parameters do not take effect until the ICIM is restarted.

Restarting the ICIM

Follow these steps to restart the ICIM.

1. Unscrew the captive screw near the top right-hand corner of the ICIM.
2. Unlock the top and bottom ejector levers near the left-hand side of the ICIM.
3. Pull the ejector levers out and away from the front panel to disconnect the ICIM from the chassis backplane connector.
4. Pull the ICIM at least 1.5 inches (3.81 cm) out from the front of the chassis to ensure that it is fully separated from the chassis backplane connector.
5. Reinsert the ICIM into the chassis until the ejector levers insert into their respective slots in the chassis.
6. Push the ejector levers in and flat against the ICIM front panel to reconnect the ICIM to the backplane connector until the ejector levers lock in place.
7. Screw in the captive screw to secure the ICIM in the chassis.

Community Names

Expected Community Names

The community name provides primitive security and context checking for both agents and managers that request and initiate trap operations. An agent does not accept a request from a manager outside the community.

Community names that ICIM expects are:

Read Community	public
Read/Write Community	private
Trap Community	SNMP_trap

Setting SNMP Trap Receiver Parameters

Introduction

Using the SNMP trap receiver parameters, you can specify up to five IP addresses that traps will be sent to. You can also specify what events will result in a trap being sent to the network management systems at these IP addresses. The Cold Start trap will always be sent to all network management systems. The Authentication Failure trap will also be sent to all trap receivers if the `snmpEnableAuthenTraps` is set to "Enabled".

You can specify which enterprise specific traps are sent to each trap receiver by setting variables in the `P2TrapRecv` table.

Set Traps in P2TrapRecvEntry

Entries to the `P2TrapRecvEntry` file can be made to send the trap information to a trap handler. The SNMP agent automatically sends an alert when the value of an object changes or exceeds a predefined threshold.

Follow these steps to set traps for a specific IP address.

1. On an SNMP manager, go to the `P2TrapRecvEntry` table.
2. Type the IP address that you want the trap sent.
3. Select **Enable** from the drop-down list.

Result: The new IP address is enabled and traps are sent to this IP address. Any changes are immediately stored to the EEPROM so the changes are not lost if power is lost or the ICIM is reset.

SNMP Variables

Introduction

Supporting traps requires additional data available through SNMP. This additional data may be useful even if not using traps.

SNMP is the only way this additional data can be accessed. It cannot be accessed through the ICIM front panel or an SMC interface.

Table of Inserted Modules

This table is named p2InsertModuleTable. This table contains a list of modules that have been inserted since the last time the ICIM was reset or told to update the chassis ID for all modules. It does not include modules found when the initial search for modules is performed.

The modules are displayed in chronological order with the most recently inserted module always being in index position 1. If the number of modules inserted exceeds the capacity of the table, the oldest entries are deleted.

This table only contains the chassis and slot ID for a detected module. It is necessary to look at the other tables for more information.

Each row of this table is made up of the following variables:

p2InsertModuleIndex	The index for this table. The most recently inserted module is always in index position 1.
p2InsertModuleChassisID	The chassis ID number of the new module.
p2InsertModuleSlotID	The slot ID number of the new module.

Table of Removed Modules

This table is named p2RemoveModuleTable. This table contains a list of modules that have been removed since the last time the ICIM was reset or told to update the chassis ID for all modules.

The modules are displayed in chronological order with the most recently removed module always being in index position 1. If the number of modules removed exceeds the capacity of the table, the oldest entries are deleted.

SNMP Variables, Continued

If a module is removed before the PNP data is read in the type, name and serial number is blank.

Each row of this table is made up of the following variables:

p2RemoveModuleIndex	The index for this table. The most recently removed module is always in index position 1.
p2RemoveModuleChassisID	The chassis ID number of the removed module.
p2RemoveModuleSlotID	The slot ID number of the removed module.
p2RemoveModuleName	The name of the removed module. This is the name is from the PNP data for this module and matches what the ICIM and SNMP display as the name. TNCS and LCI may use a different name.
p2RemoveModuleType	The TNCS type number of the removed module. This number uniquely identifies every type of module.
p2RemoveModuleSerialNum	The serial number of the removed module. This information is needed to determine if a module has been replaced with one that is the same type.

Previous IP Address

This variable is named p2PreviousIP. When the IP of the ICIM is changed using the front panel, this variable returns the previous ICIM IP address. It returns 0.0.0.0 until the IP address of the ICIM is changed for the first time.

Chapter 4

Operation Using LCI

Overview

Introduction

The installation steps and procedures in this chapter apply if you are using the Local Craft Interface (LCI) to operate the Prisma II FHEDA and RHEDA.

Included in this chapter are LCI installation instructions and detailed descriptions of how to use LCI to view and modify information for the amplifier.

In This Chapter

This chapter contains the following topics.

Topic	See Page
LCI Introduction	4-2
System Requirements	4-3
Installing LCI	4-4
Connecting Your Computer to the Chassis	4-7
Starting LCI	4-8
LCI Module Tree Overview	4-9
Accessing the Module Details Window	4-11
Checking the Operating Status	4-18
Configuring the Module	4-20
Checking Module Alarms	4-25
Modifying Module Alarm Limits	4-29
Checking Manufacturing Data	4-32

LCI Introduction

LCI Function

LCI is software that functions as a user interface for the Prisma II platform. LCI is installed on a computer, which is then connected to a Prisma II Chassis. Using LCI, you can configure and monitor the modules in the chassis the computer is connected to.

Important: Do not operate any Prisma II Chassis without a fan tray installed. If a fan tray is not installed in the Prisma II Chassis, the LCI will not communicate with the power supplies in that chassis.

System Requirements

Introduction

You will need the following computer software and hardware to run LCI.

Computer Requirements

- Pentium II 300 MHz processor or equivalent
- 128 MB RAM
- 10 MB available hard drive space
- 1.44 MB floppy drive
- CD-ROM Drive
- Windows 95 or later operating system software

Connecting the PC to the Prisma II Chassis

The required cable is a standard “off the shelf” DB9 Female to DB9 Male serial extension cable. The connectors are a serial 9-pin D-shell (EIA 574/232).

The Cisco part number for a six-foot DB9 Female to DB9 Male extension cable is 180143.

Installing LCI

Introduction

This section describes how to install your LCI software.

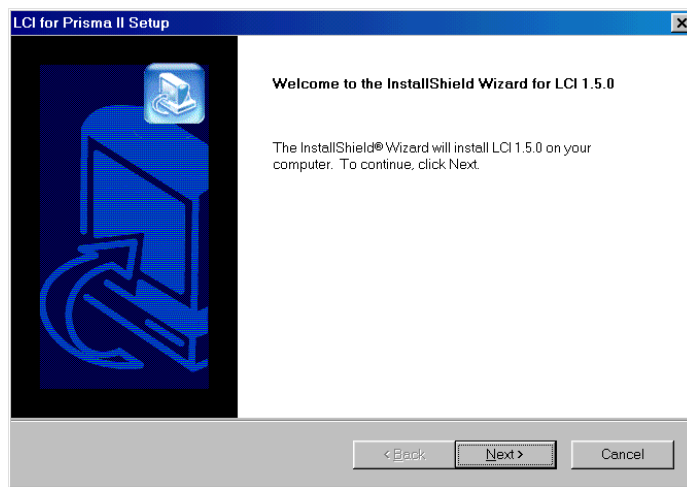
Installing the LCI Software

Follow these steps to install the LCI software.

1. Close all programs that are running on your computer.
2. Insert the LCI CD-ROM into your CD-ROM drive.

Results:

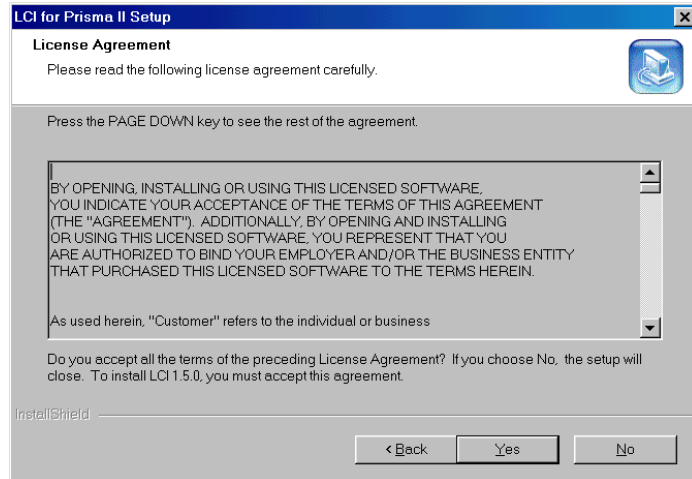
- The LCI software installation program starts automatically. If the installation program does not start automatically, open Windows Explorer and double-click the file **setup.exe** on the LCI CD-ROM.
- The Welcome screen displays.



Installing LCI, Continued

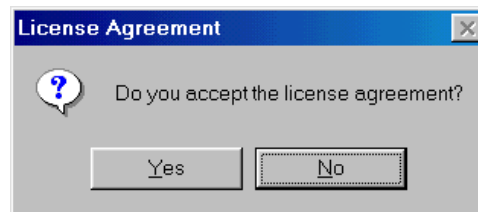
3. Click **Next**.

Result: The License Agreement screen displays.



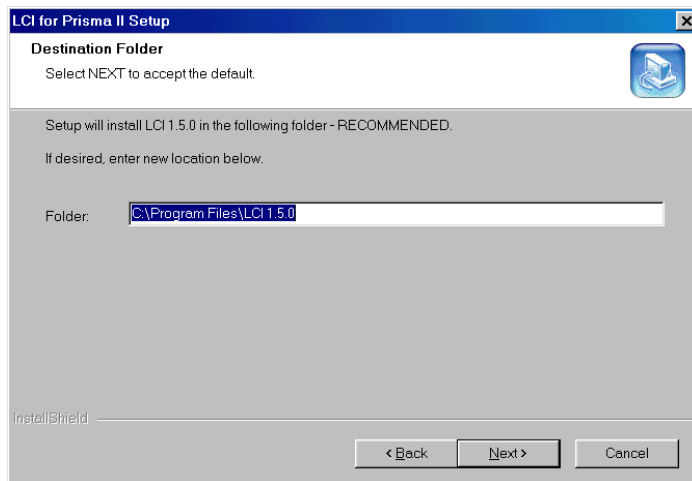
4. Click **Yes** if you accept the license agreement.

Result: The **License Agreement** dialog box displays.



5. Click **Yes**.

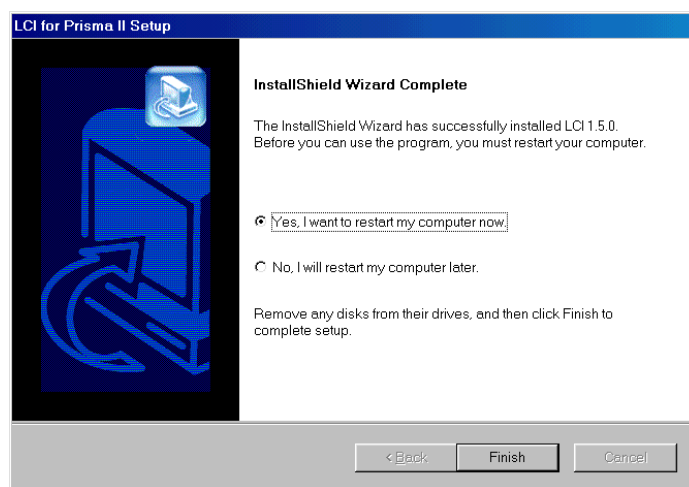
Result: The Destination Folder window displays.



Installing LCI, Continued

6. Do you want to install the LCI software in the folder displayed in the **Folder** box?
 - If **yes**, click **Next** to begin the installation, and proceed to step 9.
 - If **no**, proceed to step 7.
7. To specify where you want the LCI software to be installed, type the path in the **Folder** box.
8. Click **Next** to begin the installation.

Result: The last installation wizard window displays after the installation is complete.



9. Before you can use the LCI software, you must restart your computer. Choose whether to restart your computer now or later by selecting the appropriate option button.
10. Click **Finish**. After your computer is restarted, you can use the LCI software.

Connecting Your Computer to the Chassis

Introduction

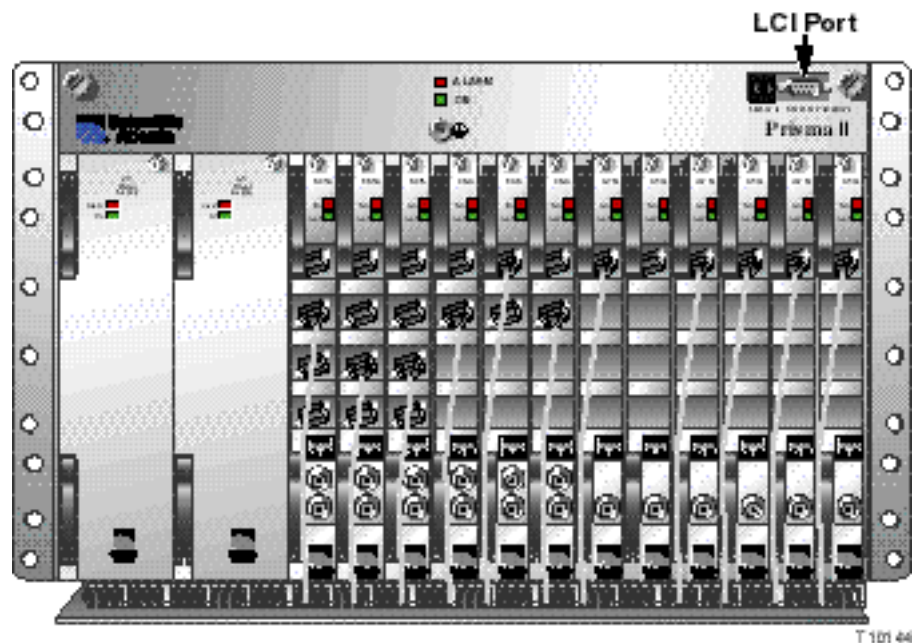
Before you start LCI, you must first connect your computer to the chassis that contains the module(s) you want to check.

Important: LCI communicates only with those modules located in the chassis your computer is attached to. To check other modules, you must connect your computer to the chassis they are located in.

Connecting to the Chassis

Follow these steps to connect your computer to the chassis.

1. Plug one end of a nine-pin RS-232 cable into your computer.
2. Plug the other end of the cable into the LCI port. This port is labeled “Local Craft Interface”.



Starting LCI

Introduction

When LCI is started, it polls the module(s) located in the chassis your computer is attached to. For each module it finds, LCI does the following:

- Represents the module in the module tree of the main LCI window
- Makes the polling information available so you can check and configure various parameters

Important: Your computer must be connected to the chassis before you start LCI. For instructions, refer to **Connecting Your Computer to the Chassis** earlier in this chapter.

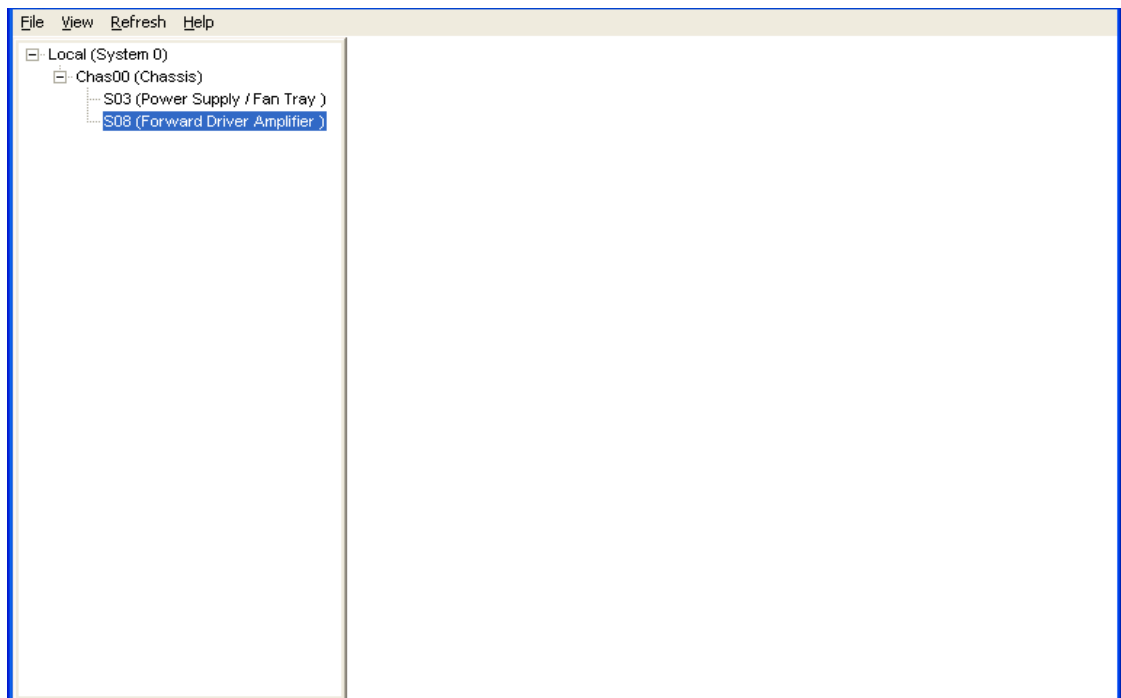
Starting LCI

To start the software, double-click the LCI icon on your Windows desktop.



Results:

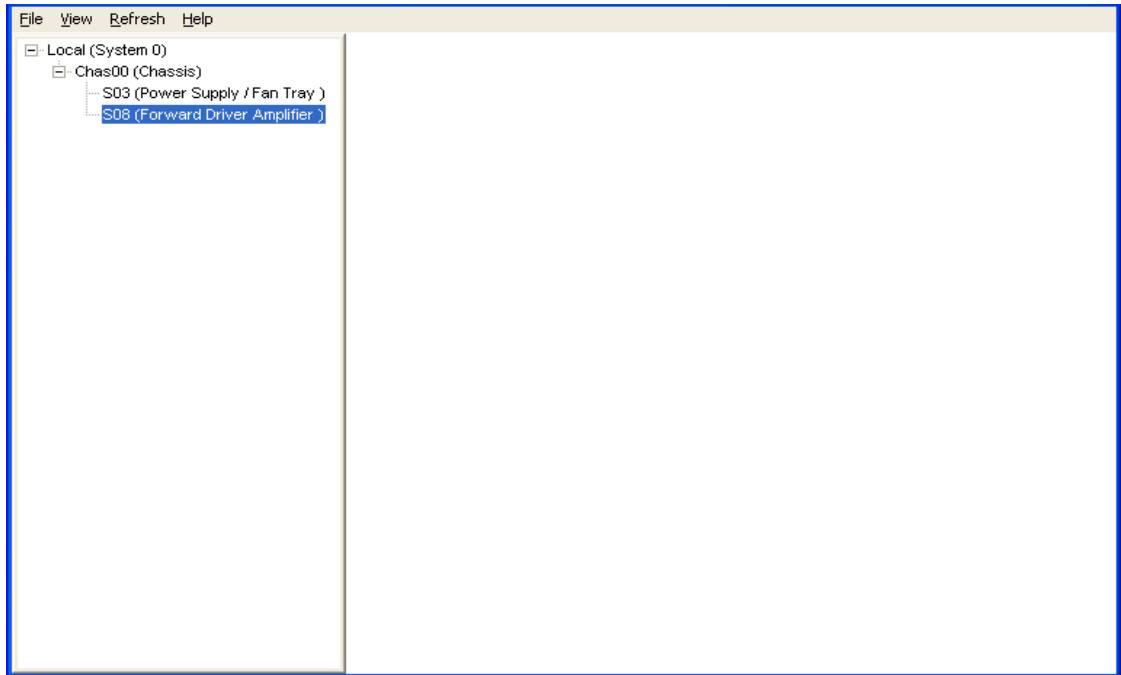
- LCI polls the modules in the chassis
- The main LCI window displays



LCI Module Tree Overview

Introduction

The main window of LCI contains a tree that represents your system in a hierarchical manner.



Module Tree

In the graphic above, the module tree represents a laptop connected to a chassis that contains ten modules. The three tree levels are described in the following table.

Module Tree Level	Description
Local (System 0)	Laptop computer being used
Chas00 (Chassis)	Chassis the computer is connected to
Sxx (Module name)	Module(s) located within the chassis. Each module is of the format <i>chassis slot location (module name)</i> . Example: In the graphic above, S08 (Forward Driver Amp) represents a Forward Driver Amplifier that's located in slot 8 of the chassis.

LCI Module Tree Overview, Continued

Module Information

Information about a module (its parameters, alarms, and status) is located in the Module Details window. Within the module tree, you can access this window using one of the following four methods:

- Double-click the chassis and select the module in the graphic that displays
- Right-click the chassis and select **Open** from the menu that displays
- Double-click the module
- Right-click the module and select **Details** from the menu that displays

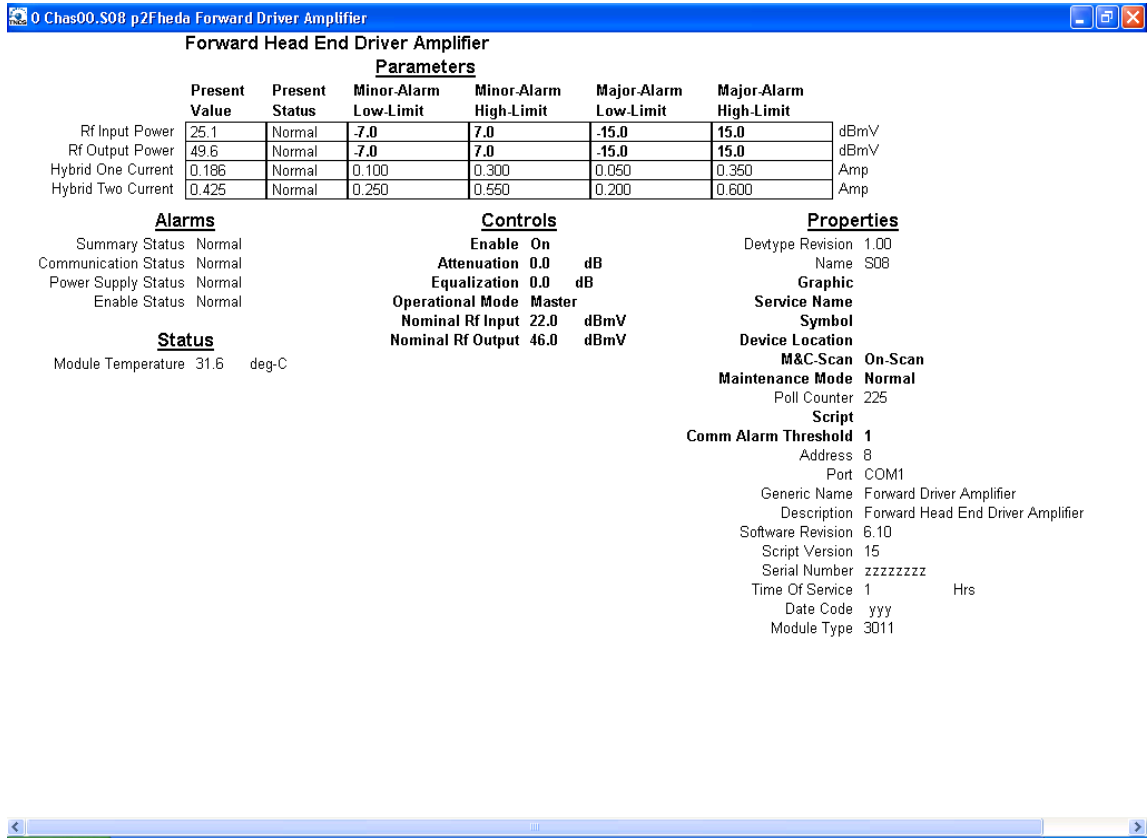
Note: Although you can use the method that's most convenient for you, the procedures throughout this chapter are described using the right-click module technique.

For more information about each of these methods, refer to the next section, **Accessing the Module Details Window**.

Accessing the Module Details Window

Introduction

Information about a module (its parameters, alarms and statuses) is located in the Module Details window. The graphic below shows the Module Details window for a Prisma II FHEDA.



Within LCI's module tree, you can access this window using one of the following four methods:

- Double-click the chassis and select the module in the graphic that displays
- Right-click the chassis and select **Open** from the menu that displays
- Double-click the module
- Right-click the module and select **Details** from the menu that displays

Note: Although you can use the method that's most convenient for you, the procedures throughout this chapter are described using the right-click module technique.

For more information about the module tree, refer to **LCI Module Tree Overview** earlier in this chapter.

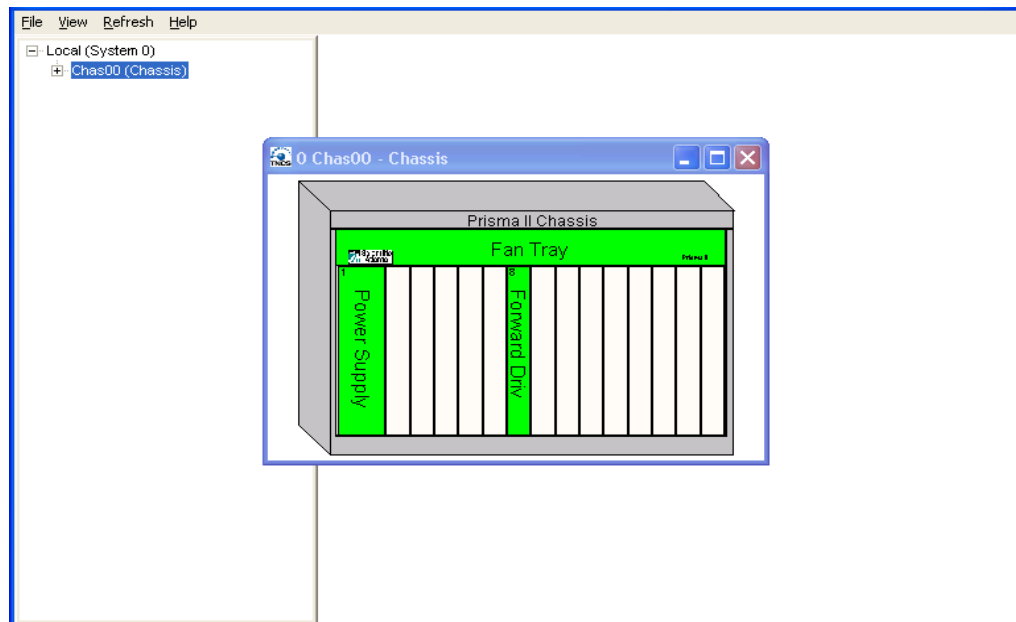
Accessing the Module Details Window, Continued

Double-Click the Chassis

To access the Module Details window, follow these steps.

1. Double-click the chassis.

Result: A graphic representation of the chassis displays.



Accessing the Module Details Window, Continued

- Double-click the module whose information you want to view and/or configure.

Result: The Module Details window displays.

Forward Head End Driver Amplifier

Parameters

	Present Value	Present Status	Minor-Alarm Low-Limit	Minor-Alarm High-Limit	Major-Alarm Low-Limit	Major-Alarm High-Limit	
Rf Input Power	25.1	Normal	-7.0	7.0	-15.0	15.0	dBmV
Rf Output Power	49.3	Normal	-7.0	7.0	-15.0	15.0	dBmV
Hybrid One Current	0.191	Normal	0.100	0.300	0.050	0.350	Amp
Hybrid Two Current	0.425	Normal	0.250	0.550	0.200	0.600	Amp

Alarms

Summary Status Normal
 Communication Status Normal
 Power Supply Status Normal
 Enable Status Normal

Status

Module Temperature 33.6 deg-C

Controls

Enable On
 Attenuation 0.0 dB
 Equalization 0.0 dB
 Operational Mode Master
 Nominal Rf Input 22.0 dBmV
 Nominal Rf Output 46.0 dBmV

Properties

Devtype Revision 1.00
 Name S08
 Graphic
 Service Name
 Symbol
 Device Location
 M&C Scan On-Scan
 Maintenance Mode Normal
 Poll Counter 357
 Script
 Comm Alarm Threshold 1
 Address 8
 Port COM1
 Generic Name Forward Driver Amplifier
 Description Forward Head End Driver Amplifier
 Software Revision 6.10
 Script Version 15
 Serial Number zzzzzzzz
 Time Of Service 1 Hrs
 Date Code yyy
 Module Type 3011

- Proceed with viewing and/or configuring information.

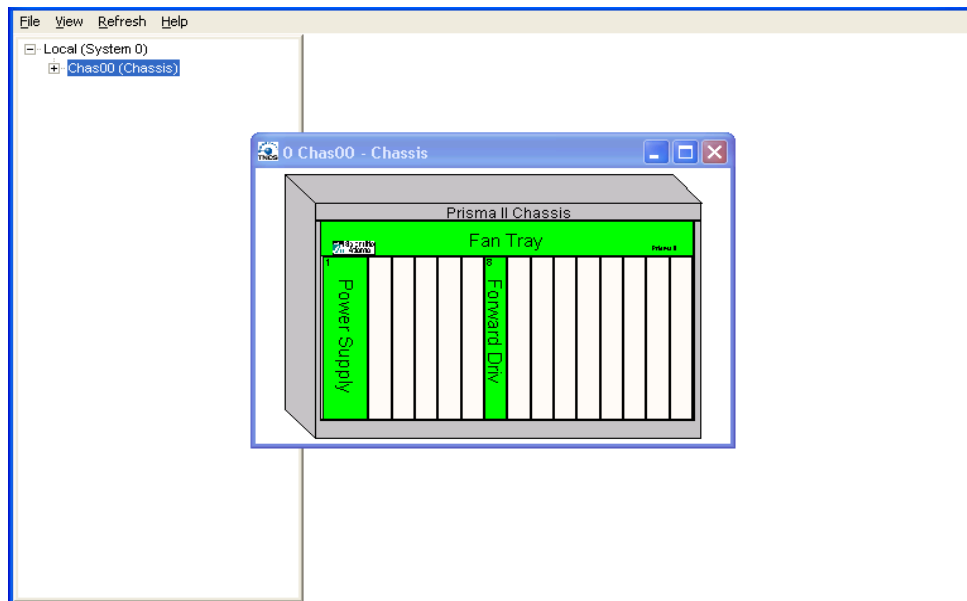
Accessing the Module Details Window, Continued

Right-Click the Chassis

To access the Module Details window, perform these steps.

1. Right-click the chassis, and click **Open**.

Result: A graphic representation of the chassis displays.



Accessing the Module Details Window, Continued

- Double-click the module whose information you want to view and/or configure.

Result: The Module Details window displays.

Forward Head End Driver Amplifier

Parameters

	Present Value	Present Status	Minor-Alarm Low-Limit	Minor-Alarm High-Limit	Major-Alarm Low-Limit	Major-Alarm High-Limit	
Rf Input Power	25.1	Normal	-7.0	7.0	-15.0	15.0	dBmV
Rf Output Power	49.6	Normal	-7.0	7.0	-15.0	15.0	dBmV
Hybrid One Current	0.191	Normal	0.100	0.300	0.050	0.350	Amp
Hybrid Two Current	0.425	Normal	0.250	0.550	0.200	0.600	Amp

Alarms

Summary Status Normal
 Communication Status Normal
 Power Supply Status Normal
 Enable Status Normal

Controls

Enable On
 Attenuation 0.0 dB
 Equalization 0.0 dB
 Operational Mode Master
 Nominal Rf Input 22.0 dBmV
 Nominal Rf Output 46.0 dBmV

Properties

Devtype Revision 1.00
 Name S08
 Graphic
 Service Name
 Symbol
 Device Location
 M&C Scan On Scan
 Maintenance Mode Normal
 Poll Counter 22
 Script
 Comm Alarm Threshold 1
 Address 8
 Port COM1
 Generic Name Forward Driver Amplifier
 Description Forward Head End Driver Amplifier
 Software Revision 6.10
 Script Version 15
 Serial Number zzzzzzzz
 Time Of Service 1 Hrs
 Date Code yyy
 Module Type 3011

- Proceed with viewing and/or configuring information.

Accessing the Module Details Window, Continued

Double-Click the Module

To access the Module Details window, perform these steps.

1. Double-click the module.



Result: The Module Details window displays.

Parameters						
	Present Value	Present Status	Minor-Alarm Low-Limit	Minor-Alarm High-Limit	Major-Alarm Low-Limit	Major-Alarm High-Limit
Rf Input Power	25.1	Normal	-7.0	7.0	-15.0	15.0
Rf Output Power	49.6	Normal	-7.0	7.0	-15.0	15.0
Hybrid One Current	0.191	Normal	0.100	0.300	0.050	0.350
Hybrid Two Current	0.425	Normal	0.250	0.550	0.200	0.600

<p>Alarms</p> <p>Summary Status Normal Communication Status Normal Power Supply Status Normal Enable Status Normal</p> <p>Status</p> <p>Module Temperature 33.6 deg-C</p>	<p>Controls</p> <p>Enable On Attenuation 0.0 dB Equalization 0.0 dB Operational Mode Master Nominal Rf Input 22.0 dBmV Nominal Rf Output 46.0 dBmV</p>	<p>Properties</p> <p>Devtype Revision 1.00 Name S08</p> <p>Graphic</p> <p>Service Name</p> <p>Symbol</p> <p>Device Location</p> <p>M&C-Scan On-Scan</p> <p>Maintenance Mode Normal</p> <p>Poll Counter 22</p> <p>Script</p> <p>Comm Alarm Threshold 1</p> <p>Address 8 Port COM1 Generic Name Forward Driver Amplifier Description Forward Head End Driver Amplifier Software Revision 6.10 Script Version 15 Serial Number zzzzzzzz Time Of Service 1 Hrs Date Code yyy Module Type 3011</p>
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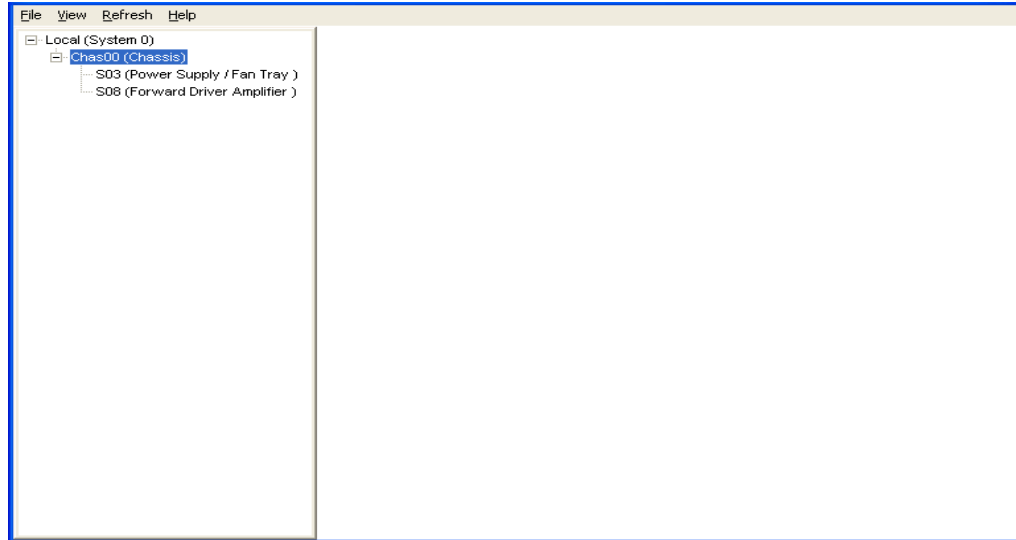
2. Proceed with viewing and/or configuring information.

Accessing the Module Details Window, Continued

Right-Click the Module

To access the Module Details window, perform these steps.

1. Right-click the module, and click **Details**.



Result: The Module Details window displays.

The screenshot shows the 'Forward Head End Driver Amplifier' module details window. The window title is '0 Chas00.S08 p2Fheda Forward Driver Amplifier'. The main content is divided into several sections:

Parameters						
Present Value	Present Status	Minor-Alarm Low-Limit	Minor-Alarm High-Limit	Major-Alarm Low-Limit	Major-Alarm High-Limit	
Rf Input Power	25.1	Normal	-7.0	7.0	-15.0	15.0
Rf Output Power	49.6	Normal	-7.0	7.0	-15.0	15.0
Hybrid One Current	0.191	Normal	0.100	0.300	0.050	0.350
Hybrid Two Current	0.425	Normal	0.250	0.550	0.200	0.600

Controls

Enable	On
Attenuation	0.0 dB
Equalization	0.0 dB
Operational Mode	Master
Nominal Rf Input	22.0 dBmV
Nominal Rf Output	46.0 dBmV

Properties

Devtype Revision	1.00
Name	S08
Graphic	
Service Name	
Symbol	
Device Location	
M&C-Scan	On-Scan
Maintenance Mode	Normal
Poll Counter	22
Script	
Comm Alarm Threshold	1
Address	8
Port	COM1
Generic Name	Forward Driver Amplifier
Description	Forward Head End Driver Amplifier
Software Revision	6.10
Script Version	15
Serial Number	zzzzzzzz
Time Of Service	1 Hrs
Date Code	yyy
Module Type	3011

Alarms

Summary Status	Normal
Communication Status	Normal
Power Supply Status	Normal
Enable Status	Normal

Status

Module Temperature	33.6 deg-C
--------------------	------------

2. Proceed with viewing and/or configuring information.

Checking the Operating Status

Introduction

Using LCI, you can check the status of all operating parameters of the forward receiver.

Monitored Parameters

The status of all operating parameters of the module can be monitored. The tables below describe the monitored parameters for the FHEDA and RHEDA.

FHEDA Monitored Parameters

FHEDA Parameter	Units	Function
RfIn	dBmV	Actual RF input level
RfOut	dBmV	Actual RF output level
IHybd1	A	Hybrid Amplifier 1 current
IHybd2	A	Hybrid Amplifier 2 current
ModTemp	degC	Module temperature

RHEDA Monitored Parameters

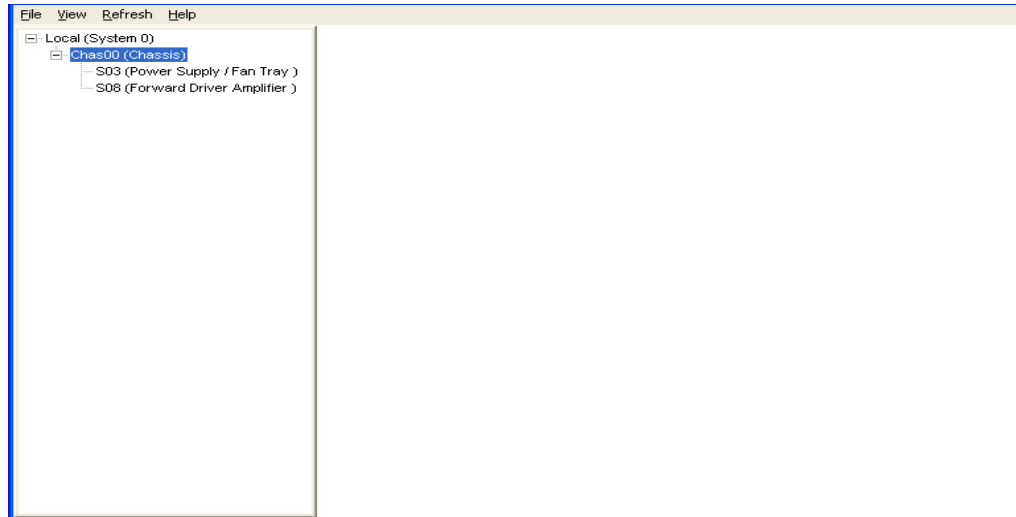
RHEDA Parameter	Units	Function
RfIn	dBmV	Actual RF input level
RfOut	dBmV	Actual RF output level
IHybd	A	Hybrid Amplifier current
ModTemp	degC	Module temperature

Checking the Operating Status, Continued

Checking the Operating Status

To monitor the forward amplifier operating parameters, follow these steps.

1. Right-click the module and click **Details**.



Result: The Module Details window displays. The monitored parameters are displayed under **Parameters** and **Status**.

0 Chas00.S08 p2Fhedo Forward Driver Amplifier

Forward Head End Driver Amplifier

Parameters						
	Present Value	Present Status	Minor-Alarm Low-Limit	Minor-Alarm High-Limit	Major-Alarm Low-Limit	Major-Alarm High-Limit
Rf Input Power	25.1	Normal	-7.0	7.0	-15.0	15.0
Rf Output Power	49.6	Normal	-7.0	7.0	-15.0	15.0
Hybrid One Current	0.191	Normal	0.100	0.300	0.050	0.350
Hybrid Two Current	0.425	Normal	0.250	0.550	0.200	0.600

<p>Alarms</p> <p>Summary Status Normal Communication Status Normal Power Supply Status Normal Enable Status Normal</p> <p>Status</p> <p>Module Temperature 33.6 deg-C</p>	<p>Controls</p> <p>Enable On Attenuation 0.0 dB Equalization 0.0 dB Operational Mode Master Nominal Rf Input 22.0 dBmV Nominal Rf Output 46.0 dBmV</p>	<p>Properties</p> <p>Devtype Revision 1.00 Name S08</p> <p>Graphic</p> <p>Service Name Symbol Device Location</p> <p>M&C-Scan On-Scan Maintenance Mode Normal Poll Counter 22</p> <p>Script</p> <p>Comm Alarm Threshold 1 Address 8 Port COM1 Generic Name Forward Driver Amplifier Description Forward Head End Driver Amplifier Software Revision 6.10 Script Version 15 Serial Number zzzzzzzz Time Of Service 1 Hrs Date Code yyy Module Type 3011</p>
--	--	---

2. Proceed with checking the operating parameters.

Configuring the Module

Introduction

Using LCI, you can configure the parameters listed below.

Configurable Parameters

The tables below describe the configurable parameters for the FHEDA and RHEDA.

FHEDA Configurable Parameters

Control	Function	Values	Default
Enable	Amplifier On/Off	On or Off	On
Atten	PIN Attenuator	0 to 10.0 dB (0.5 dB steps)	0 dB
Equal	Signal Equalization	0 to 9.0 dB (1.5 dB steps)	0 dB
Master	Master/Slave. When set to Slave, amplifier begins operation with external alarm signal	Master/Slave	Master
NomRfIn	Sets value of nominal Rf Input level	20 to 40 dBmV (0.5 dB steps)	32.0 dBmV
NomRfOut	Sets value of nominal Rf Output level	40 to 60 dBmV (0.5 dB steps)	52.0 dBmV

RHEDA Configurable Parameters

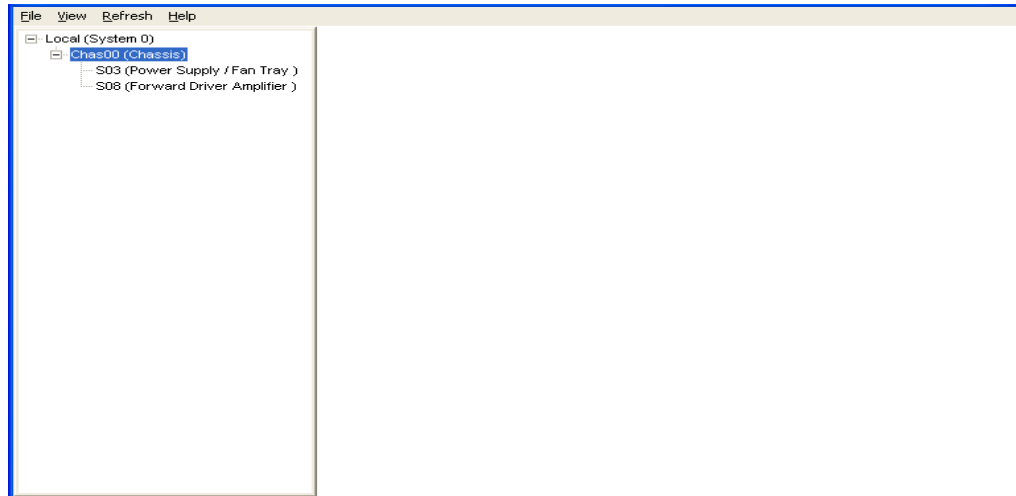
Control	Function	Values	Default
Enable	Amplifier On/Off	On or Off	On
Atten	PIN Attenuator	0 to 10.0 dB (0.5 dB steps)	0 dB
Equal	Signal Equalization	0 to 5.5 dB (0.5 dB steps)	0 dB
Master	Master/Slave. When set to Slave, amplifier begins operation with external alarm signal	Master/Slave	Master
NomRfIn	Sets value of nominal Rf Input level	10 to 40 dBmV (0.5 dB steps)	32.0 dBmV
NomRfOut	Sets value of nominal Rf Output level	30 to 60 dBmV (0.5 dB steps)	42.0 dBmV

Configuring the Module, Continued

Configuring Parameters

To configure the parameters, follow these steps.

1. Right-click the module and click **Details**.



Result: The Module Details window displays.

0 Chas00.S08 p2Fheda Forward Driver Amplifier

Forward Head End Driver Amplifier

Parameters

	Present Value	Present Status	Minor-Alarm Low-Limit	Minor-Alarm High-Limit	Major-Alarm Low-Limit	Major-Alarm High-Limit	
Rf Input Power	25.1	Normal	-7.0	7.0	-15.0	15.0	dBmV
Rf Output Power	49.6	Normal	-7.0	7.0	-15.0	15.0	dBmV
Hybrid One Current	0.191	Normal	0.100	0.300	0.050	0.350	Amp
Hybrid Two Current	0.425	Normal	0.250	0.550	0.200	0.600	Amp

Alarms

Summary Status Normal
 Communication Status Normal
 Power Supply Status Normal
 Enable Status Normal

Status

Module Temperature 33.6 deg-C

Controls

Enable On
 Attenuation 0.0 dB
 Equalization 0.0 dB
 Operational Mode Master
 Nominal Rf Input 22.0 dBmV
 Nominal Rf Output 46.0 dBmV

Properties

Devtype Revision 1.00
 Name S08

Graphic

Service Name
 Symbol
 Device Location

M&C-Scan On-Scan
Maintenance Mode Normal
 Poll Counter 22

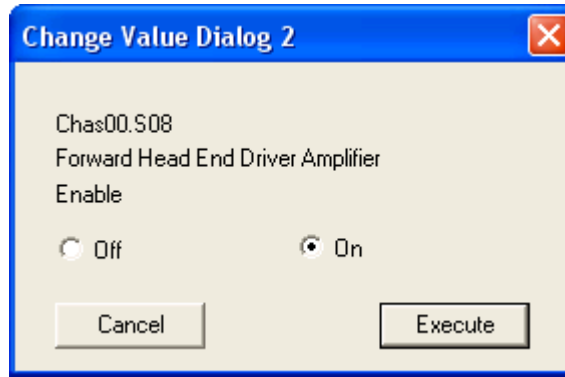
Script

Comm Alarm Threshold 1
 Address 8
 Port COM1
 Generic Name Forward Driver Amplifier
 Description Forward Head End Driver Amplifier
 Software Revision 6.10
 Script Version 15
 Serial Number zzzzzzzz
 Time Of Service 1 Hrs
 Date Code yyy
 Module Type 3011

Configuring the Module, Continued

2. Under **Controls**, double-click the parameter you want to configure.

Result: The Change Value dialog box displays. The graphic below shows the dialog box for the Enable parameter.

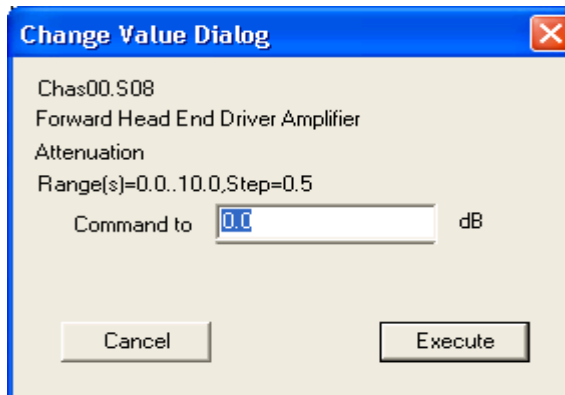


3. Enable control turns the amplifier On or Off.
4. Click **Execute**.

Result: The new value displays next to the parameter.

5. Under **Controls**, double-click the parameter you want to configure.

Result: The Change Value dialog box displays. The graphic below shows the dialog box for the Attenuation parameter.



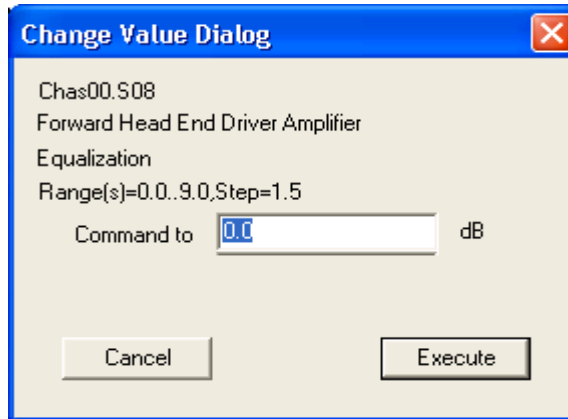
6. The Attenuation control allows setting output of the amplifier to the level required by the device to which the signal is being routed.
7. Click **Execute**.

Result: The new value displays next to the parameter.

Configuring the Module, Continued

- Under **Controls**, double-click the parameter you want to configure.

Result: The Change Value dialog box displays. The graphic below shows the dialog box for the Equalization parameter.

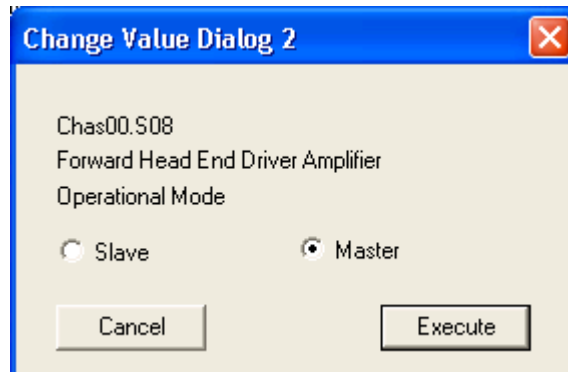


- The Equalization control is used to ensure that the output signal is flat across all channels.
- Click **Execute**.

Result: The new value displays next to the parameter.

- Under **Controls**, double-click the parameter you want to configure.

Result: The Change Value dialog box displays. The graphic below shows the dialog box for the Operational Mode parameter.



Configuring the Module, Continued

12. Used to determine if module is configured as a Master or Slave. The HEDA modules can be hard-wired to operate as a backup or slave module in a parallel redundant mode.
13. Click **Execute**.

Result: The new value displays next to the parameter.

Checking Module Alarms

Introduction

Using LCI, you can check the alarm status of various parameters. Alarms that you can check are listed below.

User Alarm Data Display Parameters

The tables below describe the alarm display data for the FHEDA and RHEDA.

FHEDA User Alarm Data Display Parameters

FHEDA Alarm	Alarm Condition	Type	Typical Range
RfIn	Rf Input = >7.0 or <-7.0 dBmV above or below Nominal Rf Input level	Minor	13.0 to 47 dBmV
	Rf Input = > 15.0 or <-15 dBmV above or below Nominal Rf Input level	Major	5 to 55 dBmV
RfOut	Rf Output = >7.0 or <-7.0 dBmV above or below Nominal Rf Output level	Minor	33.0 to 67 dBmV
	Rf Output = > 15.0 or <-15 dBmV above or below Nominal Rf Output level	Major	45 to 75 dBmV
PsOk	Bus Fault	Major	Ok/Bus fault
IHybd1	Current = > 0.300A or < 0.100A	Minor	0.100A to 0.300A
	Current = > 0.350A or < 0.050A	Major	0.050A to 0.350A
IHybd2	Current = > 0.550A or < 0.250A	Minor	0.250A to 0.550A
	Current = > 0.600A or < 0.200A	Major	0.050A to 0.600A
Enable	Unit disabled by user	Major	Enabled/Disabled

Checking Module Alarms, Continued

RHEDA User Alarm Data Display Parameters

RHEDA Alarm	Alarm Condition	Type	Typical Range
RfIn	Rf Input = >7.0 or <-7.0 dBmV above or below Nominal Rf Input level	Minor	3.0 to 47 dBmV
	Rf Input = > 15.0 or <-15 dBmV above or below Nominal Rf Input level	Major	5 to 55 dBmV
RfOut	Rf Output = >7.0 or <-7.0 dBmV above or below Nominal Rf Output level	Minor	37.0 to 67 dBmV
	Rf Output = > 15.0 or <-15 dBmV above or below Nominal Rf Output level	Major	45 to 75 dBmV
PsOk	Bus Fault	Major	Ok/Bus fault
IHybd	Current = > 0.300A or < 0.150A	Minor	0.150A to 0.300A
	Current = > 0.400A or < 0.050A	Major	0.050A to 0.400A
Enable	Unit disabled by user	Major	Enabled/Disabled

Checking Module Alarms, Continued

Alarm Threshold Value Parameters

Alarm threshold is the value at which an alarm is triggered. The tables below describe the alarm threshold data for the FHEDA and RHEDA.

FHEDA Alarm Threshold Value Parameters

Alarm Display	Major Low Limit	Minor Low Limit	Minor High Limit	Major High Limit	Hysterisis
RfIn	-15.0 dB	-7.0 dB	7.0 dB	15.0 dB	1.0 dB
RfOut	-15.0 dB	-7.0 dB	7.0 dB	15.0 dB	1.0 dB
PsOk	N/A	N/A	N/A	N/A	N/A
IHybd1	0.050A	0.100A	0.300A	0.350A	0.001A
IHybd2	0.200A	0.250A	0.550A	0.600A	0.001A
Enable	N/A	N/A	N/A	N/A	N/A

RHEDA Alarm Threshold Value Parameters

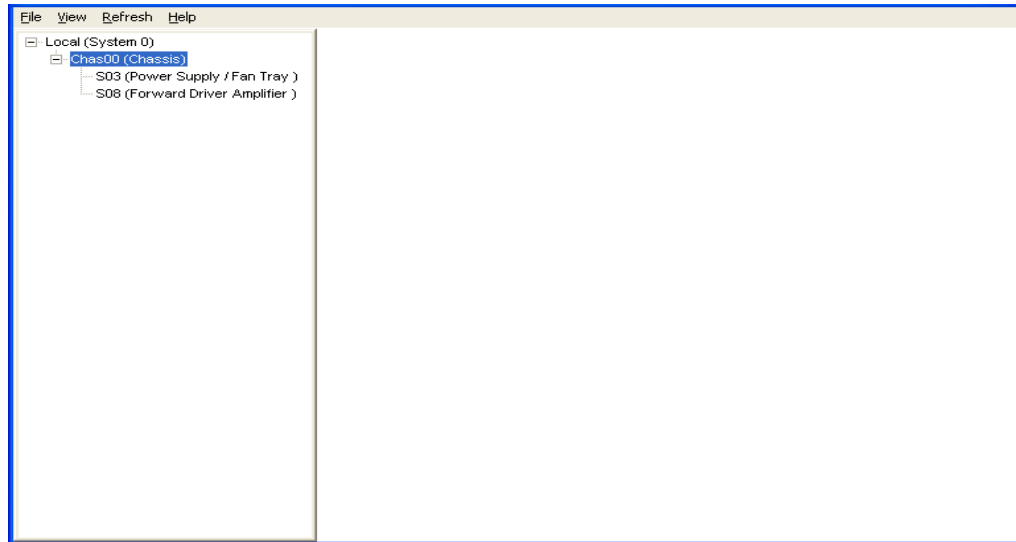
Alarm Display	Major Low Limit	Minor Low Limit	Minor High Limit	Major High Limit	Hysterisis
RfIn	-15.0 dB	-7.0 dB	7.0 dB	15.0 dB	1.0 dB
RfOut	-15.0 dB	-7.0 dB	7.0 dB	15.0 dB	1.0 dB
PsOk	N/A	N/A	N/A	N/A	N/A
IHybd	0.050A	0.100A	0.300A	0.350A	0.001A
Enable	N/A	N/A	N/A	N/A	N/A

Checking Module Alarms, Continued

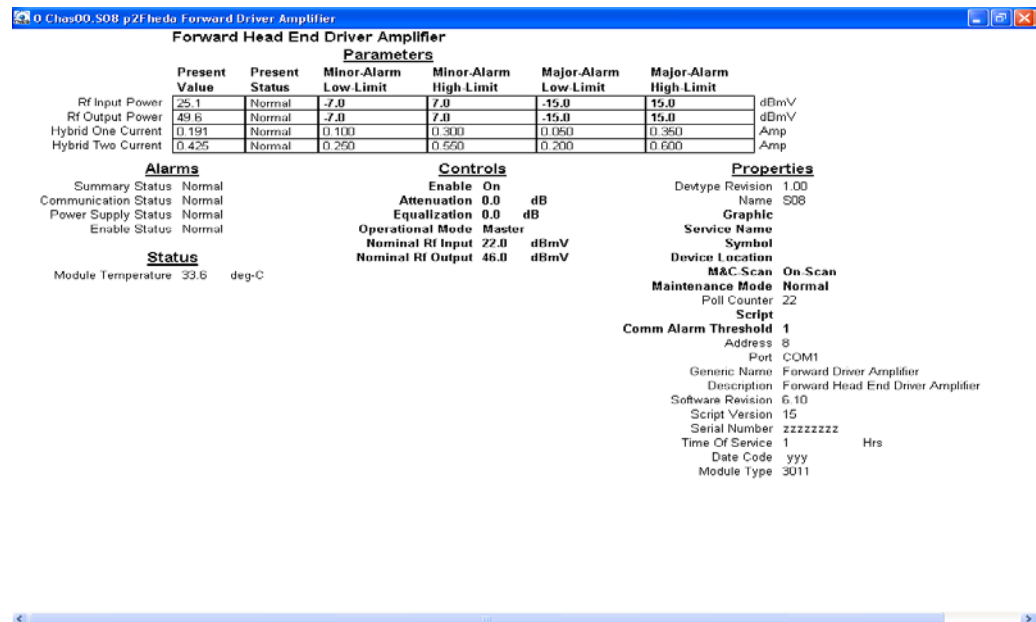
Checking Alarms

To check a parameter's alarm status, perform these steps.

1. Right-click the module and click **Details**.



Result: The Module Details window displays. The alarms are shown under **Parameters and Alarms**.

A screenshot of the "Forward Head End Driver Amplifier" module details window. The window title is "0 Chas00.S08 p2Hedo Forward Driver Amplifier". The main content is divided into several sections: "Parameters", "Alarms", "Status", "Controls", and "Properties".

Present Value	Present Status	Minor-Alarm Low Limit	Minor-Alarm High Limit	Major-Alarm Low Limit	Major-Alarm High Limit	
25.1	Normal	-7.0	7.0	-15.0	15.0	dBmV
49.6	Normal	-7.0	7.0	-15.0	15.0	dBmV
0.191	Normal	0.100	0.300	0.050	0.350	Amp
0.425	Normal	0.250	0.550	0.200	0.600	Amp

Alarms
Summary Status: Normal
Communication Status: Normal
Power Supply Status: Normal
Enable Status: Normal

Status
Module Temperature: 33.6 deg-C

Controls
Enable: On
Attenuation: 0.0 dB
Equalization: 0.0 dB
Operational Mode: Master
Nominal RI Input: 22.0 dBmV
Nominal RI Output: 46.0 dBmV

Properties
Devtype Revision: 1.00
Name: S08
Graphic
Service Name:
Symbol:
Device Location:
M&C Scan: On Scan
Maintenance Mode: Normal
Poll Counter: 22
Script
Comm Alarm Threshold: 1
Address: 8
Port: COM1
Generic Name: Forward Driver Amplifier
Description: Forward Head End Driver Amplifier
Software Revision: 6.10
Script Version: 15
Serial Number: zzzzzzzz
Time Of Service: 1 Hrs
Date Code: yyy
Module Type: 3011

2. If any of the parameters are in alarm, take the corrective action you deem necessary.

Modifying Module Alarm Limits

Introduction

Using LCI, you can modify alarm limits for several parameters. FHEDA parameters whose alarm limits you can change are listed below.

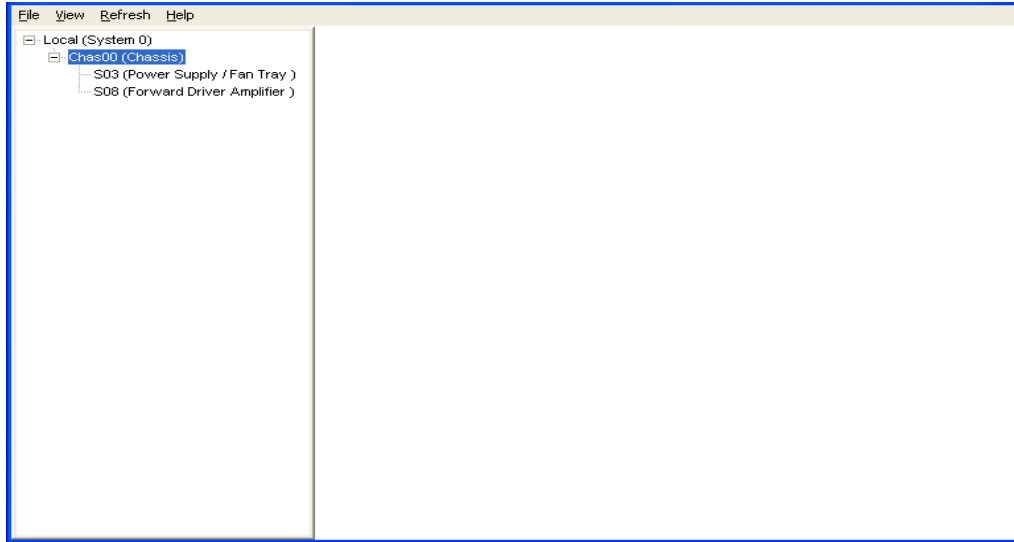
Alarm	Alarm Condition	Range	Possible Cause
Rf Input Power	Minor Low	Rf Input <-7.0 dBmV below nominal setting	Input below nominal setting
Rf Input Power	Minor High	Rf Input >7.0 dBmV above nominal setting	Input above nominal setting
Rf Input Power	Major Low	Rf Input <-15.0 dBmV below nominal setting	Input below nominal setting
Rf Input Power	Major High	Rf Input >15.0 dBmV above nominal setting	Input above nominal setting
Rf Output Power	Minor Low	Rf Output <-7.0 dBmV below nominal setting	Output below nominal setting
Rf Output Power	Minor High	Rf Output >7.0 dBmV above nominal setting	Output above nominal setting
Rf Output Power	Major Low	Rf Output <-15.0 dBmV below nominal setting	Output below nominal setting
Rf Output Power	Major High	Rf Output >15.0 dBmV above nominal setting	Output below nominal setting

Modifying Module Alarm Limits, Continued

Modifying Alarm Limits

To modify a parameter's alarm limit, follow these steps.

1. Right-click the module and click **Details**.



Result: The Module Details window displays. The alarm limits are shown under **Parameters**.

0 Chas00.S08 p2Fheda Forward Driver Amplifier

Forward Head End Driver Amplifier

Parameters

	Present Value	Present Status	Minor-Alarm Low-Limit	Minor-Alarm High-Limit	Major-Alarm Low-Limit	Major-Alarm High-Limit	
Rf Input Power	25.1	Normal	7.0	7.0	-15.0	15.0	dBmV
Rf Output Power	49.6	Normal	7.0	7.0	-15.0	15.0	dBmV
Hybrid One Current	0.191	Normal	0.100	0.300	0.050	0.350	Amp
Hybrid Two Current	0.425	Normal	0.250	0.550	0.200	0.600	Amp

Alarms

Summary Status Normal
 Communication Status Normal
 Power Supply Status Normal
 Enable Status Normal

Status

Module Temperature 33.6 deg-C

Controls

Enable On
 Attenuation 0.0 dB
 Equalization 0.0 dB
 Operational Mode Master
 Nominal Rf Input 22.0 dBmV
 Nominal Rf Output 46.0 dBmV

Properties

Devtype Revision 1.00
 Name S08

Graphic

Service Name
 Symbol
 Device Location

M&C-Scan **On-Scan**
Maintenance Mode **Normal**
 Poll Counter 22

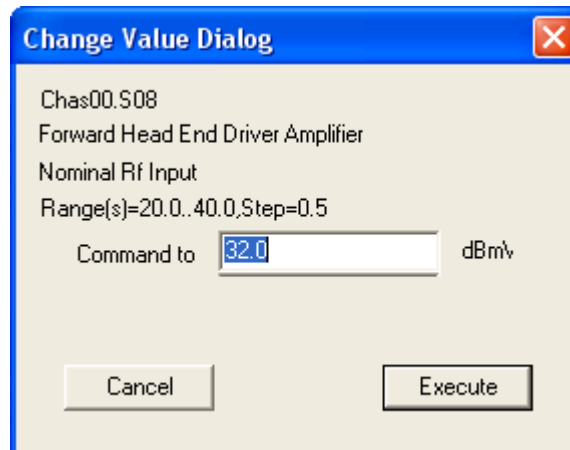
Script

Comm Alarm Threshold **1**
 Address 8
 Port COM1
 Generic Name Forward Driver Amplifier
 Description Forward Head End Driver Amplifier
 Software Revision 6.10
 Script Version 15
 Serial Number zzzzzzzz
 Time Of Service 1 Hrs
 Date Code yyy
 Module Type 3011

Modifying Module Alarm Limits, Continued

2. Double-click the limit you want to change.

Result: The Change Value dialog box displays. The graphic below shows the dialog box for the nominal RF Input parameter.



3. In the **Command to** box, type the value to use for the limit.
4. Click **Execute**.

Result: The new value displays in the alarm limit column.

Checking Manufacturing Data

Introduction

Using LCI, you can check the manufacturing data of the Prisma II Forward Receiver.

Manufacturing Data Display

The table below describes the manufacturing data available for the modules.

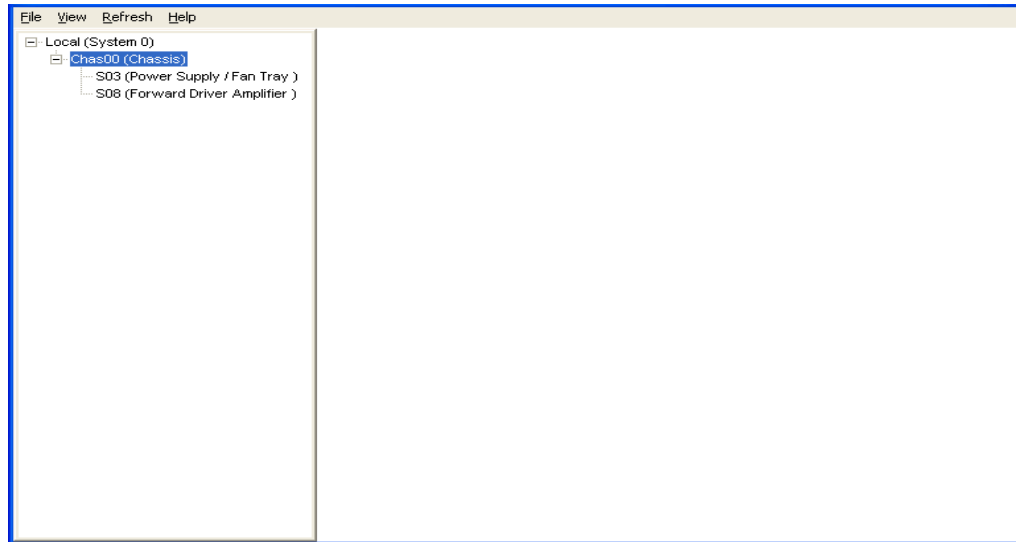
Manufacturing Data	Typical Values	
Module	FHEDA	RHEDA
Module Type	3011	3012
Serial #	!ABCDEFG	
Date Code	F00	
Sw Ver (Software Version)	CCB610	
Script Ver (Script Version)	14	
In Service Hours	1	
Spec data	Special data	
Restore Factory Defaults	Restores the module's factory default configuration settings.	

Checking Manufacturing Data, Continued

Checking Manufacturing Data

To access the module's manufacturing data, perform these steps.

1. Right-click the module and click **Details**.



Result: The Module Details window displays. The manufacturing data is displayed under **Properties**.

0 Chas00.S08 p2Fheda Forward Driver Amplifier

Forward Head End Driver Amplifier

	Present Value	Present Status	Parameters		Major-Alarm		
			Minor-Alarm Low-Limit	Minor-Alarm High-Limit	Low-Limit	High-Limit	
Rf Input Power	25.1	Normal	-7.0	7.0	-15.0	15.0	dBmV
Rf Output Power	49.6	Normal	-7.0	7.0	-15.0	15.0	dBmV
Hybrid One Current	0.191	Normal	0.100	0.300	0.050	0.350	Amp
Hybrid Two Current	0.425	Normal	0.250	0.550	0.200	0.600	Amp

<p>Alarms</p> <p>Summary Status Normal Communication Status Normal Power Supply Status Normal Enable Status Normal</p> <p>Status</p> <p>Module Temperature 33.6 deg-C</p>	<p>Controls</p> <p>Enable On Attenuation 0.0 dB Equalization 0.0 dB Operational Mode Master Nominal Rf Input 22.0 dBmV Nominal Rf Output 46.0 dBmV</p>	<p>Properties</p> <p>Devtype Revision 1.00 Name S08 Graphic Service Name Symbol Device Location M&C-Scan On-Scan Maintenance Mode Normal Poll Counter 22 Script Comm Alarm Threshold 1 Address 8 Port COM1 Generic Name Forward Driver Amplifier Description Forward Head End Driver Amplifier Software Revision 6.10 Script Version 15 Serial Number zzzzzzzz Time Of Service 1 Hrs Date Code yyy Module Type 3011</p>
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2. Proceed with viewing the manufacturing data.

Chapter 5

Maintenance and Troubleshooting

Overview

Introduction

This chapter provides information to assist you in maintaining and troubleshooting Prisma II Forward Receiver.

Qualified Personnel

Only appropriately qualified and trained personnel should attempt to troubleshoot this product.



WARNING:

Allow only qualified personnel to install, operate, maintain, or service this product. Otherwise, personal injury or equipment damage may occur.

In This Chapter

This chapter contains the following topics.

Topic	See Page
Module Maintenance	5-2
General Troubleshooting Information	5-3
Troubleshooting Alarm Conditions	5-4

Module Maintenance

Maintaining the Prisma Module

To extend the life of the module and ensure optimal performance, the following maintenance is recommended.

Frequency	Maintenance Required
Weekly	<ul style="list-style-type: none">• Check all parameters and test points.• Record data.• Make repairs and adjustments as needed.
Quarterly	<ul style="list-style-type: none">• Make sure all cables are mated properly.• Inspect cables for stress and chafing.• Make sure all retaining screws are tight.• Replace chassis air filter.
When needed	<ul style="list-style-type: none">• 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 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 Cisco.

Equipment Needed

You may need the following equipment to troubleshoot this module.

- Digital voltmeter
- Spectrum analyzer

Additional Assistance

If you need additional assistance contact Cisco Services.

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**, to identify and correct transmitter faults.

Troubleshooting Alarm Conditions

Alarm Conditions

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

FHEDA User Alarm Data Display

FHEDA Alarm	Alarm Condition	Possible Cause	Possible Solution
ALARM Indicator Illuminated	Current Failure	Hybrid amplifier failure.	The module is faulty and should be replaced. Contact Cisco Services for assistance.
ALARM Indicator Blinking	Current too High or Low	Hybrid amplifier problem.	The module may be faulty and should be repaired or replaced. Contact Cisco Services for assistance.
RfIn	Rf Input = >7.0 or <-7.0 dBmV above or below Nominal Rf Input level Rf Input = > 15.0 or <-15 dBmV above or below Nominal Rf Input level	Dirty or loose connector, or low input	Check input source
RfOut	Rf Output = >7.0 or <-7.0 dBmV above or below Nominal Rf Output level Rf Output = > 15.0 or <-15 dBmV above or below Nominal Rf Output level	Dirty or loose connector, or low output	Check output source

Troubleshooting Alarm Conditions, Continued

PsOk	Bus voltage status	Internal problem	Contact Cisco Services for assistance.
IHybd1	Current = > 0.350A or < 0.050A	Internal problem	Contact Cisco Services for assistance.
IHybd2	Current = > 0.600A or < 0.200A	Internal problem	Contact Cisco Services for assistance.
Enable	Module disabled	Module disabled by user	Enable module

RHEDA User Alarm Data Display

RHEDA Alarm	Alarm Condition	Possible Cause	Possible Solution
ALARM Indicator Illuminated	Current Failure	Hybrid amplifier failure.	The module is faulty and should be replaced. Contact Cisco Services for assistance.
ALARM Indicator Blinking	Current too High or Low	Hybrid amplifier problem.	The module may be faulty and should be repaired or replaced. Contact Cisco Services for assistance.

Troubleshooting Alarm Conditions, Continued

RfIn	Rf Input = >7.0 or <-7.0 dBmV above or below Nominal Rf Input level Rf Input = > 15.0 or <-15 dBmV above or below Nominal Rf Input level	Dirty or loose connector, or low input	Check input source
RfOut	Rf Output = >7.0 or <-7.0 dBmV above or below Nominal Rf Output level Rf Output = > 15.0 or <-15 dBmV above or below Nominal Rf Output level	Dirty or loose connector, or low output	Check output source
PsOk	Bus voltage status	Internal problem	Contact Cisco Services for assistance.
IHybd	Current = > 0.400A or < 0.050A	Internal problem	Contact Cisco Services for assistance.
Enable	Module disabled	Module disabled by user	Enable module

Chapter 6

Customer 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.

Glossary

Term, Acronym, Abbreviation	Meaning
CAN	Cancel
DFB	Distributed feedback laser
EIA	Electronics Industry Association
FHEDA	Forward Headend Driver Amplifier
ICIM	Intelligent Communications Interface Module
LCD	Liquid crystal display
LCI	Local craft interface
LED	Light emitting diode
NMS	Network Management System
nm	Nanometers
MIB	Management Information Base
PLL	Phase Lock Loop. An electronic servo system controlling an oscillator to maintain a constant phase angle relative to a reference signal.
RF	Radio frequency
RHEDA	Reverse Headend Driver Amplifier
RMA	Return material authorization
SBS	Stimulated Brillouin scattering
SNMP	Simple Network Management Protocol
TNCS	Transmission Network Control System
Torque	Force applied to bolt or screw to tighten the device

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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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