9 MANAGING HOST UNITS

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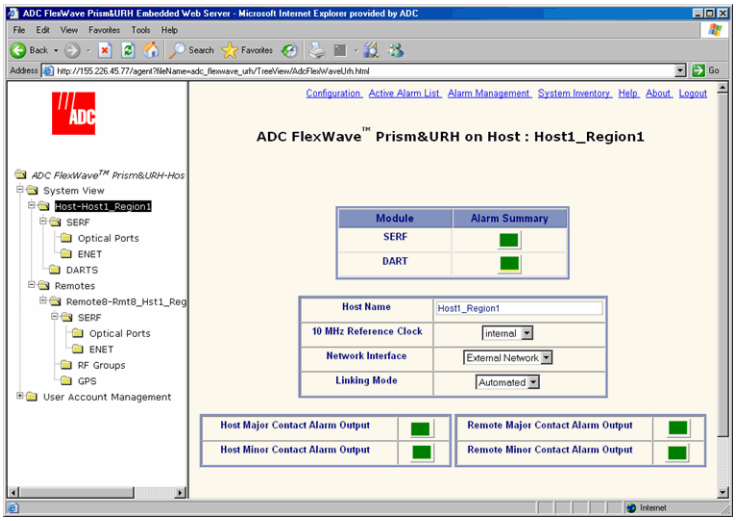
9.1 VIEWING THE HOST SUMMARY

This section describes the read-only status indicators in the Host Summary view. For information on setting Host attributes, see "Enter a Host Name, Clock Source, and Linking Mode" on page 147 and "Changing to Built-In Network Mode" on page 186.

To open the **Host Summary** view in the EMS View Frame, in the Function Explorer Tree select **System View**, and then click on the Host name node.



The read-only status indicators are:

- **SERF**—Current summary alarm state of Host SeRF card. Red indicates that a major alarm exists for some component module of the SeRF. Yellow indicates a minor alarm.
- **DART**—Current summary alarm state is indicated by status indicator on same row of page. Red indicates that a major alarm exists for the DART. Yellow indicates a minor alarm.
- **Host Major Contact Alarm Output**—Dry alarm NO/NC contact (labeled ALARM OUTPUTS HOST) on the Host. Current state of major alarm contacts is indicated by Alarm Summary status indicator on same row of page.
- **Host Minor Contact Alarm Output**—Dry alarm NO/NC contact (labeled ALARM OUTPUTS HOST) on the Host. Current state of minor alarm contacts is indicated by Alarm Summary status indicator on same row of page.
- **Remote Major Contact Alarm Output—**Red indicates Host NO/NC major alarm contacts are in an alarm position. These connections are typically wired to a local alarm alert system. This status indicator is red when a major alarm is present on any Remote connected to the Host.
- **Remote Minor Contact Alarm Output—**Red indicates that Host NO/NC minor alarm contacts are in an alarm position. These connections are typically wired to a local alarm alert system. This status indicator is red when a minor alarm is present on any Remote connected to Host.

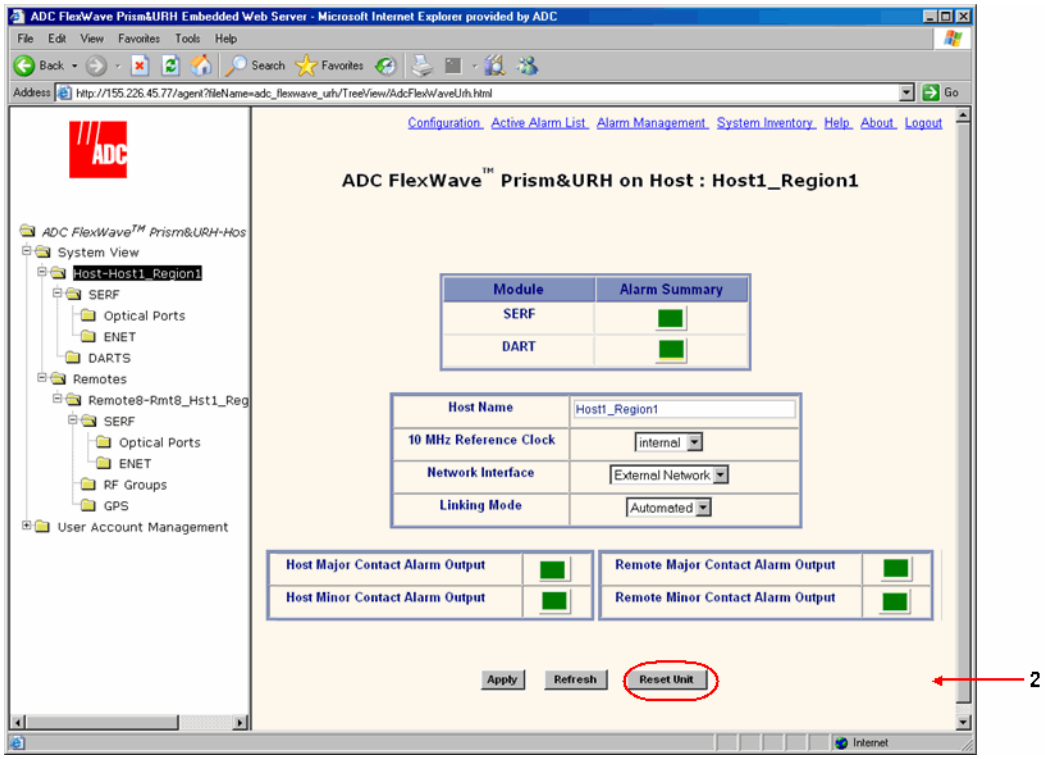
9.2 RESETTING THE HOST UNIT

Only a user logged in under the admin or a Network Manager account can change Prism system settings through the EMS.

Resetting the Host Unit results in a Loss of Service condition for the Host and connected Remotes until the Host comes back up. Depending on the system configuration, it can take 5 to 20 minutes for management communication to be restored.

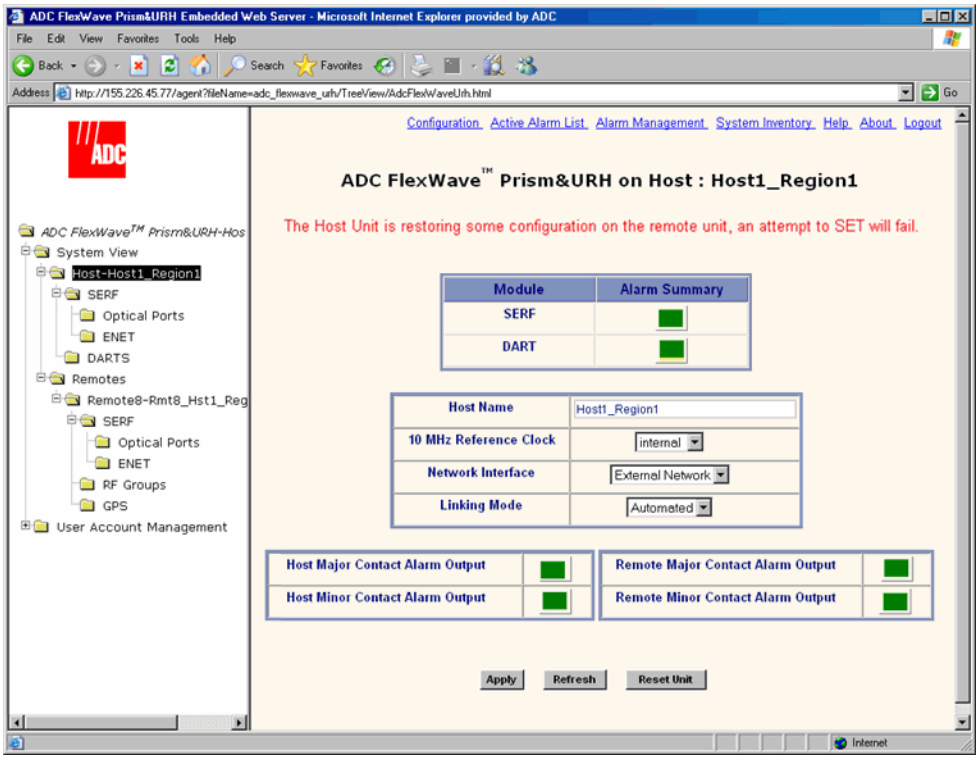
1 In the Function Explorer Tree, select **System View**, and then click on the Host name node to open the **Host Summary** view in the EMS View Frame.

2 Click **Reset Unit**.



3 In the confirmation dialog, click **OK**.

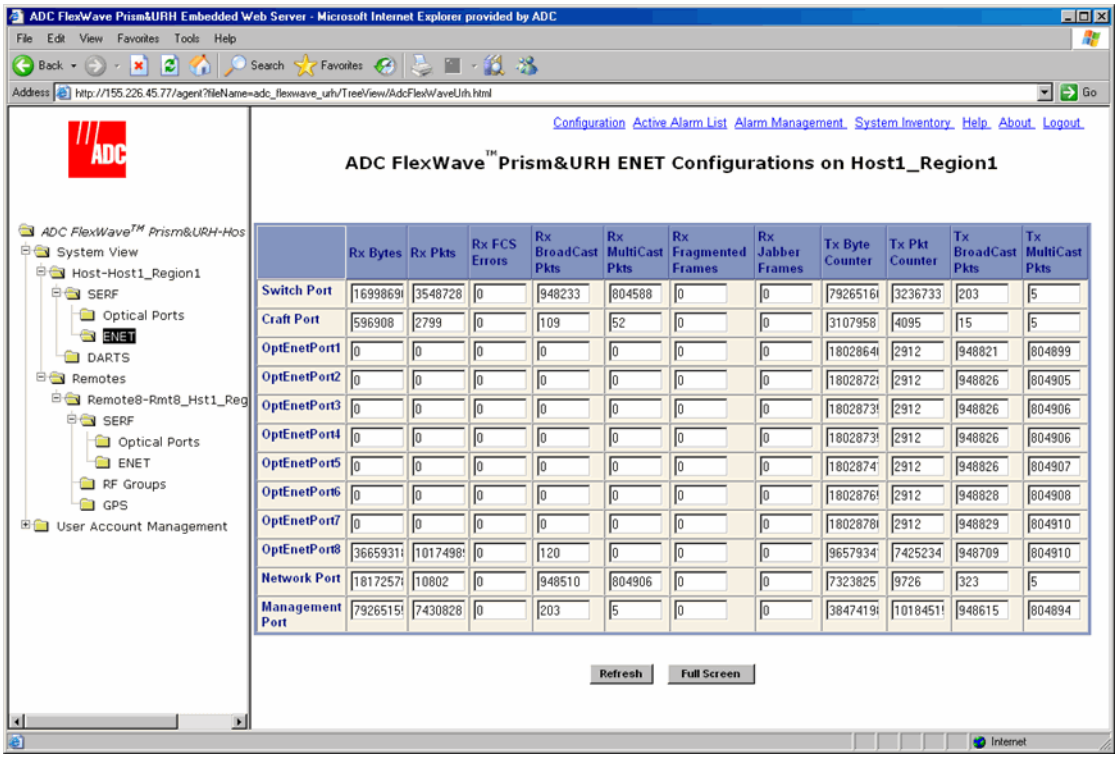
Once you click OK, the confirmation dialog closes and the Host reboots. It will take some time for the Host to retrieve data from connected Remotes and to reconfigure data on the Remotes. During this time, an alert message displays in the **Host Summary** view and on any other page where data can be set. Any attempt to SET will fail. You cannot make configuration changes while this message is displayed. Wait until the message clears before continuing with configuration settings.



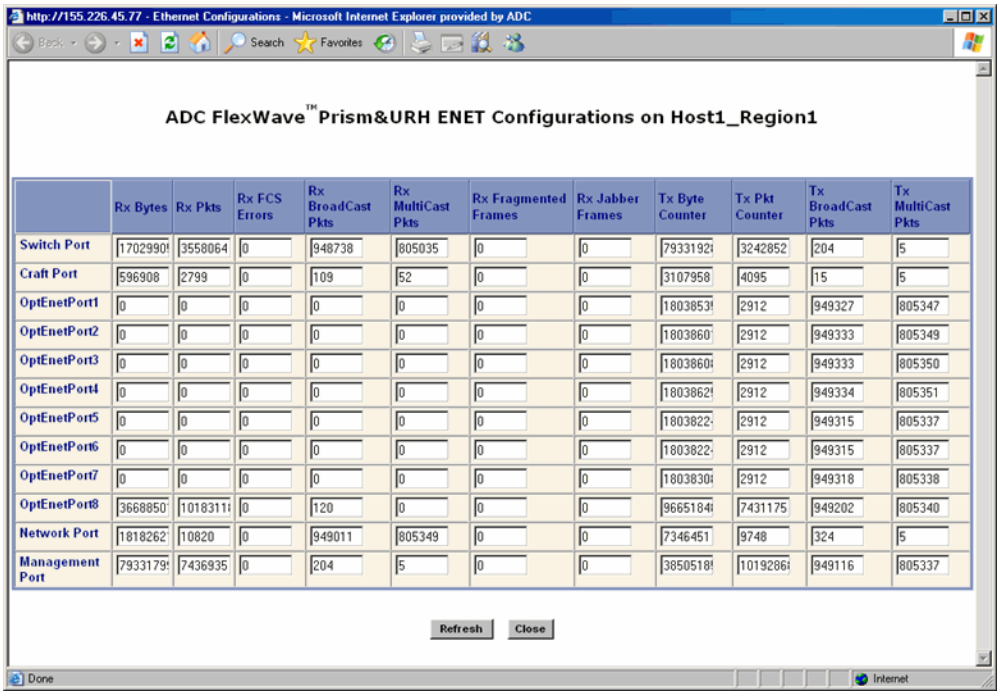
9.3 VIEWING HOST SERF ETHERNET PORTS

The Host **ENET Configurations** view is a summary of throughput and number of errors on the twelve Ethernet (ENET) ports on the Host SeRF card. These ports consist of eight ports used for connection to Remotes and four ports used for system management and maintenance functions.

1 In the Function Explorer Tree, select **System View**, **Host**–*x*, **SERF**, **ENET** (where –*x* is the Host name) to open the **ENET Configurations** view in the EMS View Frame.



2 (Optional) To enlarge the view, click Full Screen to open a separate window that shows only the **ENET Configurations** table.



	Rx Bytes	Rx Pkts	Rx FCS Errors	Rx BroadCast Pkts	Rx MultiCast Pkts	Rx Fragmented Frames	Rx Jabber Frames	Tx Byte Counter	Tx Pkt Counter	Tx BroadCast Pkts	Tx MultiCast Pkts
Switch Port	1702990	3558064	0	948738	805035	0	0	7933192	3242852	204	5
Craft Port	596908	2799	0	109	52	0	0	3107958	4095	15	5
OptEnetPort1	0	0	0	0	0	0	0	1803853	2912	949327	805347
OptEnetPort2	0	0	0	0	0	0	0	1803860	2912	949333	805349
OptEnetPort3	0	0	0	0	0	0	0	1803860	2912	949333	805350
OptEnetPort4	0	0	0	0	0	0	0	1803862	2912	949334	805351
OptEnetPort5	0	0	0	0	0	0	0	1803822	2912	949315	805337
OptEnetPort6	0	0	0	0	0	0	0	1803822	2912	949315	805337
OptEnetPort7	0	0	0	0	0	0	0	1803830	2912	949318	805338
OptEnetPort8	3668850	1018311	0	120	0	0	0	9665184	7431175	949202	805340
Network Port	1818262	10820	0	949011	805349	0	0	7346451	9748	324	5
Management Port	7933179	7436935	0	204	5	0	0	3850518	1019286	949116	805337

3 To update the counters, click **Refresh**.

The **ENET Configurations** view lists the Ethernet ports and their corresponding status.

- The row headers in the first column are as follows:
  - **Switch Port**—on card processor's connection to the switch on the SeRF card
  - **Craft Port**—on card processor's connection to the PHY port labeled Craft
  - **OptEnetPort1–8**—Ethernet switch interface to SFP 1-8
  - **Network Port**—Ethernet switch interface to on-card processor
  - **Management Port**—switch interface to the PHY port labeled Network
- The column headers, from left to right, are as follows:
  - **Rx Bytes**—Receive byte counter. Increments by the byte count of frames received, including those in bad packets, excluding preamble and SFD but including FCS bytes
  - **Rx Pkts**—Receive packet counter. Increments for each frame received packet (including bad packets, all unicast, broadcast, and multicast packets)
  - **Rx FSC Errors**—Receive FCS error counter. Increments for each frame received that has an integral 64 to 1518 length and contains a frame check sequence error

- **Rx BroadCast Pkts**—Receive broadcast packet counter. Increments for each broadcast good frame of lengths 64 to 1518 (non VLAN) or 1522 (VLAN), excluding multicast frames. Does not include range/length errors
- **Rx MultiCast Pkts**—Receive multicast packet counter. Increments for each multicast good frame of lengths 64 to 1518 (non VLAN) or 1522 (VLAN), excluding broadcast frames. This count does not include range/length errors
- **Rx Fragmented Frames**—Receive fragments counter. Increments for each frame received that is less than 64 bytes and contains an invalid FCS. This includes integral and non-integral lengths
- **Rx Jabber Frames**—Receive jabber counter. Increments for frames received that exceed 1518 (non VLAN) or 1522 (VLAN) bytes and contain an invalid FCS. This includes alignment errors
- **Tx Byte Counter**—Transmit byte counter. Increments by the number of bytes that were put on the wire including fragments of frames that were involved with collisions. This count does not include preamble/SFD or jam bytes. This counter does not count if the frame is truncated
- **Tx Pkt Counter**—Transmit packet counter. Increments for each transmitted packet (including bad packets, excessive deferred packets, excessive collision packets, late collision packets, all unicast, broadcast, and multicast packets)
- **Tx BroadCast Pkts.**—Transmit broadcast packet counter. Increments for each broadcast frame transmitted (excluding multicast frames)
- **Tx MultiCast Pkts.**—Transmit multicast packet counter. Increments for each multicast valid frame transmitted (excluding broadcast frames)

9.4 DECOMMISSIONING A DART IN A HOST

Only a user logged in under the admin or a Network Manager account can change Prism system settings through the EMS.

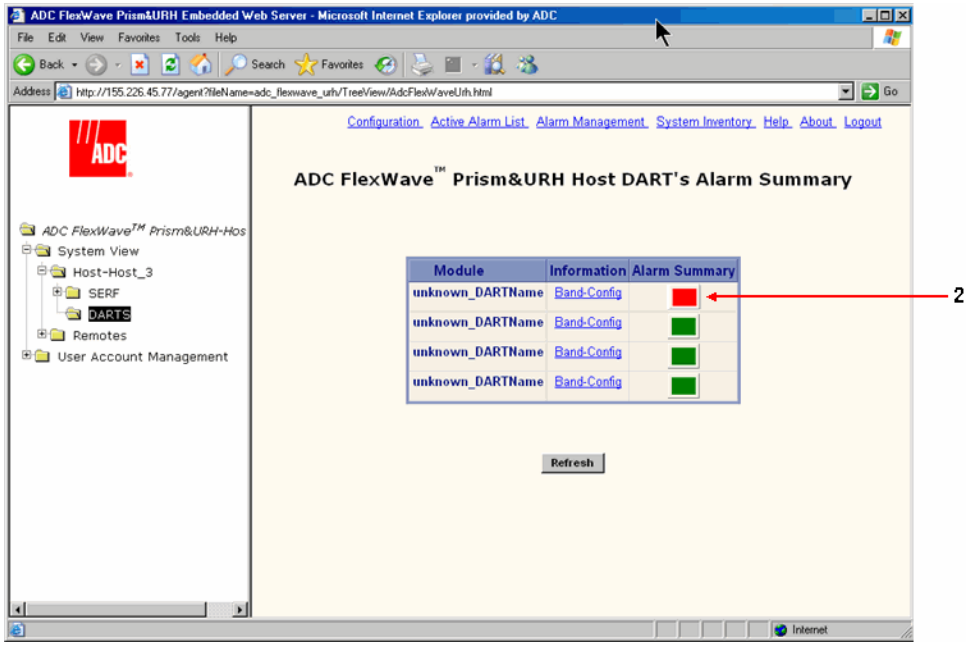
This procedure is for decommissioning a DART in a Host. For information on decommissioning a DART in a Remote, see "Decommissioning an RF Module in a Remote" on page 232.

The **Decommission** button is available only when a DART has already been physically removed. You use the **Decommission** button to remove DART configuration settings and to delete DART alarms from EMS alarm summaries. Entries in the Alarm History Log, however, are preserved.

Decommission a DART only if it has been permanently removed from the Remote and will not be replaced with another DART. When a DART is taken out of service, this procedure removes information about the DART (such as associated alarms, links, and inventory) from the EMS database.

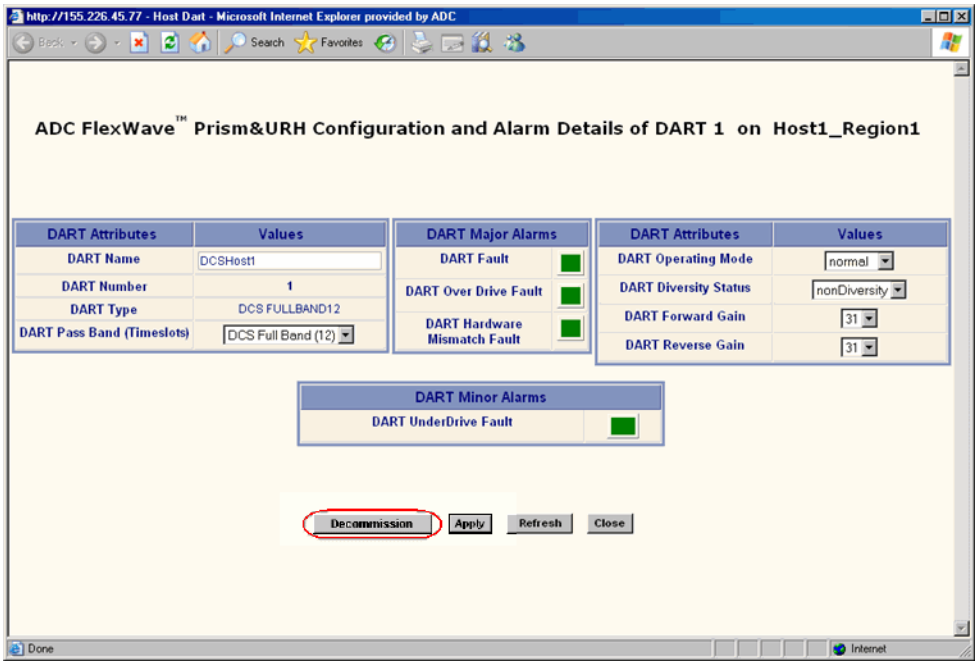
You must delete any RF links before you can decommission a Host DART. The FlexWave system prevents a decommission if RF links are in place.

1 In the Function Explorer Tree, select **System View**, **Host–*x***, **SERF**, **DARTS** (where **–*x*** is the Host name) to open the **DART's Alarm Summary** view in the EMS View Frame.



2 In the **Information** column, click on the **Band-Config** link for the DART to be decommissioned. The **Configuration and Alarm Details** window opens.

3 In the **Configuration and Alarm Details** window, click the **Decommission** button.

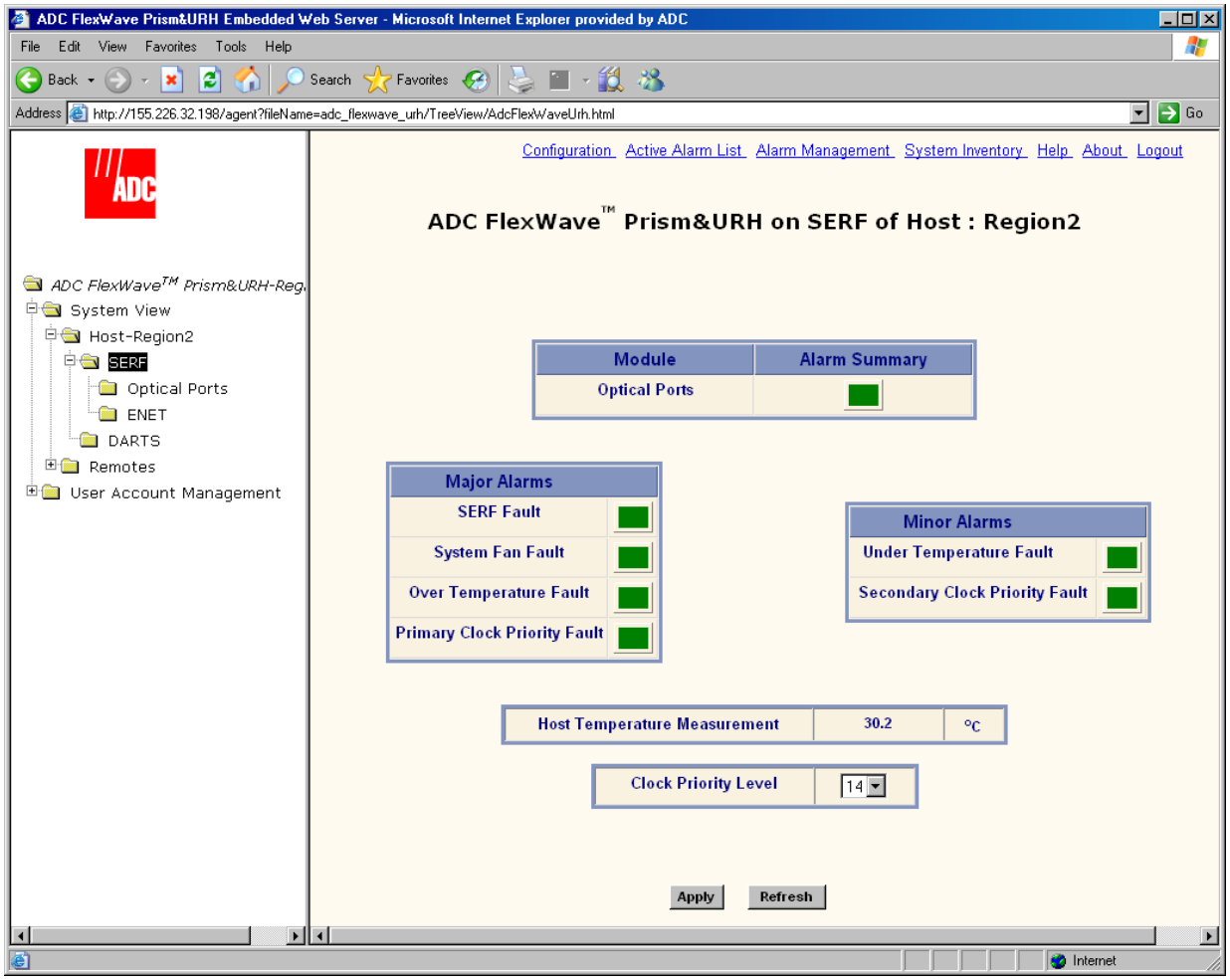


4 In the confirmation dialog, click **OK**.

9.5 VIEWING THE HOST SERF SUMMARY

The **Host SERF** page provides a summary for the SeRF (Serial Radio Frequency) card located in the Host. The Host SeRF card contains the processor chip where the EMS software documented in this manual resides. The SeRF controls communication between the Host and the Remotes, and maintains the system configuration settings.

In the Function Explorer Tree, select **System View**, **Host**–*x*, **SERF** (where –*x* is the Host name) to open the **Prism on SERF of Host**-*n* view in the EMS View Frame.



The **Prism on SERF of Host**-*n* view has the following elements:

- **Optical Ports**—alarm status indicator for Host optical ports. Red indicates that an alarm exists for at least one of the eight optical ports on the SeRF card. Yellow indicates a minor alarm.
- **SERF Fault**—state of the SeRF. Red indicates that either the SeRF clock source is unacceptable or the SeRF card FPGA is not programmed.
- **System Fan Fault**—state of the Host chassis fan. Red indicates that the Host chassis fan is spinning too slowly.

- **Over Temperature Fault**—Red indicates that the current chassis-internal temperature of the Host is above its operating limits. Fault threshold is **90° C**.
- **Primary Clock Priority Fault**—Indicates that there is another Host in a Multi-Host system that has the same Clock Priority Level (CPL) as this Host. All Hosts that are in conflict generate this alarm. When all Hosts with this alarm are provisioned with unique CPLs, the alarm clears. Service is disrupted on all systems when this alarm is present. The **Primary Clock Priority Fault** is a Major alarm.
- **Under Temperature Fault**—Yellow indicates that the current chassis-internal temperature of the Host is below its operating limits. Fault threshold is **–40° C**.
- **Secondary Clock Priority Fault**—In a three-Host system, indicates that the Clock Priority Level for the Host managing the Remote has been changed. All Hosts in the system generate this alarm. When all Hosts with this alarm are provisioned with unique CPLs, the alarm clears. Service is not disrupted, but could become disrupted if the host providing the clock becomes unavailable. The **Secondary Clock Priority Fault** is a Minor alarm.
- **Host Temperature Measurement**—Gives the current chassis-internal temperature in degrees Centigrade detected by the Host.

For corrective actions for alarm states, refer to "Troubleshooting Alarms" on page 264. For information on setting the Clock Priority Level, see "Set the Clock Priority Level" on page 150.

9.6 VIEWING HOST SERF OPTICAL PORTS

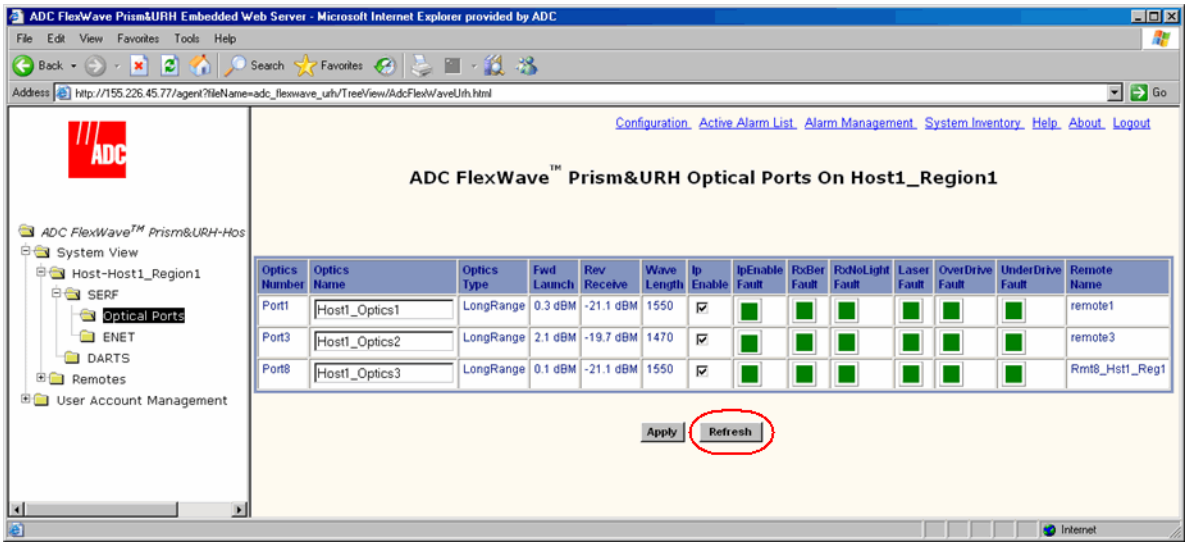
The **Host Optical Ports** view shows the current usage and alarm status of the optical ports on the Host plus the current values of some key operating parameters. The Host has eight optical ports, but the **Host Optical Ports** view only shows active ports (physically connected to a Remote). Each port in the page represents one set of forward and reverse paths between a Host and Remote. Physically, this may have been accomplished with two fibers through that port or with a single fiber (if WDM is used). Each physical port contains an SFP transceiver with two connectors.

The **Host Optical Ports** view provides a link that can be used to enter or edit the name for a Host optical port (see "Enter a Host Name, Clock Source, and Linking Mode" on page 147).

For corrective actions for alarm states, refer to "Troubleshooting Alarms" on page 264.

To access the **Host Optical Ports** view, in the Function Explorer Tree, select **System View**, **Host–*x***, **SERF**, **Optical Ports** (where **–*x*** is the Host name).

The **Optical Ports** view for **Host-*n*** opens in the EMS View Frame, which only shows the Receive power level from the Remote unit (REV path). To see the Receive power level in the FWD path (from the Host to the Remote), you must open the **Optical Ports** view for the desired Remote as described in "Viewing Remote SeRF Optical Ports" on page 248.



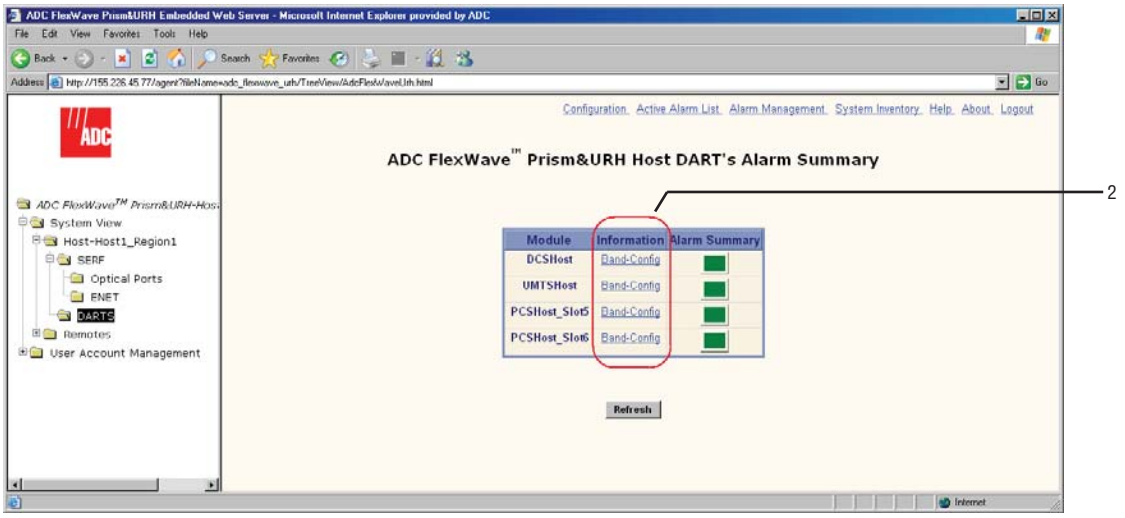
The following informational columns are provided in the **Optical Ports** table.

- **Optics Number**—System assigned port number. This is a link to the **Port Configuration Page** for this particular port.
- **Optics Name**—user entered port name or **UNKNOWN_SFPName**, which indicates that no name has been entered.
- **Optics Type**—indicates that the laser range, which is **LongRange** to meet 3Gbps optical transmission requirements.
- **Fwd Launch**—Launch power level in dBm of forward path signal. The minimum FWD launch power is -2 dBm, and the maximum is 3 dBm.
- **Rev Receive**—Receive power level in dBm of reverse path signal, which incorporates the launch power of the Remote Unit SFP plus all optical losses (insertion losses, fiber cable loss, and so forth). The minimum REV launch power is -27 dBm, and the maximum is -9 dBm.
- **Wave Length**—Number displayed is wave length transmitted through this port:
  - Non-duplex and WDM configurations: 1550 nm fwd, 1310 rev
  - CWDM configurations can be one of eight wavelengths: 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610.
- **IpEnable Fault**—An attempt to enable IP on a fiber (Host) to a Remote that already has IP enabled on another fiber (Host) has been made. The alarm is cleared if IP is disabled on the fiber. It is also cleared if IP becomes enabled. This latter condition can occur if the fiber that was already carrying IP later has IP disabled, or if the fiber otherwise becomes disabled. For information on setting Ip Enable, see "Configure the Remote SeRF Optical Ports" on page 158.
- **RxBer Fault**—Yellow indicates that too many errors have been received on the receiving fiber. Fault threshold is **0.00001**. Threshold cannot be changed.
- **RxNoLight Fault**—Red indicates that no light is detected on the receiving fiber. Fault threshold is below **–34dBm**.
- **Laser Fault**—Red indicates that the forward path laser is faulty.
- **OverDrive Fault**—Red indicates power of signal received on the fiber is too strong. Fault threshold is **–9dBm**. Threshold cannot be changed.
- **UnderDrive Fault**—Yellow indicates power of signal received on fiber is too weak. Fault threshold is **–27dBm**. Threshold cannot be changed.
- **Remote Name**—name of the Remote connected to this Optics port.

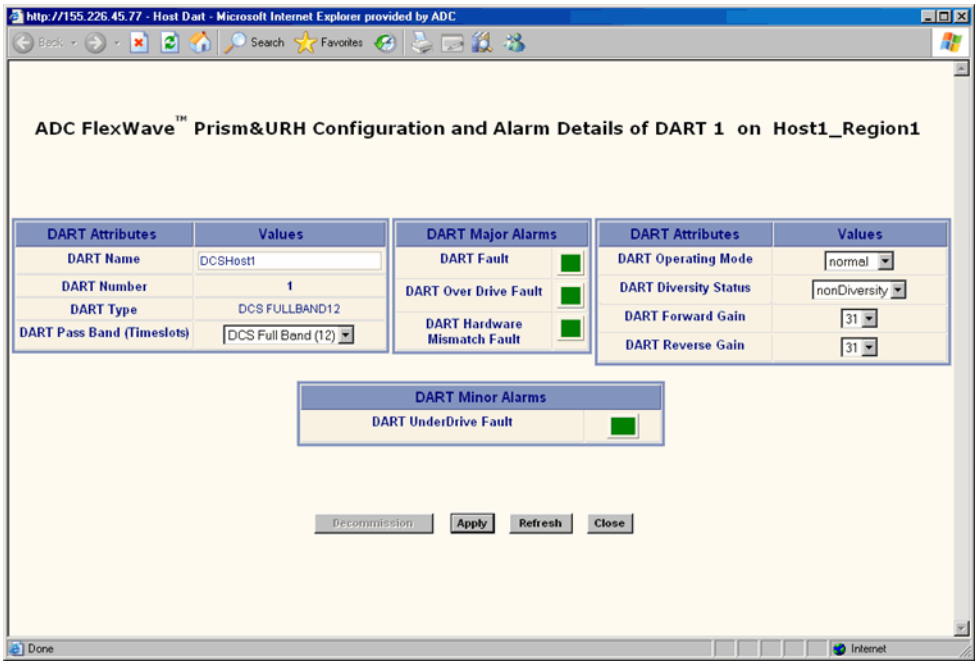
9.7 VIEWING HOST DART ALARMS

A Host may support up to eight DART cards. Each DART card provides one RF band for up to eight Remotes. The DART card converts between serial (optical) and RF data in both forward and reverse directions. The **Prism Host DART's Alarm Summary** view lists all DART cards currently installed in the Host and provides an alarm summary status indicator for each card. This page also provides a link, for each DART card, to a more detailed page that can be used to configure the DART card and obtain alarm details (for more information, see "Configure the Host DARTs" on page 152).

1 In the Function Explorer Tree, select **System View**, **Host–*x***, **SERF**, **DARTS** (where *–x* is the Host name) to open the **Host DART's Alarm Summary** view in the EMS View Frame.



2 In the **Information** column, click on the **Band–Config** link for the DART that you want to monitor. The **Configuration and Alarm Details of DART *n* on Host–*x*** window opens (where **DART** *n* corresponds to the DART whose **Band–Config** link you selected).



The **Configuration and Alarm Details of DART** *n* **on Host–***x* window shows the following Host DART alarms:

- **DART Fault**—Summary alarm state of the DART card. Red indicates a problem with passing RF.
- **DART Over Drive Fault**—Red indicates that the RF signal received from the BTS is too strong. Fault threshold is **+20dBm**.
- **DART Hardware Mismatch Fault**—Red indicates that the DART type doesn't match the assigned Pass Band. Examples: After assigning the Pass Band, if the DART is changed with another DART type, then the **DART Hardware Mismatch Fault** occurs. Or, if you swap DART types (such as, from GSM1800 to UMTS), the **DART Hardware Mismatch Fault** is raised as the stored database has one DART type configured, and the new hardware doesn't match it.
- **DART UnderDrive Fault**—Yellow indicates that the power of the signal received on the RF input to the DART is 20 dB below the optimal input level. For example:

Host Forward DART Gain	Maximum RMS Input Power	UnderDrive Threshold
30 dB	-25 dBm	-45 dBm
20 dB	-15 dBm	-35 dBm
10 dB	-5 dBm	-25 dBm
0 dB	+5 dBm	-15 dBm

3 Click **Refresh** to update the alarm summary. For corrective actions for alarm states, refer to "Troubleshooting Alarms" on page 264.

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10 MANAGING REMOTE UNITS

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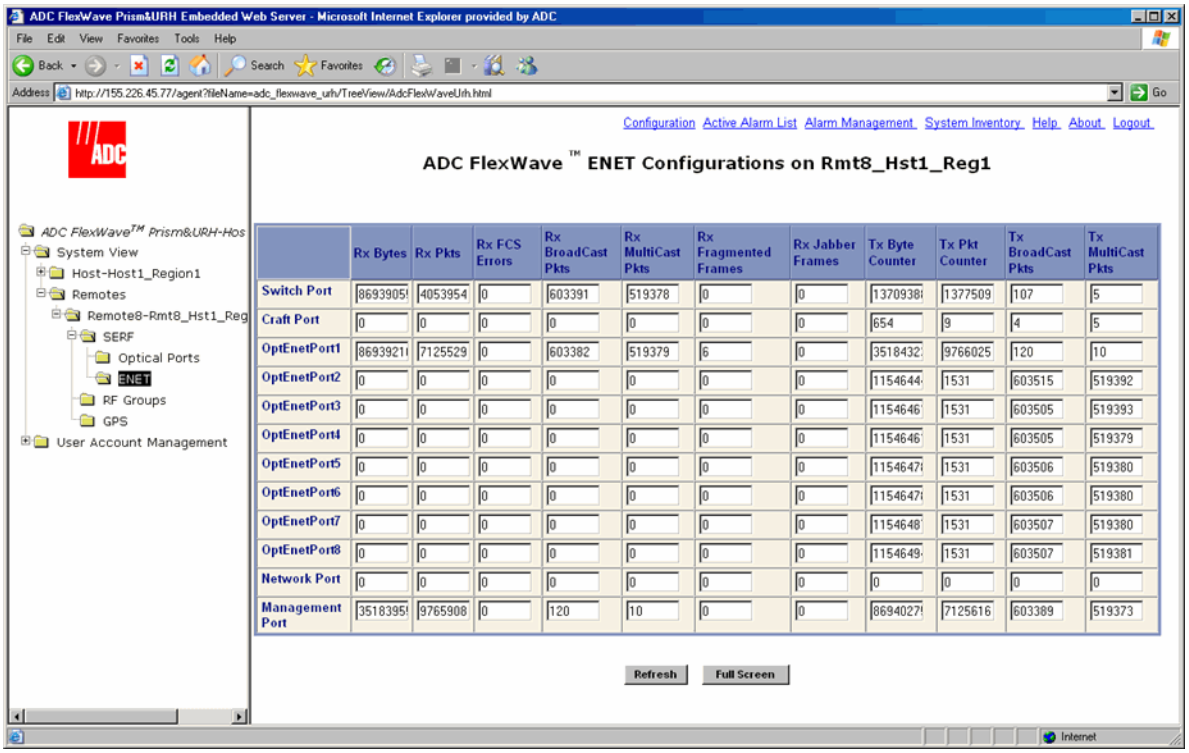
10.1 VIEWING REMOTE SERF ETHERNET PORTS

The Remote SERF ENET page is a summary of throughput and number of errors on the twelve Ethernet (ENET) ports on the Remote SeRF card. These ports, located on the front side of the SeRF card, consist of eight ports used for connection to Remotes and four ports used for system management and maintenance functions.

To open the **ENET Configurations** view in the EMS View Frame, in the Function Explorer Tree select **System View, Remotes, SERF, ENET.**



The **ENET Configurations** view lists the Ethernet ports and their corresponding status.

- **Switch Port**—on card processor's connection to the switch on the SeRF card
- **Craft Port**—on card processor's connection to the PHY port labeled Craft
- **OptEnetPort1-8**—Ethernet switch interface to SFP 1-8
- **Network Port**—Ethernet switch interface to on-card processor
- **Management Port**—switch interface to the PHY port labeled Network
- **Rx Bytes**—Receive byte counter. Increments by the byte count of frames received, including those in bad packets, excluding preamble and SFD but including FCS bytes
- **Rx Pkts**—Receive packet counter. Increments for each frame received packet (including bad packets, all unicast, broadcast, and multicast packets)
- **Rx FSC Errors**—Receive FCS error counter. Increments for each frame received that has an integral 64 to 1518 length and contains a frame check sequence error

- **Rx BroadCast Pkts**—Receive broadcast packet counter. Increments for each broadcast good frame of lengths 64 to 1518 (non VLAN) or 1522 (VLAN), excluding multicast frames. Does not include range/length errors
- **Rx MultiCast Pkts**—Receive multicast packet counter. Increments for each multicast good frame of lengths 64 to 1518 (non VLAN) or 1522 (VLAN), excluding broadcast frames. This count does not include range/length errors
- **Rx Fragmented Frames**—Receive fragments counter. Increments for each frame received that is less than 64 bytes and contains an invalid FCS. This includes integral and non-integral lengths
- **Rx Jabber Frames**—Receive jabber counter. Increments for frames received that exceed 1518 (non VLAN) or 1522 (VLAN) bytes and contain an invalid FCS. This includes alignment errors
- **Tx Byte Counter**—Transmit byte counter. Increments by the number of bytes that were put on the wire including fragments of frames that were involved with collisions. This count does not include preamble/SFD or jam bytes. This counter does not count if the frame is truncated
- **Tx Pkt Counter**—Transmit packet counter. Increments for each transmitted packet (including bad packets, excessive deferred packets, excessive collision packets, late collision packets, all unicast, broadcast, and multicast packets)
- **Tx BroadCast Pkts.**—Transmit broadcast packet counter. Increments for each broadcast frame transmitted (excluding multicast frames)
- **Tx MultiCast Pkts.**—Transmit multicast packet counter. Increments for each multicast valid frame transmitted (excluding broadcast frames)

10.2 DECOMMISSIONING AN RF MODULE IN A REMOTE

Only a user logged in under the admin or a Network Manager account can change Prism system settings through the EMS.

Decommission a RF Module only if it has been permanently removed from the Remote and will not be replaced with another DART.

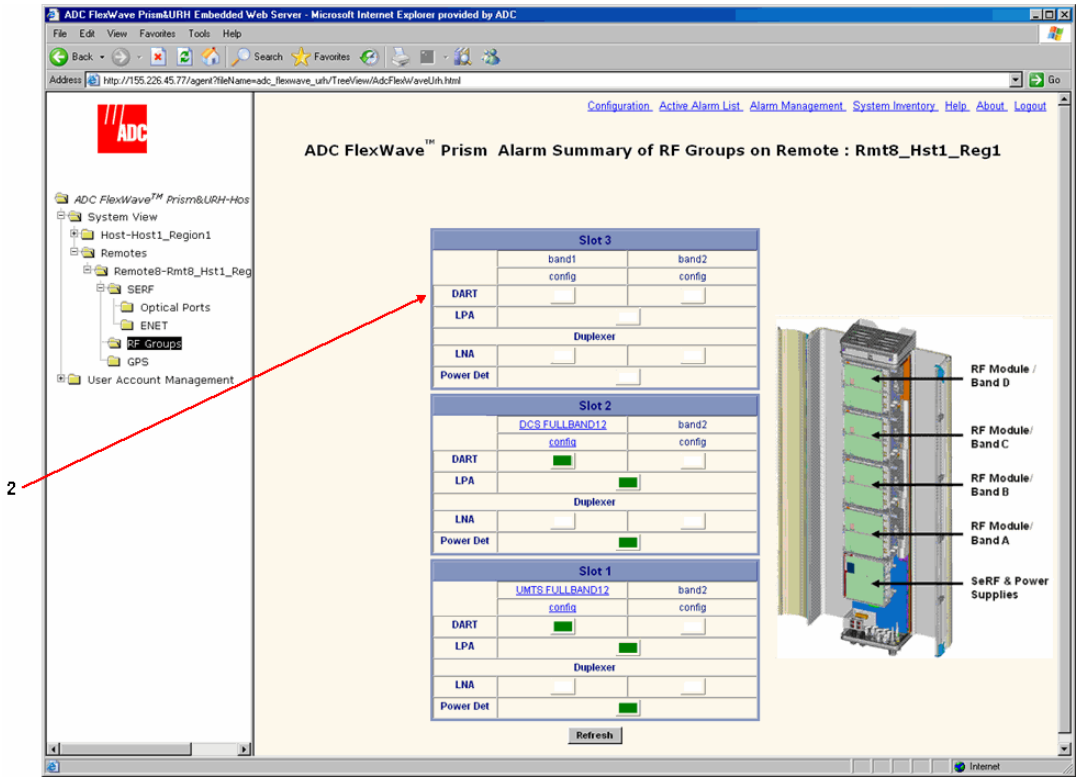
This procedure is for decommissioning a Remote's RF Modules, which contain the Remote DARTS. For information on decommissioning a DART in a Host, see "Decommissioning a DART in a Host" on page 220.

The **Decommission** button is available only when a RF Module and hence the DART(s) have already been physically removed. You use the **Decommission** button when an RF Module and its DART(s) have taken out of service. This procedure removes all information about this RF Module (such as associated alarms, links, and inventory) from the EMS database. Entries in the Alarm History Log, however, are preserved.

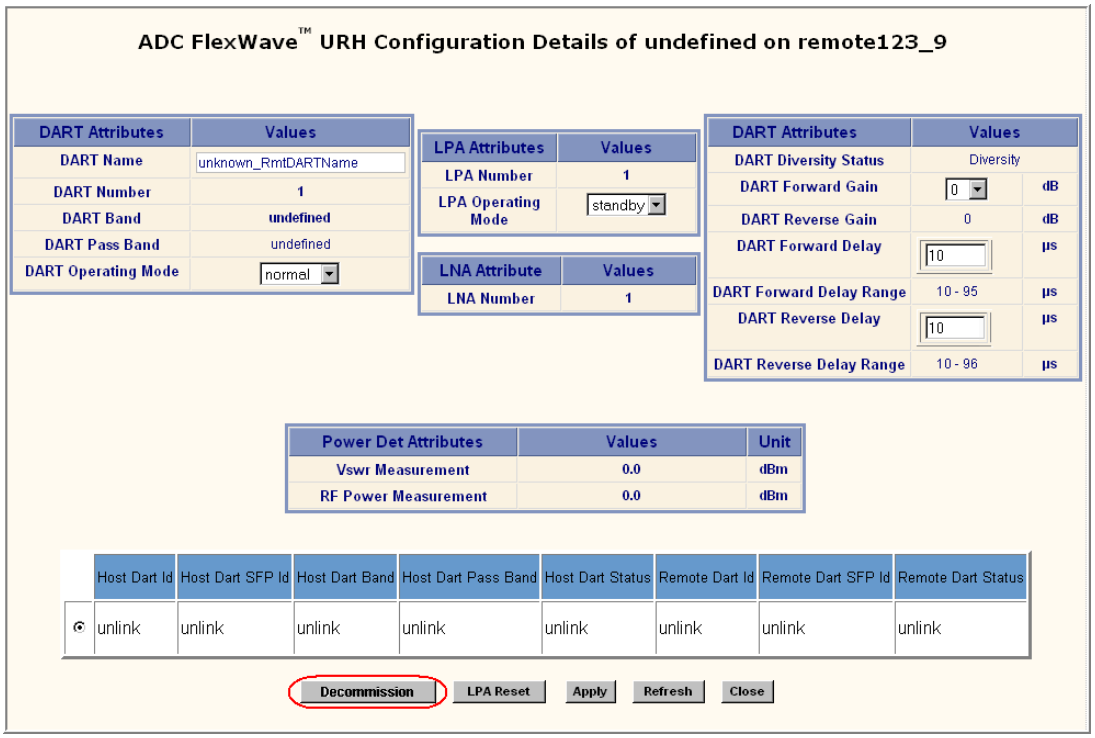
1 In the Function Explorer Tree, select **System View**, **Remotes**, **Remote#–*x***, **SERF**, **Optical Ports** (where **Remote#** indicates the Remote number that corresponds to a Host SFP port number and *n* is the Remote name).

The **Alarm Summary of RF Groups** view opens in the EMS View Frame. For a description of the RF Groups, see "RF Groups in the Remote and the EMS GUI" on page 160.

2 In the rectangle for the RF group selected, click on the **config** link for the band whose DART needs to be decommissioned.



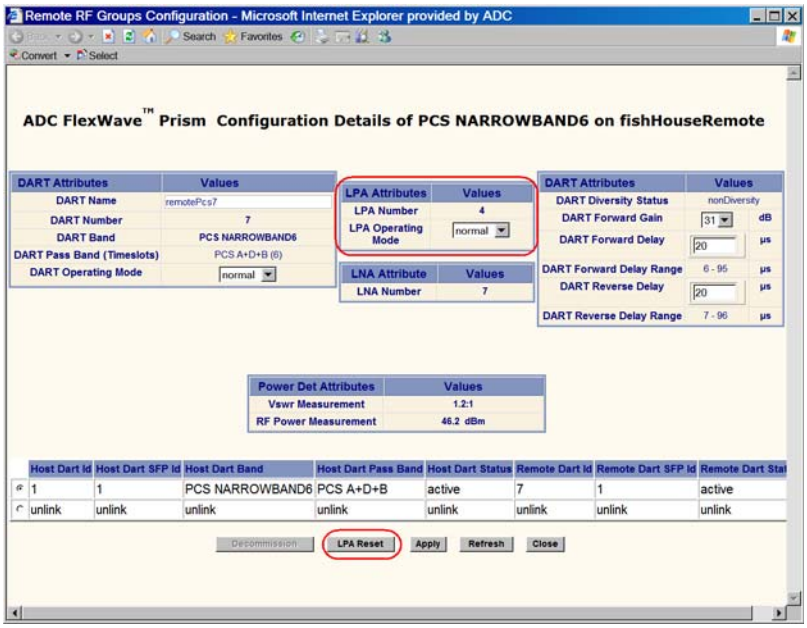
3 In the **Configuration Details** window, click the **Decommission** button.



4 In the confirmation dialog, click **OK**.

10.3 CONFIGURING DUAL-SLOT LPAS

Both LPAs in a dual-slot 40W module can be controlled from the **Configuration Details** window, which allows you to set the **LPA Operating Mode**, enable/disable a LPA, or reset a LPA, as shown below:



The following rules apply to the dual-slot LPA installation:

- For the second LPA, the GUI displays it in an RF group by itself. There will be no DART in the RF group. However, you will be able to view alarms and configuration for the RF group in case of dual LPA setup. For the "missing" DART, default values will display. You cannot configure the missing DARTs, but can set the LPA mode and reset the LPA.
- User-initiated configuration of dual LPAs is simulataneous for both the LPAs. If one of the LPAs is placed into **standby**, both go into standby. If one is placed into **normal** mode, both go into **normal** mode.
- User initiated LPA resets are simulataneous. If one LPA is reset, so is the other.
- Alarm handling for the two LPAs occurs independently. If one alarms and goes into **standby**, the second LPA continues in its current state. Automatic alarm recovery is also handled independently.

10.4 RESTARTING AN LPA

Only a user logged in under the admin or a Network Manager account can change Prism system settings through the EMS.

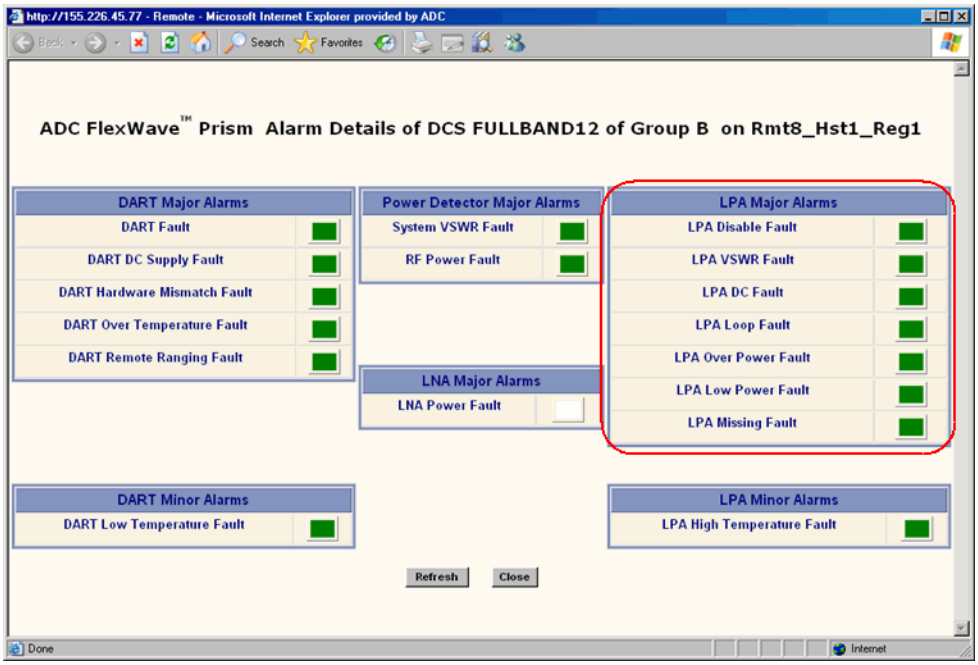
You use the **LPA Reset** button to bring an LPA back into service (restart) that stopped because of an LPA alarm.

This section comprises a 6-step process that is broken into 2 sections that first identifies the fault and then resets the LPA.

10.4.1 Identify the LPA Fault

1 In the Function Explorer Tree, select **System View**, **Remotes**, **Remote#–*x***, **RF Groups** (where **Remote#** indicates the Remote number that corresponds to a Host SFP port number and *n* is the Remote name).

2 In the rectangle for the RF group selected, click on the **band** link for the band whose LPA needs to be reset. The **Alarm Details of DART–*x* of Group *x* on Remote#–*x*** window opens (where *x* is the DART, Group or Remote name).



An LPA Reset is necessary when any of the alarms listed below have occurred.

- **LPA Disable Fault**—Red indicates that the Linear Power Amplifier is disabled because it encountered a problem. Check for a corresponding LPA fault listed in this section (such as **LPA Loop Fault**, **LPA Over Power Fault**, and so forth), then correct the LPA fault. If LPA Reset does not clear this alarm, the corresponding RF Module

may need to be replaced. Contact ADC Technical Assistance for further help (see "Contacting ADC" on page 335).

- **LPA VSWR Fault**—Red indicates an internal VSWR fault state of the LPA. Check the Remote's antenna connection. If the connection is good and a subsequent LPA reset does not clear the alarm, inspect the blue cable going from the corresponding Remote Antenna port to the Duplexer—verify that the connection is tight. If this doesn't clear the fault, the Duplexer may need to be replaced. Notify ADC Technical Support (see "Contacting ADC" on page 335).
- **LPA DC Fault**—Red indicates that the voltage level inside the LPA is outside its acceptable range. If the LPA Reset does not clear this alarm, contact ADC Technical Assistance for further help as the RF Module that contains the LPA or the Power supply within the SeRF Module may need to be replaced (see "Contacting ADC" on page 335).
- **LPA Loop Fault**—Red indicates that the LPA is not sure of the feedback loop, so it has placed itself into a safe state. You can attempt to recover the LPA by reducing forward gain by 10dB on both DART cards, resetting the LPA, then restoring GAIN. If the reset does not work, contact ADC Technical Support (see "Contacting ADC" on page 335).
- **LPA Over Power Fault**—Red indicates that the power level inside the LPA is high enough to damage the LPA. Reduce the Remote Forward Gain (see "Link the Host and Remote DARTs." on page 159), then reset the LPA.
- **LPA Low Power Fault**—Red indicates that the internal gain of the LPA does not meet specifications. In addition to an LPA Reset, try putting the LPA into standby and then back to enable to see if this clears this fault. If neither troubleshooting step clears this alarm, the corresponding RF Module may need to be replaced. contact ADC Technical Assistance for further help (see "Contacting ADC" on page 335).
- **LPA Missing Fault**—Red indicates that the LPA is missing. This fault cannot be cleared with an LPA Reset.

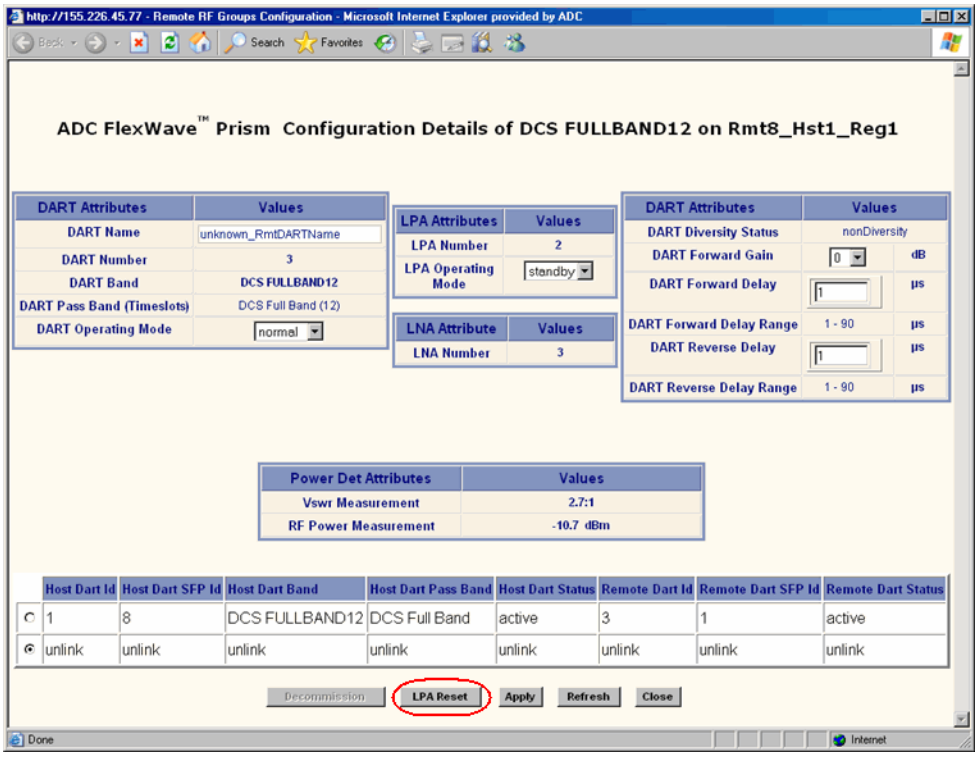
10.4.2 Reset the LPA

Once an LPA Reset is started, Loss of Service occurs. It take approximately 10 to 20 seconds before the LPA signal recovers. The GUI RF power reading will take longer depending on the number of Remotes equipped—for a fully loaded Prism system with 8 Remotes the power reading could take several minutes to update.

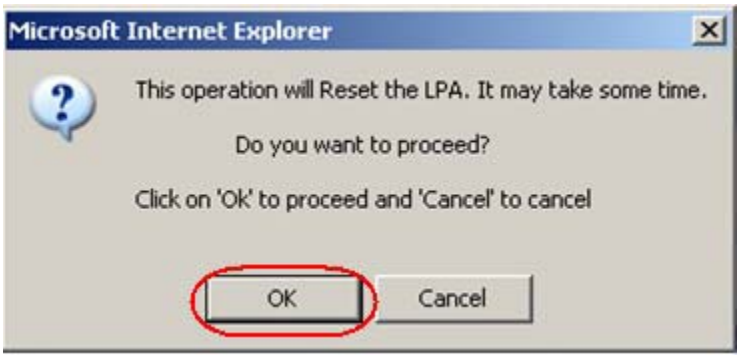
3 In the Function Explorer Tree, select **System View**, **Remotes**, **Remote#–*x***, **SERF**, **RF Groups** (where **Remote#** indicates the Remote number that corresponds to a Host SFP port number and *n* is the Remote name).

4 In the rectangle for the RF group selected, click on the **config** link for the band whose LPA needs to be reset.

5 In the **Configuration Details** window, click the **LPA Reset** button.

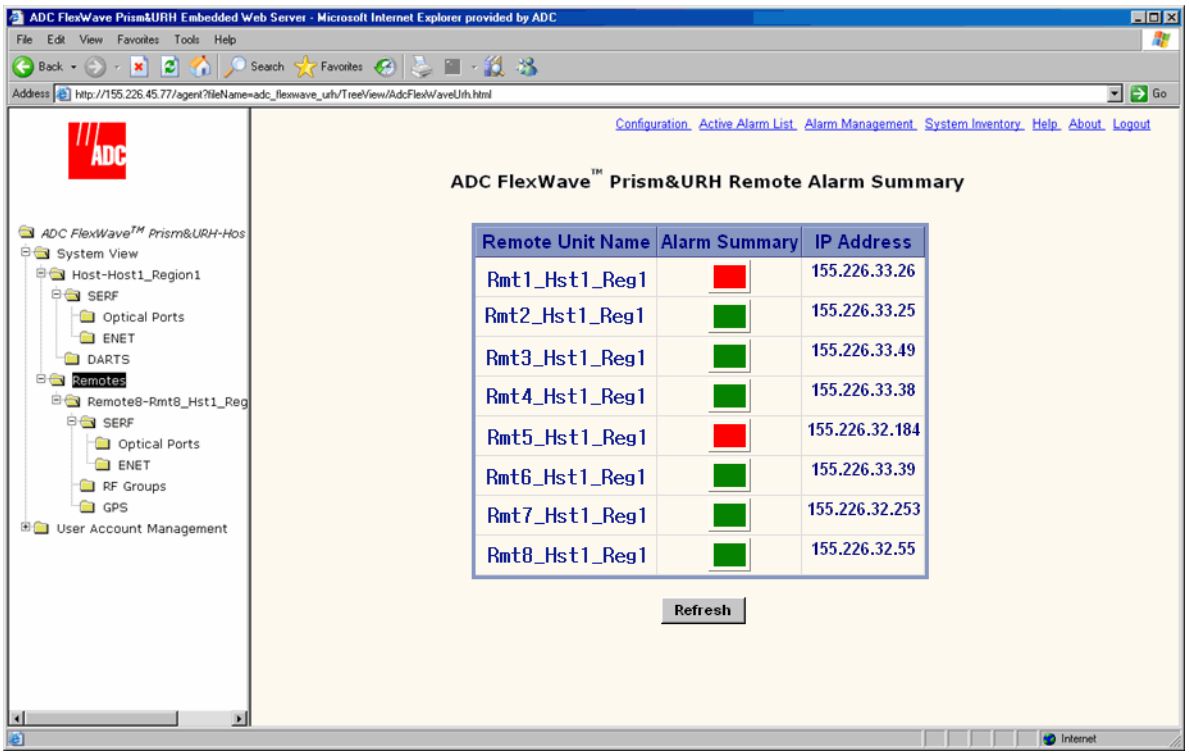


6 In the LPA Reset caution dialog, click OK.



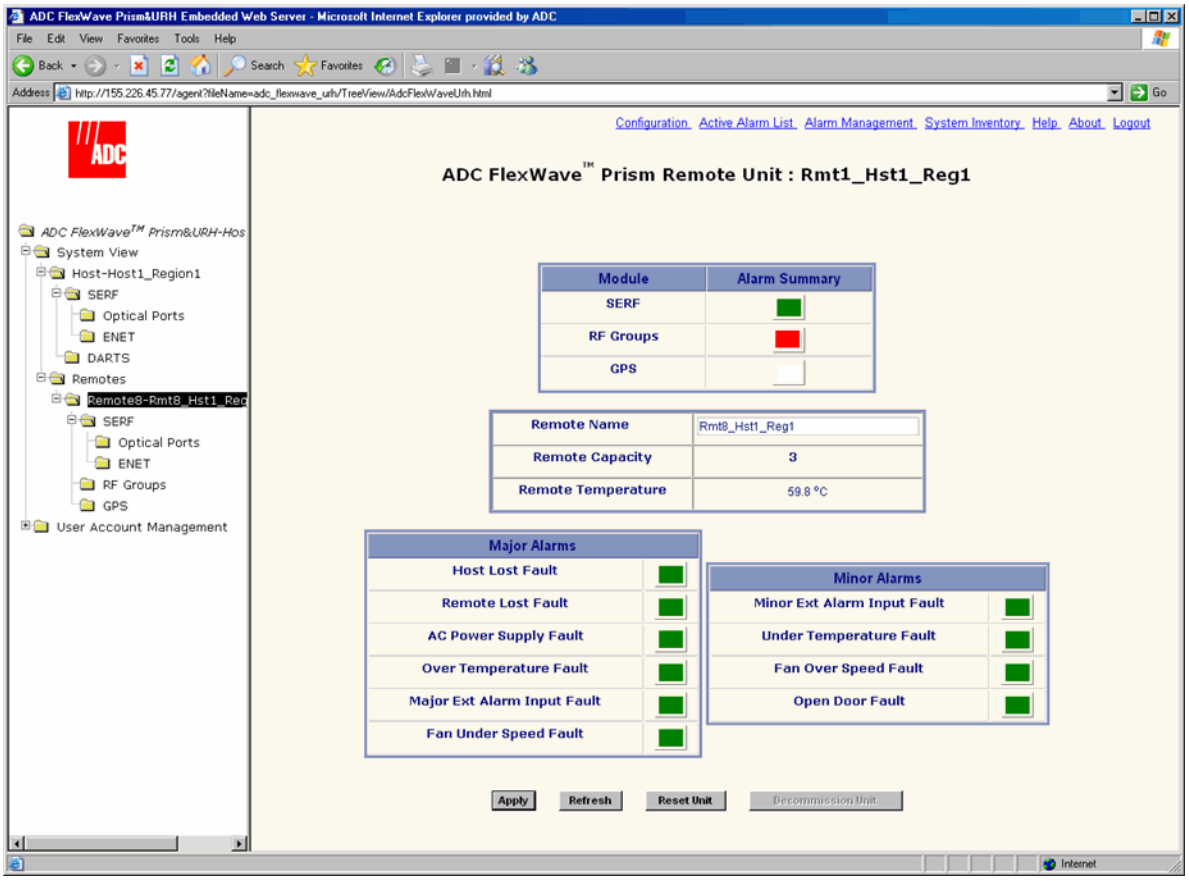
10.5 MONITORING A REMOTE UNIT

1 In the Function Explorer Tree, select **System View**, **Remotes** to open the top level **Remote Alarm Summary** view in the EMS View Frame.



2 If the Alarm Summary status indicator for any Remote is red or yellow, indicating that an alarm exists for that Remote, in the Function Explorer Tree, select the node that corresponds to that Remote. In the preceding example, you would click on the remote node labeled **Rmt1_Hst1_Reg1**.

This opens the **Prism Remote Unit Remote-*n*** summary that corresponds to the selected Remote (**Remote-*n*).**

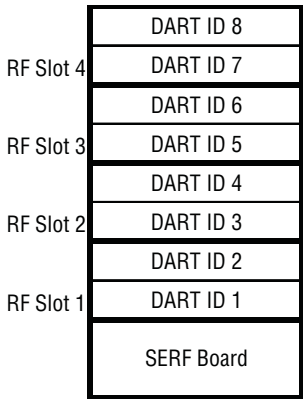


3 If the **SERF** or **RF Groups Alarm Summary** status indicator is red or yellow, you must go another level lower in the Function Explorer Tree for this same Remote to select the page for the SeRF or RF Groups. For more information on these displays, see "Viewing Remote SeRF Alarms" on page 248 or "Viewing Remote SeRF Optical Ports" on page 248.

The GPS alarm is not supported at present; this status indicator will be white.

4 If any status indicator in the **Major Alarms** or **Minor Alarms** table is red or yellow, refer to the following list:

- **Remote Capacity**—Number of slots for RF Modules in the remote. Each RF Module comprises up to two Classic DARTS or Single SuperDARTs or one Dual SuperDART.



- **Remote Temperature** field—Currently detected internal temperature of the Remote (measured near the SeRF board).
- **Host Lost Fault** status indicator—Red indicates Remote has lost contact with Host.
- **Remote Lost Fault** status indicator—Red indicates that the Host is unable to communicate with the Remote.
- **AC Power Supply Fault** status indicator—Red indicates Remote power supply has failed.
- **Over Temperature Fault** status indicator—Red indicates internal temperature in Remote is over its functional operating limit. Fault threshold is **84°C**.
- **Fan Under Speed Fault**—Red indicates that the speed of the Remote fan is not high enough for the internal functional temperature of the Remote.
- **Under Temperature Fault** status indicator—Yellow indicates that the internal temperature within the Remote is under the operating limit. Fault threshold is **–40°C**.
- **Fan Over Speed Fault**—Yellow indicates that the Remote fan is not necessary for the current internal temperature of the Remote, but the fan is spinning (Minor alarm).
- **Open Door Fault**—Yellow status indicator for this Minor alarm, which indicates that the door to the Remote is open.
- **Apply** button—When clicked, causes Remote Name entry to be applied
- **Refresh** button—When clicked, causes page to be reloaded from Host

- **Reset Unit** button—When clicked, causes the Remote to reboot. This causes a Loss of Service until Remote has returned to normal operation. Typical down time is two to four minutes. See "Resetting a Remote Unit" on page 246.

The use of the Reset Unit button causes Loss of Service and should not be used unless other troubleshooting processes have been followed and did not fix the issue being experienced at the Remote.

- **Decommission Unit** button—When clicked, deletes any configuration settings for that Remote and removes all corresponding alarms from the EMS alarm summaries (see "Decommissioning a Remote Unit" on page 244).

10.6 DECOMMISSIONING A REMOTE UNIT

Only a user logged in under the admin or a Network Manager account can change Prism system settings through the EMS.

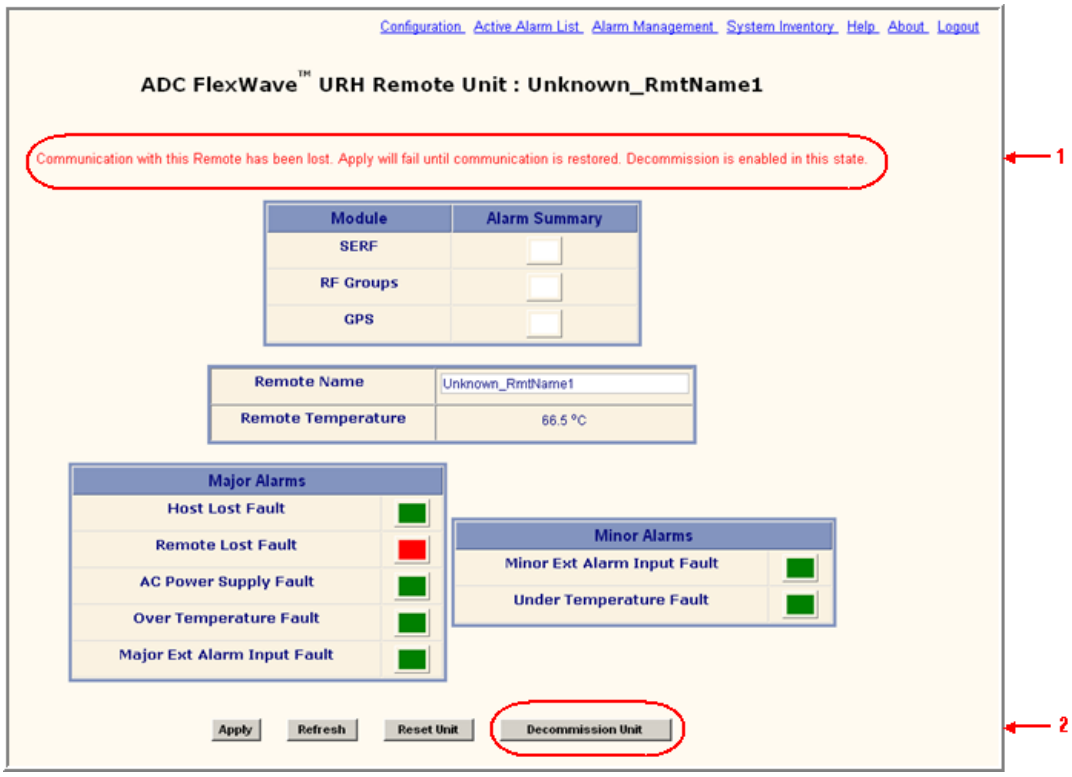
The **Decommission** button is available only when a Remote has already been physically removed from the system. You use the **Decommission** button to delete alarms related to the removed Remote from the EMS alarm summaries.

Decommission a Remote only if it has been permanently removed from the Remote and will not be replaced with another Remote. This procedure removes all information about this Remote (such as associated alarms, links, and inventory) from the EMS database.

1 If the system is configured for manual linking mode, remove any RF links to the DART.

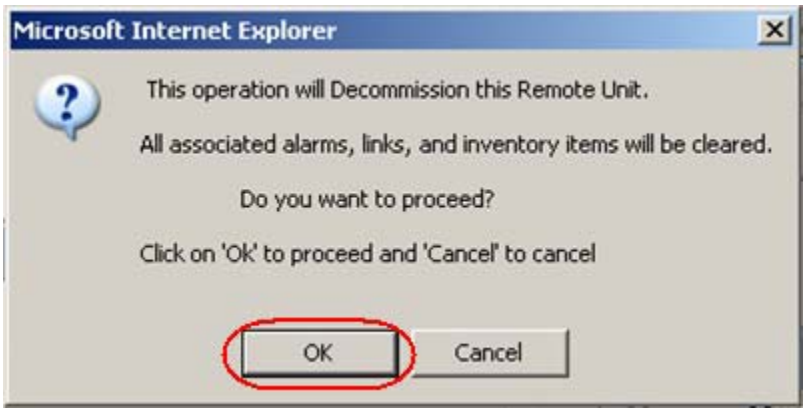
2 In the Function Explorer Tree, select the node that corresponds to the Remote that has been physically removed from the Prism system.

This opens the **Prism Remote Unit Remote-*n*** summary that corresponds to the selected Remote (**Remote-*n*)**. There should be a statement that communication with the Remote has been lost.



3 Click **Decommission Unit**.

4 In the confirmation dialog, click **OK**.



10.7 RESETTING A REMOTE UNIT

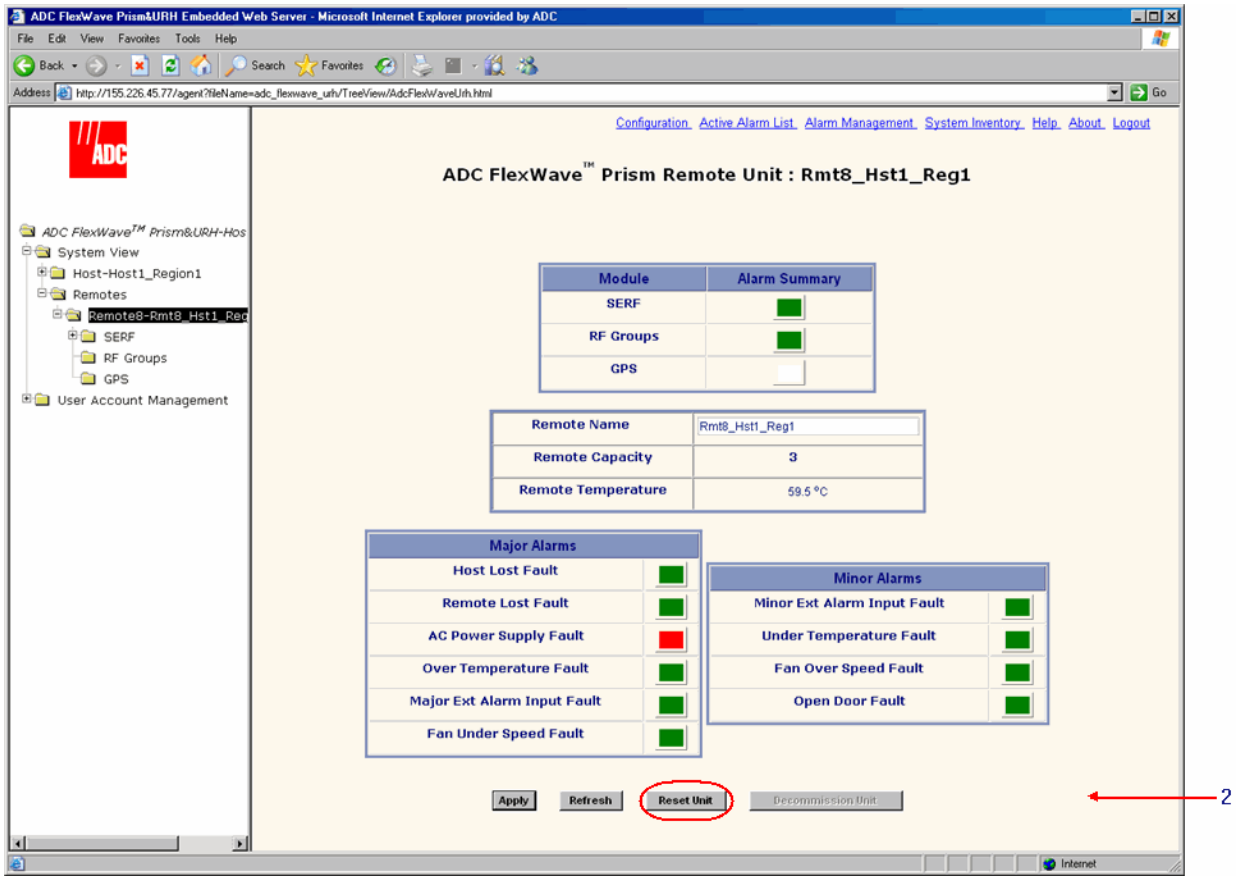
Only a user logged in under the admin or a Network Manager account can change Prism system settings through the EMS.

Resetting the Remote causes Loss of Service and should not be used unless other troubleshooting processes have been followed and did not fix the issue being experienced at the Remote.

If communication and/or reverse-path fiber is lost to the Remote, a Remote Reset can be attempted.

1 In the Function Explorer Tree, select the node that corresponds to the Remote that you want to reset. This opens the **Prism Remote Unit Remote-*n*** summary that corresponds to the selected Remote (**Remote-*n*)**.

2 Click the **Reset Unit** button.

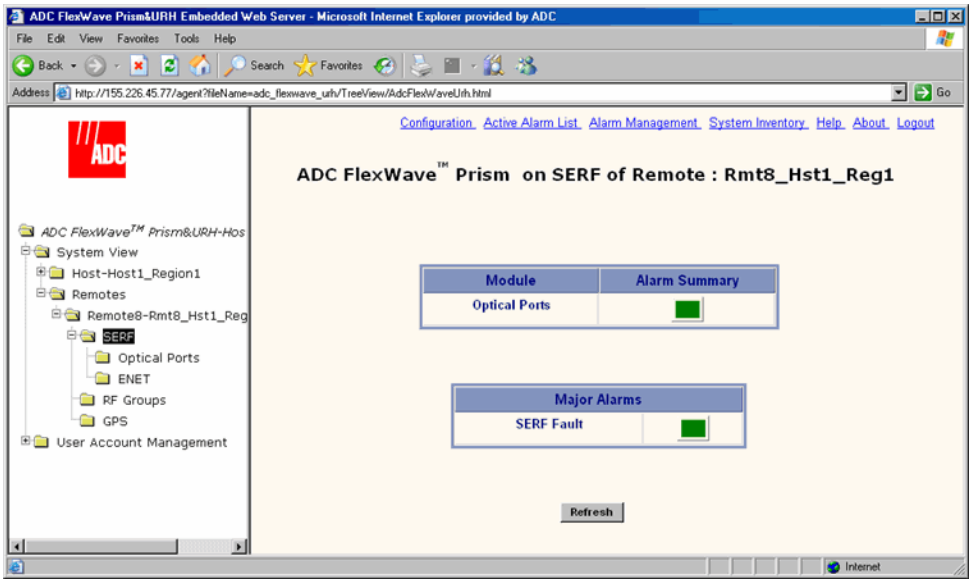


3 In the confirmation dialog, click OK.

The Remote reboots (resets), which causes a Loss of Service until the Remote has returned to normal operation. Typical down time is two to four minutes.

10.8 VIEWING REMOTE SERF ALARMS

To open the **Prism on SERF of Remote-*n*** view in the EMS View Frame, in the Function Explorer Tree select **System View**, **Remotes**, **Remote#–*x***, **SERF** (where **Remote#** indicates the Remote number that corresponds to a Host SFP port number and *n* is the Remote name).



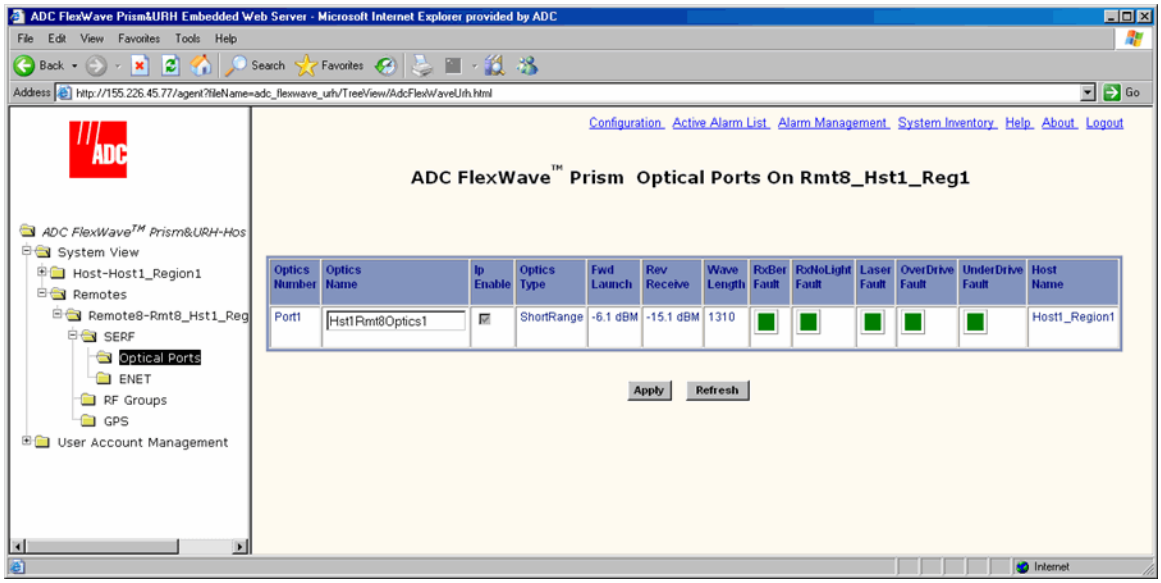
The **Prism on SERF of Remote-*n*** view provides an alarm summary for the SeRF card on the identified Remote.

- **Optical Ports** status indicator—Summary alarm status indicator for Remote optical ports. Red indicates no light (such as the RxNolight Fault) or a laser fault.
- **SERF Fault** status indicator—Summary alarm status indicator for Remote SeRF card. Red indicates that an alarm exists for the Remote SeRF card.

10.9 VIEWING REMOTE SERF OPTICAL PORTS

The **Optical Ports On Remote-*n*** view shows the current usage and alarm status of the optical ports on the Remote, plus current values of operating parameters. The **Optical Ports On Remote-*n*** view only shows the ports that are in current use (that is, they have a fiber and connector plugged into them with the other end of the fiber being connected to Remote).

To open the **Optical Ports On Remote-*n*** view in the EMS View Frame, in the Function Explorer Tree select **System View**, **Remotes**, **Remote#–*x***, **SERF**, **Optical Ports** (where **Remote#** indicates the Remote number that corresponds to a Host SFP port number and *n* is the Remote name).



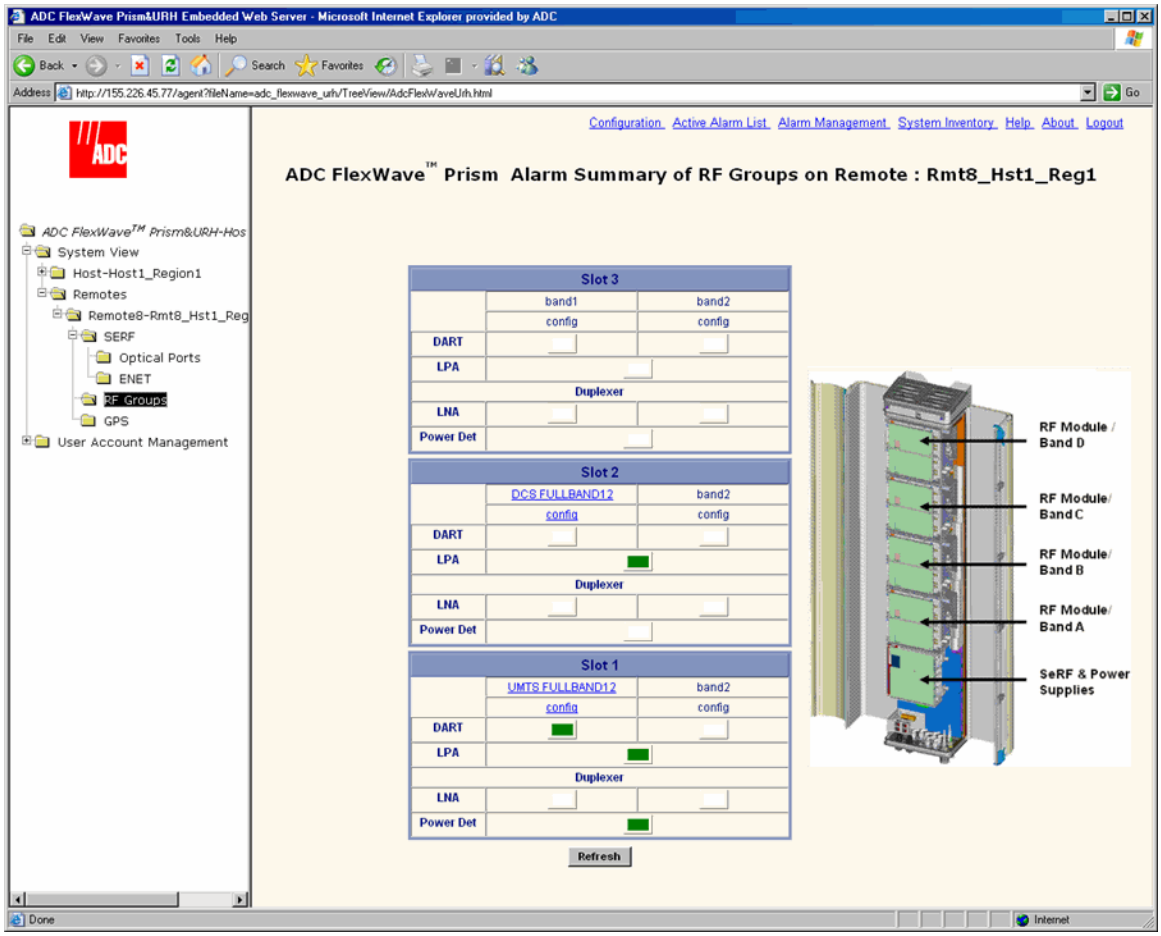
The **Optical Ports On Remote-*n*** view provides an alarm summary for the SeRF card on the identified Remote.

- **Optics Number**—System-assigned port number and link to the **Port Configuration Page** for this particular port
- **Optics Name**—User-entered port name or **UNKNOWN_SFPName** indicating no name has been entered
- **Ip Enable**—Disabled for Remotes. This parameter indicates if the link is carrying IP traffic. It can only be set on the Host as described in "Configure the Remote SeRF Optical Ports" on page 158.
- **Optics Type**—Laser range, which is **LongRange** to meet 3Gbps optical transmission requirements.
- **Fwd Launch**—Launch power in dB of REV path signal, from the Remote to the Host.
- **Rev Receive**—Launch power in dB of receive level of the FWD path, from the Host to the Remote. The minimum REV launch power is -27 dBm, and the maximum is -9 dBm.
- **Wave Length**—Number displayed is wave length transmitted through this port
- **RxBer Fault**—Yellow indicates that there ware too many errors on the receiving fiber. Fault threshold is **0.00001**.
- **RxNoLight Fault**—Red indicates that no light is detected on the receiving fiber
- **Laser Fault**—Red indicates reverse path laser is not sending light
- **OverDrive Fault**—Red indicates forward path optical signal is too strong. Fault threshold is **–9dBm**.
- **UnderDrive Fault**—Yellow indicates forward path optical signal is too weak. The underdrive is from -28dBm to -33dBm. Fault threshold is **–27dBm**.
- **Host Name**—Name of the Host at the other end of the fiber.

10.10 VIEWING AN ALARM SUMMARY OF THE REMOTE RF GROUPS

The **Alarm Summary of RF Groups of Remote–*n*** view provides an alarm summary for the four RF groups on a particular Remote (**Remote–*n*)**.

To open the **Alarm Summary of RF Groups of Remote–*n*** view in the EMS View Frame, in the Function Explorer Tree select **System View**, **Remotes**, **Remote#–*x***, **RF Groups** (where **Remote#** indicates the Remote number that corresponds to a Host SFP port number and *n* is the Remote name).



To understand how the EMS maps the RF Groups in the Remote to their representation in the GUI, see "RF Groups in the Remote and the EMS GUI" on page 160. The RF Group alarm indicators are listed below.

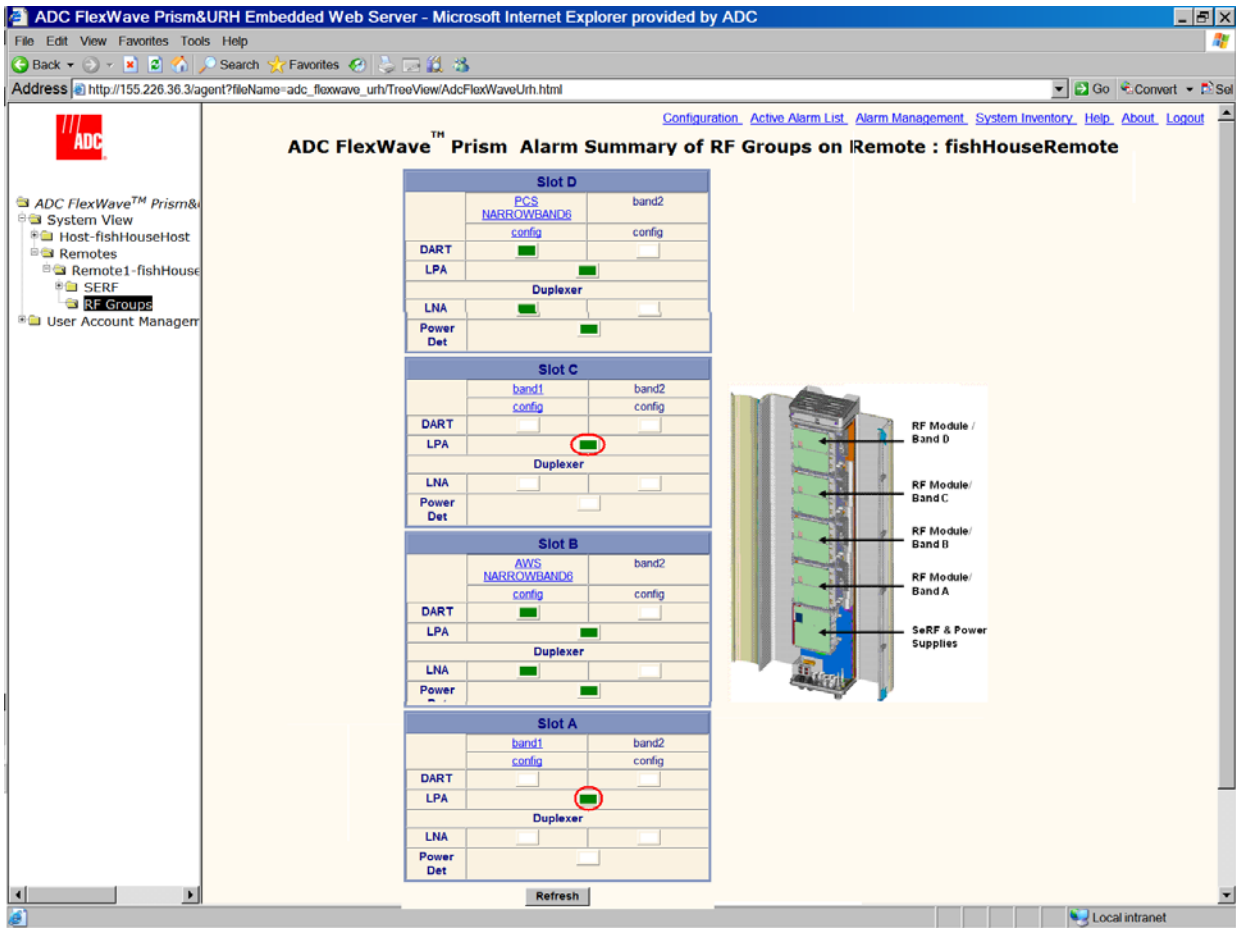
- **DART**—Summary alarm state of the DART card upconverter, downconverter and the DART FPGA. Yellow indicates that a Minor alarm is the highest-level alarm and Red indicates that a Major alarm exists for the DART.
- **LPA**—Summary alarm state of Linear Power Amplifier (LPA), where both LPA indicators refer to the same LPA. Yellow indicates that a Minor alarm is the highest-level alarm and Red indicates that a Major alarm exists for the LPA.

- **LNA**—Summary alarm state of the Low Noise Amplifier (LNA). Red indicates that an active alarm exists for the LNA.
- **Power Det**—Red indicates that the LPA has been shut down. On initial configuration, the **Power Det** indicator will be red until the link is created.

When a new dual-slot 40W RF Module is installed in a Prism system, in the **Alarm Summary of RF Groups on Remote** window, the status of the second LPA is in the slot below where the DART appears in the GUI.

The following figure shows:

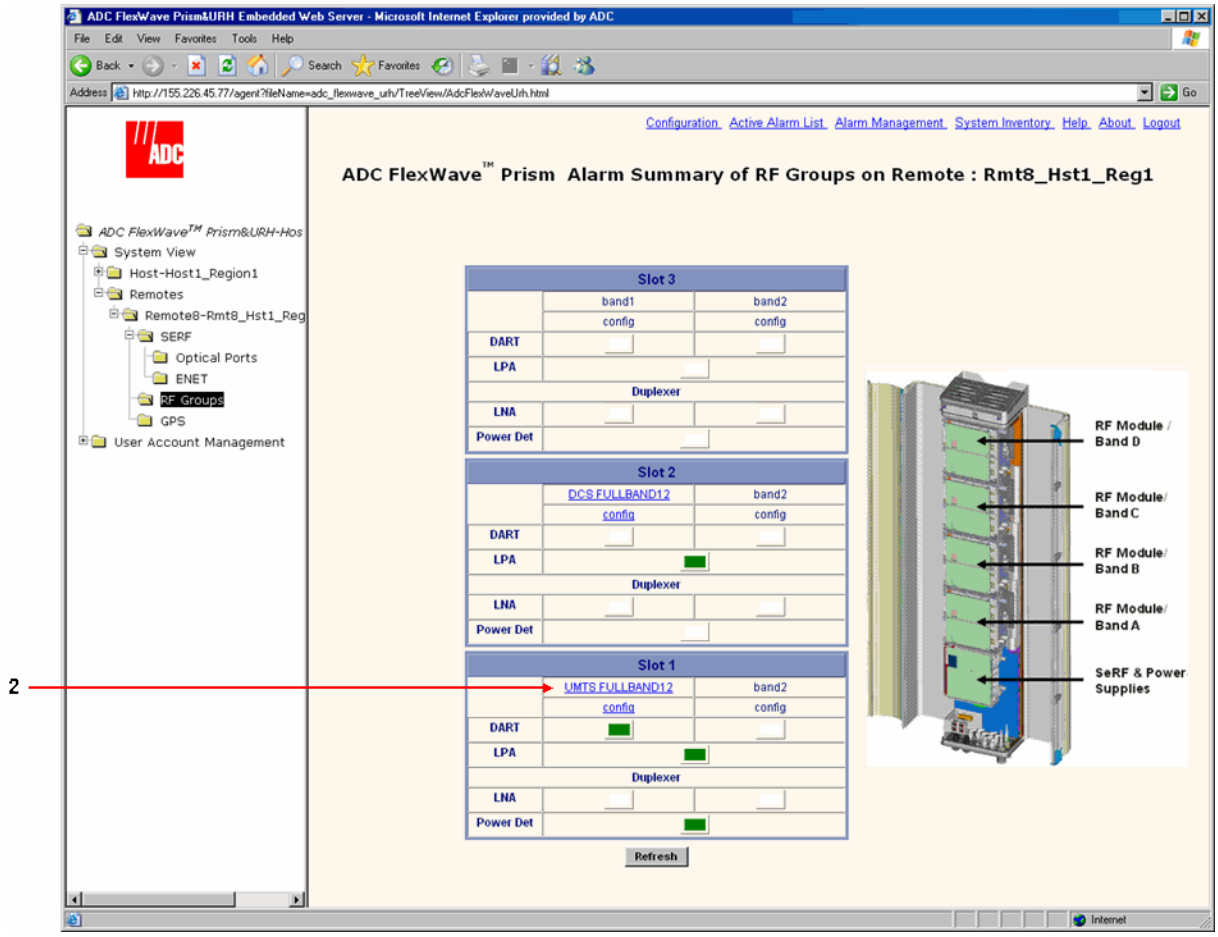
- 40W RF Module, PCS 1900 Non-Diversity Enclosure for Prism Remote installed in Slots D and C. The second LPA status is shown in Slot C.
- 40W RF Module AWS 2100 Non-Diversity Enclosure for Prism Remote installed in Slots B and A. The second LPA status is shown in Slot A.



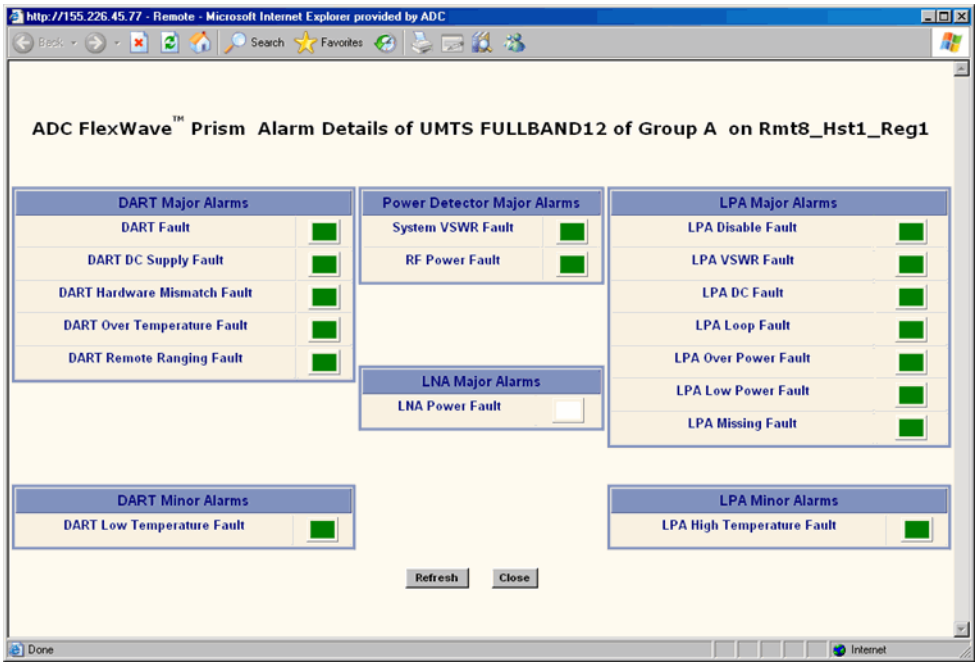
10.11 VIEWING RF BAND ALARM DETAILS

The **Alarm Summary of RF Groups of Remote–*n*** view shows band-specific alarm indicators and their current values.

1 To open the **Alarm Summary of RF Groups of Remote–*n*** view in the EMS View Frame, in the Function Explorer Tree select **System View**, **Remotes**, **Remote#–*x***, **RF Groups** (where **Remote#** indicates the Remote number that corresponds to a Host SFP port number and *n* is the Remote name).



2 Click on a **DART** band in the RF Groups view (upper link) to open the **Alarm Details of DART–*n* of Group *n* on Remote–*n*** window.



The **Alarm Details of DART–*n* of Group *n* on Remote–*n*** window has the the following components. For corrective actions for alarm states, refer to "Troubleshooting Alarms" on page 264.

- **DART Major Alarms**
  - **DART Fault**—Summary alarm state of the DART card upconverter downconverter and the DART FPGA. Red indicates that either the clock source for the DART card is outside the acceptable range or the DART FPGA is not programmed.
  - **DART DC Supply Fault**—Red indicates DART card DC supply is faulted.
  - **DART Hardware Mismatch Fault**—Red indicates an invalid passband configuration for the DART.
  - **DART Over Temperature Fault**—Red indicates DART card internal temperature is too high. Fault threshold is **84°C**.
  - **DART Remote Ranging Fault**—Red indicates that the Host is unable to implement the signal delay entered in the RF Band Configuration Page (described in "Link the Host and Remote DARTs." on page 159).
- **Power Detector Major Alarms**
  - **System VSWR Fault**—Red indicates a VSWR fault at the interface to the antenna (greater than 3:1).
  - **RF Power Fault**—Red indicates that the RF power measured at the antenna output is too low. The threshold for this fault is **0 dBm**.

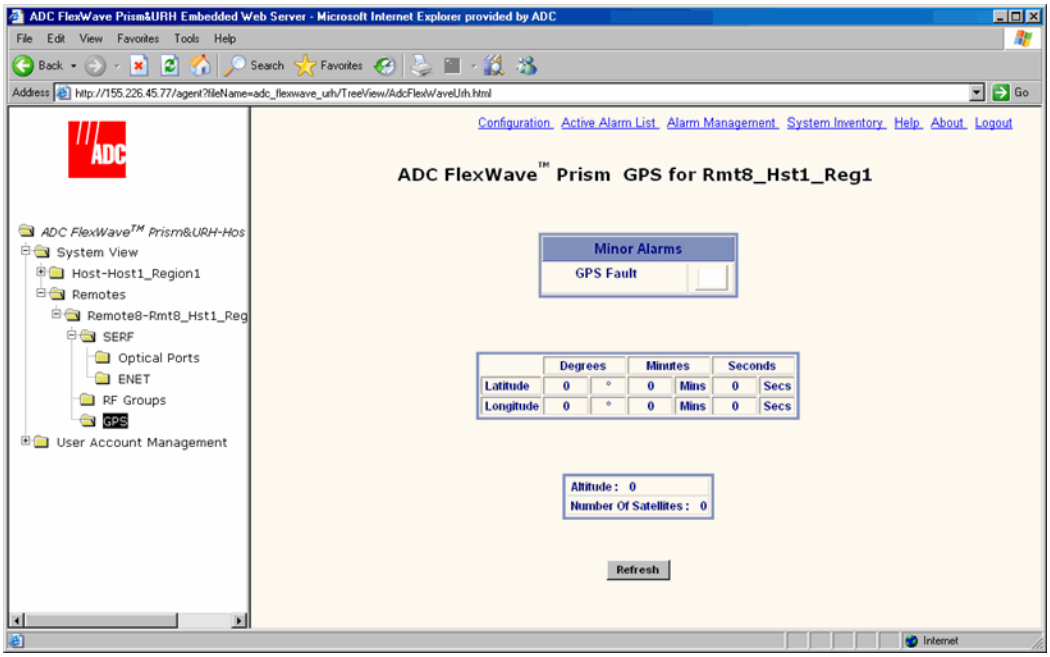
- **LNA Major Alarms**
  - **LNA Power Fault**—Red indicates that the Low Noise Amplifier has an internal error.
- **LPA Major Alarms**
  - **LPA Disable Fault**—Red indicates that the Linear Power Amplifier is disabled because it encountered a problem.
  - **LPA VSWR Fault**—Red indicates that an internal VSWR fault state of the LPA. Fault threshold is **2**.
  - **LPA DC Fault**—Red indicates that the voltage level inside the LPA is outside its acceptable range.
  - **LPA Loop Fault**—Red indicates that the feedback loop inside the LPA is not working.
  - **LPA Over Power Fault**—Red indicates that the power level inside the LPA is high enough to damage the LPA.
  - **LPA Low Power Fault**—Red indicates that the internal gain of LPA does does not meet specification.
  - **LPA Missing Fault**—Red indicates that the LPA is missing.
- **DART Minor Alarms**
  - **DART Low Temperature Fault**—Yellow indicates DART temperature is too low. Fault threshold is **–40°C**.
- **LPA Minor Alarms**
  - **LPA High Temperature Fault**—Yellow indicates that the LPA internal temperature is too high.

10.12 Viewing Remote GPS Alarms and Location Parameters

The **Remote GPS** (Global Positioning System) page shows the alarm status and location parameters for the Remote GPS function.

GPS is not supported in the software version documented in this manual so the Remote GPS page components are not described.

To open the GPS summary in the EMS View Frame, in the Function Explorer Tree select **System View**, **Remotes**, **Remote#–*x***, **GPS** (where **Remote#** indicates the Remote number that corresponds to a Host SFP port number and *n* is the Remote name).



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11 MANAGING ALARMS

Content **Page**

11.1 Viewing Active Alarms 258
11.2 Viewing an Alarm History Log 259
11.3 Masking an Alarm Type 260
11.4 Unmasking an Alarm Type 262
11.5 Troubleshooting Alarms 264

Some EMS parameter values are associated with alarms. When a parameter enters an alarm state, an alarm status indicator is activated where the color of the indicates the alarm severity, where:

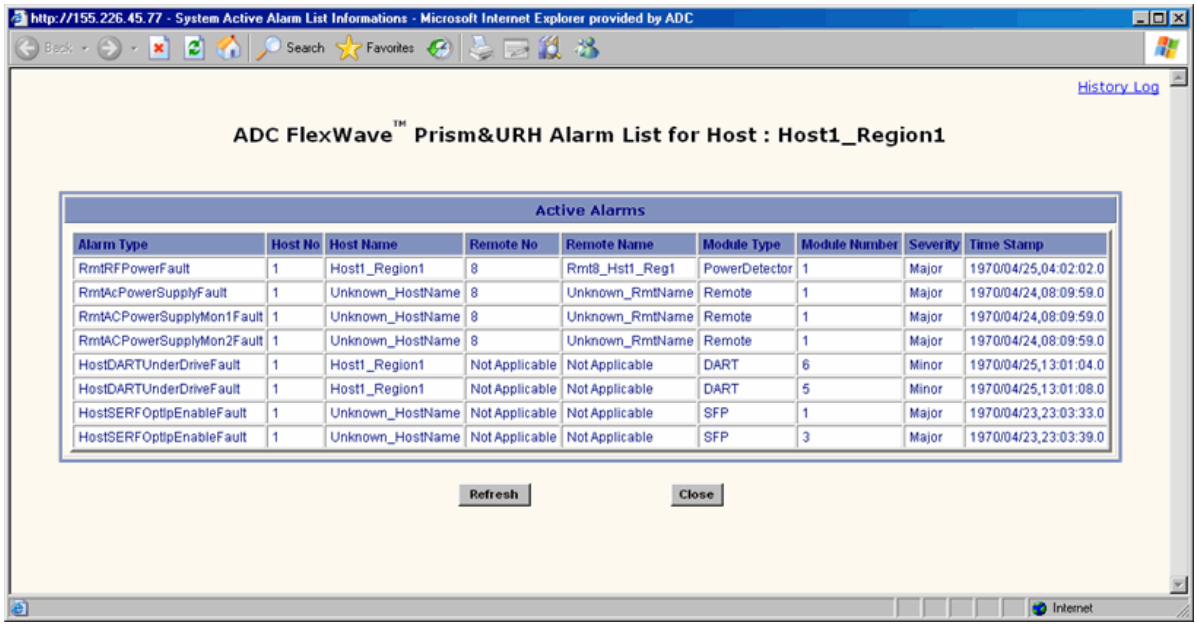
- Red indicates a major alarm
- Yellow indicates a minor alarm
- Green indicates a normal (okay) state
- Grey indicates that the alarm has been masked
- White indicates that an associated device is unplugged or missing.

11.1 VIEWING ACTIVE ALARMS

Viewing the **Active Alarm List** window is a means to determine alarm type, Host unit name, Remote name, time stamp, and other information for active alarms.

1 To access the EMS Menu bar, in the Function Explorer Tree, click on **System View** to display a system view.

2 To open the **Active Alarm List** window, in the EMS Menu bar select **Active Alarm List**.



Alarm Type	Host No	Host Name	Remote No	Remote Name	Module Type	Module Number	Severity	Time Stamp
RmtRFPowerFault	1	Host1_Region1	8	Rmt8_Hst1_Reg1	PowerDetector	1	Major	1970/04/25,04:02:02.0
RmtAcPowerSupplyFault	1	Unknown_HostName	8	Unknown_RmtName	Remote	1	Major	1970/04/24,08:09:59.0
RmtACPowerSupplyMon1Fault	1	Unknown_HostName	8	Unknown_RmtName	Remote	1	Major	1970/04/24,08:09:59.0
RmtACPowerSupplyMon2Fault	1	Unknown_HostName	8	Unknown_RmtName	Remote	1	Major	1970/04/24,08:09:59.0
HostDARTUnderDriveFault	1	Host1_Region1	Not Applicable	Not Applicable	DART	6	Minor	1970/04/25,13:01:04.0
HostDARTUnderDriveFault	1	Host1_Region1	Not Applicable	Not Applicable	DART	5	Minor	1970/04/25,13:01:08.0
HostSERFOptIpEnableFault	1	Unknown_HostName	Not Applicable	Not Applicable	SFP	1	Major	1970/04/23,23:03:33.0
HostSERFOptIpEnableFault	1	Unknown_HostName	Not Applicable	Not Applicable	SFP	3	Major	1970/04/23,23:03:39.0

The **Active Alarm List** table provides the following information:

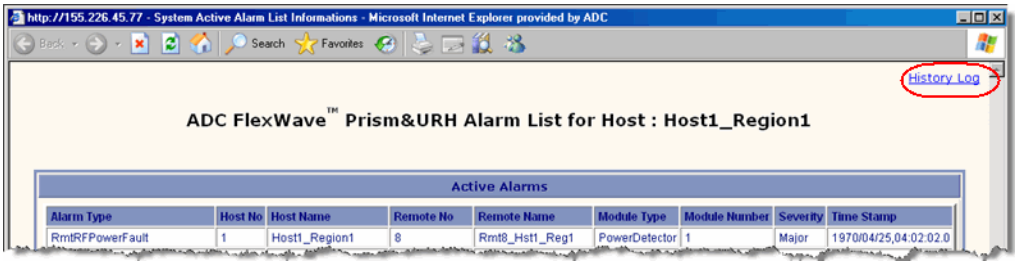
- **Alarm Type**—Descriptive name of alarm. For more information, refer to "Troubleshooting Alarms" on page 264.
- **Host No**—Always "**1**"
- **Host Name**—User-defined Host name or system default
- **Remote No**—System assigned number of Remote from which alarm came
- **Remote Name**—User-defined Remote name or system default
- **Module Type**—Type of unit that is experiencing the alarm (SeRF, DART, LPA, LNA, Power Detector, SFP)
- **Module Number**—Unit number of module experiencing the alarm condition
- **Severity**—**Major** or **Minor**
- **Time Stamp**—Date and time when the alarm occurred (**YYYY:MM:DD:HH:MM:SS**)

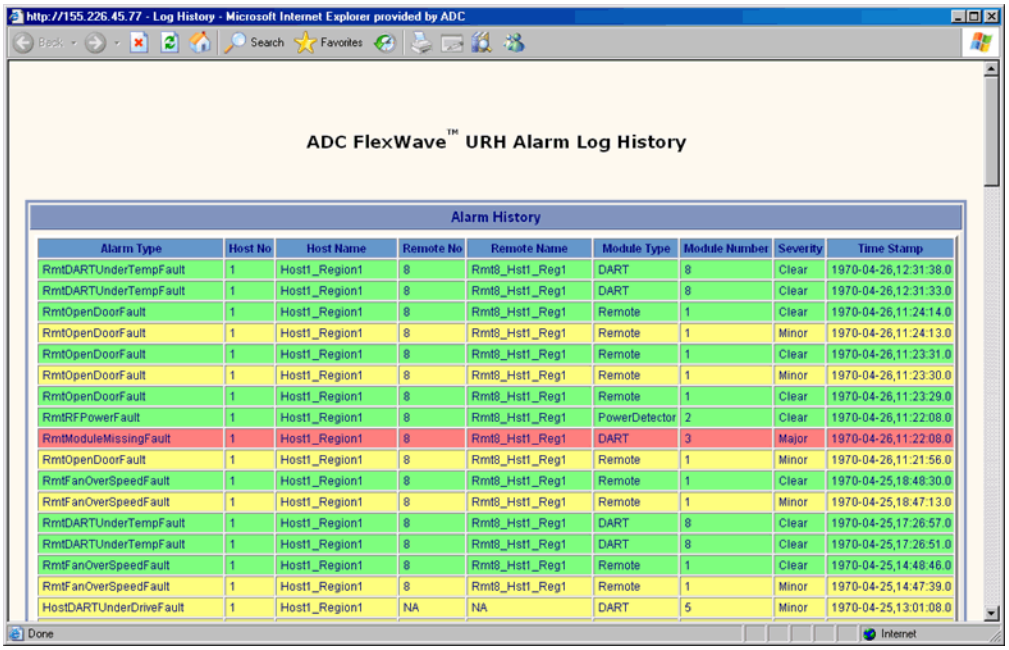
11.2 VIEWING AN ALARM HISTORY LOG

1 To access the EMS Menu bar, in the Function Explorer Tree, click on **System View** to display a system view.

2 To open the **Active Alarm List** window, in the EMS Menu bar select **Active Alarm List**.

3 To open the **Alarm Log History** window, in the **Active Alarm List** window click the **History Log** link.





The **Alarm Log History** window components are the same as for the **Active Alarm List** window (see "Viewing Active Alarms" on page 258), except the **Alarm Log History** window includes the severity of **Clear** if the alarm condition has been cleared.

11.3 MASKING AN ALARM TYPE

Only a user logged in under the admin or a Network Manager account can change Prism system settings through the EMS.

Masking an alarm type causes the EMS to stop reporting alarms of that type until the alarm is unmasked. By default all alarms are unmasked. When an alarm type is masked (mask status enabled), the following is true:

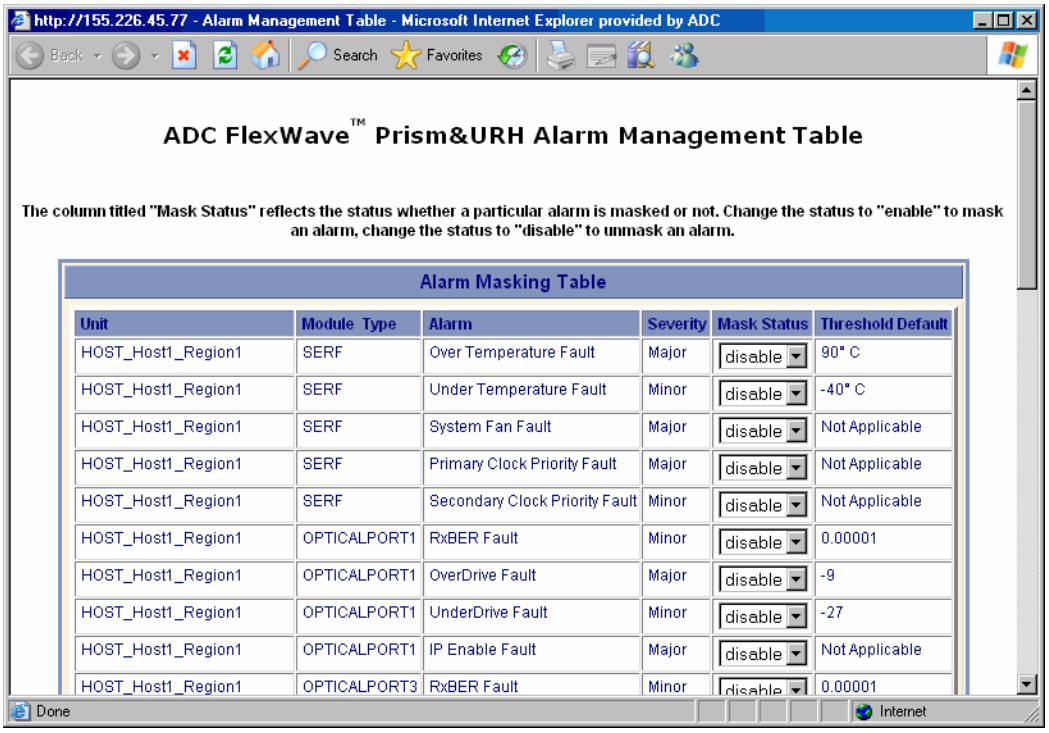
- The corresponding status indicator shows in gray.
- The alarm state is not calculated into the higher level alarm summary
- The corresponding trap is not sent to SNMP managers.

To mask an alarm:

1 To access the EMS Menu bar, in the Function Explorer Tree, click on **System View** to display a system view.

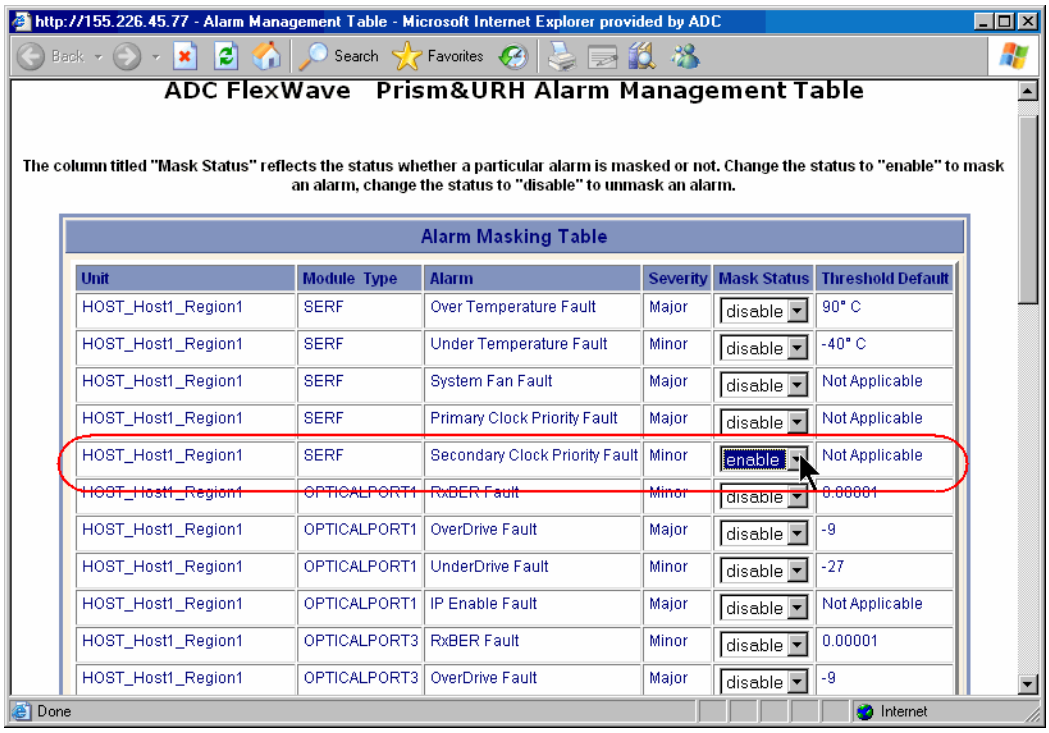
2 In the EMS Menu bar, select **Alarm Management**.

The **Alarm Management Table** window opens.



3 Click the list in the Mask Status column for the alarm for which you want to enable a mask, select **enable**, and then click **Apply**.

In the following graphic, a mask has been enabled for the SeRF Secondary Clock Priority Fault.



11.4 UNMASKING AN ALARM TYPE

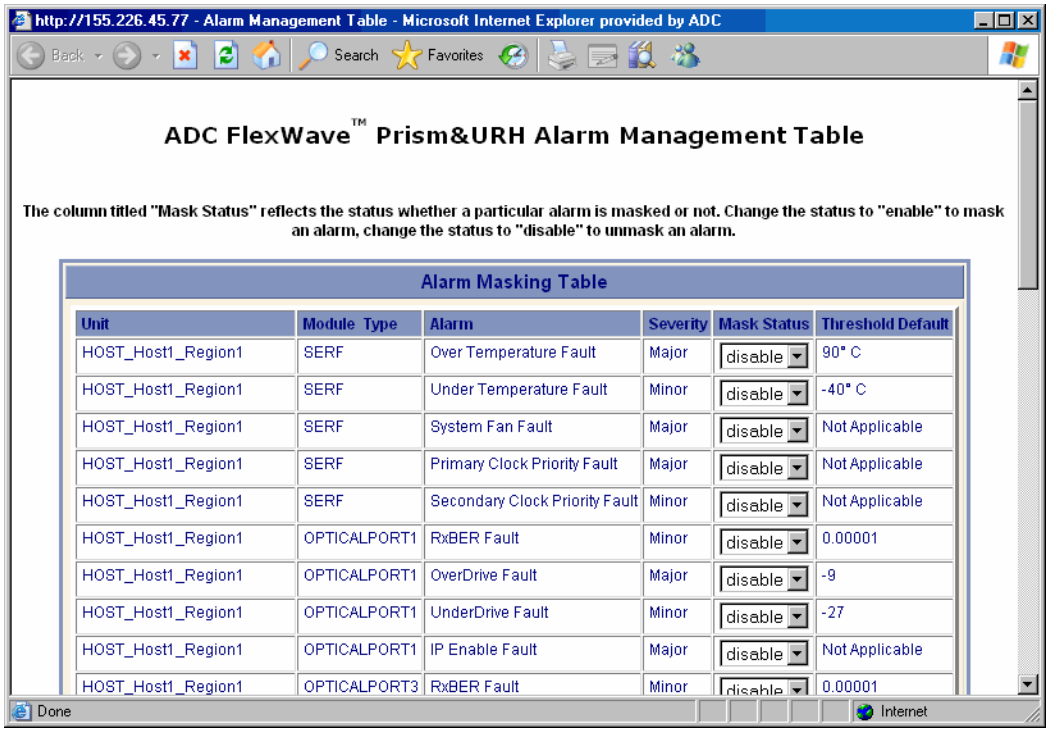
Only a user logged in under the admin or a Network Manager account can change Prism system settings through the EMS.

Unmasking an alarm type causes the EMS to report alarms of that type until the alarm is masked. By default all alarms are unmasked.

1 To access the EMS Menu bar, in the Function Explorer Tree, click on **System View** to display a system view.

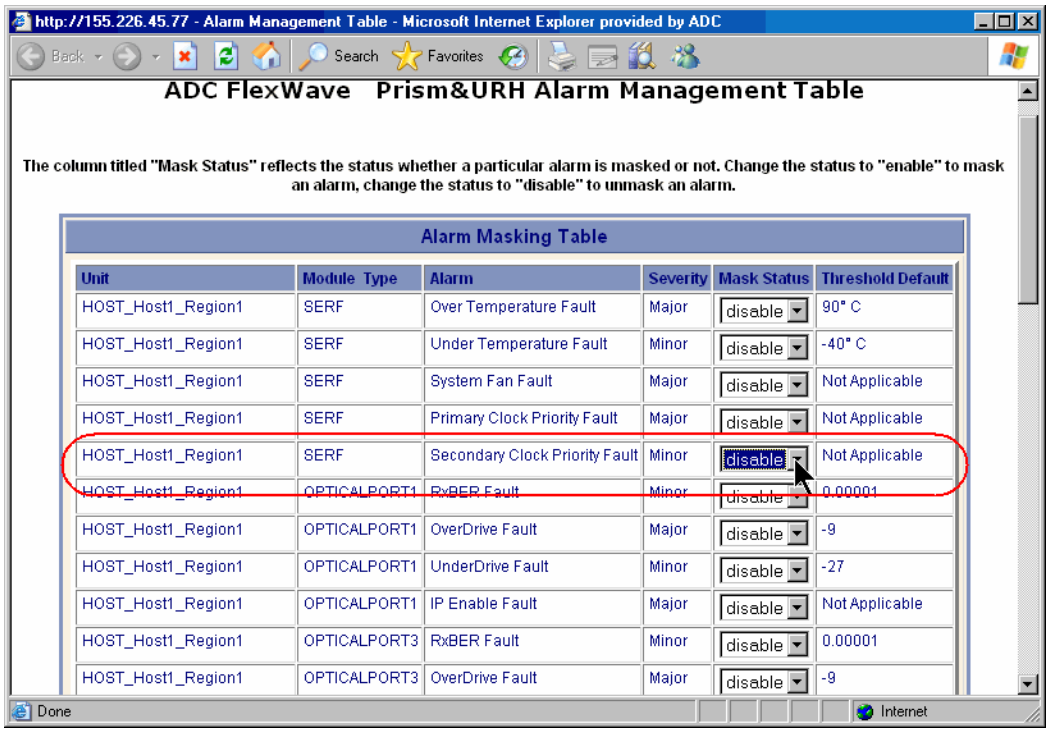
2 In the EMS Menu bar, select **Alarm Management**.

The **Alarm Management Table** window opens.



3 Click the list in the Mask Status column for the alarm for which you want to disable a mask, select **disable**, and then click **Apply**.

In the following graphic, masking has been disabled for the SeRF Secondary Clock Priority Fault.



11.5 TROUBLESHOOTING ALARMS

This section lists alarms that can be viewed in EMS alarm summaries.

Table 11-1. *EMS Alarm Descriptions and Corrective Actions*

Alarm Name	Alarm Severity Level	Description	Action
HostDARTDCSupplyFault	Major	The voltage supplied to the DART board is too low. (Host DC Power board accepts 21-60 Vdc and draws up to 427.28 Watts per Host.)	Check whether the Vdc supply is in the range of 21-60 Vdc. If persistent (may be transient on startup), contact ADC.
HostDARTDwnCon1SynLockFault	Major	Lock state of the first down converter synthesizer. Causes RF mute	When a DART is being turned up or after a power reset, the DART synthesizers may go in and out of lock, which may cause this fault. Unless this fault persists, these transient faults can be ignored. If persistent, consult ADC, replace DART
HostDARTDwnCon2SynLockFault	Major	Lock state of the second downconverter synthesizer. Causes RF mute	When a DART is being turned up or after a power reset, the DART synthesizers may go in and out of lock, which may cause this fault. Unless this fault persists, these transient faults can be ignored. If persistent, consult ADC, replace DART

Table 11-1. *EMS Alarm Descriptions and Corrective Actions (Cont.)*

Alarm Name	Alarm Severity Level	Description	Action
HostDARTFault	Major	Summary status of DART upconverter and/or downconverter and DART FPGA status. The clock source for the DART is outside an acceptable range or the DART FPGA is not programmed. may also occur with the DARTDCSupplyFault.	Inspect Active Alarm List for upconverter and/or downconverter alarms. If these alarms are found and persist, consult ADC, replace DART. If no upconverter/downconverter alarms are found, unplug DART from Host, then replug DART in Host to reload the FPGA. If persistent, consult ADC, replace DART.
HostDARTHardwareMismatchFault	Major	Indicates a hardware mismatch for the DART boards between linked Host and Remote	Check if a linked DART of one type was unplugged and not decommissioned then replaced with a DART of another type. Make sure linked Host and Remote DARTs are of same type
HostDARTOverDriveFault	Major	the RF signal received from BTS is greater than +5dBm. The allowed range is -25 dBm to +5 dBm.	Lower the gain on the Host DART. If persistent when gain is zero, lower power of BTS RF signal. Maximum power at zero gain is +19dBm.
HostDARTUnderDriveFault	Minor	When the Host input level is 20 dB less than the expected Host DART Input. For example, for 30 dB of Host DART gain (-25 dBm expected input), the threshold is -45 dBm. For 0 dB of Host DART gain (+5 dBm expected input), the threshold is -15 dBm.	Increase the gain of the Host DART. If persistent when gain is at maximum, increase power of BTS RF signal.
HostDARTUpConSynLockFault	Major	Lock state of the upconvertor synthesizer	If persistent, consult ADC, replace DART

Table 11-1. *EMS Alarm Descriptions and Corrective Actions (Cont.)*

Alarm Name	Alarm Severity Level	Description	Action
HostModuleMissingFault	Major	One of the pluggable modules is missing on the Host	Either insert a replacement unit or decommission the unit
HostOverTempFault	Major	The temperature of the Host is Over its upper limit of 84C	Check Host fan and ambient conditions
HostSERFFault	Major	Summary fault for SeRF combining SeRF synthesizer and SeRF FPGA status. Either the clock source is not acceptable or the SeRF board FPGA is not programmed.	Check for related SeRF alarms in Active Alarm List and respond to those alarms if found. If no SeRF alarms exists, FPGA is faulty; consult ADC, replace SeRF. If SeRF is replaced, use the same Compact Flash to retain system configuration.
HostSERFOptOverDriveFault	Major	The power of the signal received from the Remote exceeds the maximum level of -9dBm	Externally attenuate Remote return path signal or replace Remote SFP with one of less strength
HostSerfOptRxBerFault	Minor	Too many errors on the receiving fiber	Check fiber for kink or sharp bend. Check for too much gain. Make sure the fiber is clean.
HostSERFOptRxNoLightFault	Major	No light detected from the receiving fiber	Check for broken or disconnected fiber. Check for out of service Remote
HostSERFOptUnderDriveFault	Minor	The power of the signal received on the fiber is below the minimum power level of -27dBm	Check fiber for too much attenuation, dirty connectors. Check SFP type being used (too weak for range)
HostSERFRmtLostFault	Major	Host is not receiving messages from connected Remote or there is an IP conflict causing loss of communication	Check for optics disconnect. Check for Remote out of power or out of service Check for IP conflict

Table 11-1. *EMS Alarm Descriptions and Corrective Actions (Cont.)*

Alarm Name	Alarm Severity Level	Description	Action
HostSERFSynthAlarmFault	Major	The configured clock source is not providing an acceptable signal	If clock source is onboard and persists, consult ADC, replace system card. If clock source is external, check clock source, connection
HostSysCardFanFault	Major	The Host fan is spinning too slowly	Check fan for mechanical problem. If not fixable, consult ADC, replace fan
HostUnderTempFault	Minor	The temperature of the Host is under its lower operating limit (-40 degrees Fahrenheit)	Check ambient conditions
RmtAcPowerSupplyFault, RmtACPowerSupplyMon1Fault	Major	A power supply is in a failed state	If persistent, consult ADC, may have to replace one or more power supply located in the SeRF Module
RmtDARTDCSupplyFault	Major	The on-board DC voltages are out of their valid ranges	If persistent (may be transient on startup), check If the DC power switch to the DART is in the OFF position. If DC power is ON, reset set the RF Module. If the alarm persists, consult ADC, as you may have to replace RF Module
RmtDARTDwnCon1SynLockFault	Major	Lock state of the first downconverter synthesizer	If persistent, consult ADC, replace RF Module
RmtDARTDwnCon2SynLockFault	Major	Lock state of the second downconverter synthesizer	If persistent, consult ADC, replace RF Module
RmtDARTFault	Major	Summary fault status of DART upconvertor/ downconverter and DART FPGA status	If persistent, consult ADC, replace RF Module

Table 11-1. *EMS Alarm Descriptions and Corrective Actions (Cont.)*

Alarm Name	Alarm Severity Level	Description	Action
RmtDARTHardwareMismatchFault	Major	Indicates a hardware mismatch for the DART cards between linked Host and Remote	Check if a linked DART of one type was unplugged and not decommissioned then replaced with a DART of another type. Make sure linked Host and Remote DARTs are of same type
RmtDARTOverTempFault	Major	Indicates that detected temperature is above the maximum ambient temperature of 50˚C.	Check air flow around Remote. If persists, consult ADC.
RmtDARTUnderTempFault	Minor	Indicates that detected temperature is below the lower acceptable limit (-40 degrees Farenheit)	Check ambient conditions
RmtDARTUpConSynLockFault	Major	Lock state of the upconverter synthesizer	If persistent, consult ADC, replace RF Module
RmtLNAPowerFault	Major	The low noise amplifier has an internal error	If persistent, consult ADC, replace RF Module
RmtLPADcFault	Major	The LPA voltage level is outside its acceptable range. Causes RF mute	Reset LPA and recheck. If alarm keeps coming back, consult ADC, replace RF Module
RmtLPADetectFault	Major	Presence fault state of the LPA (the LPA cannot be detected)	If persistent, consult ADC, replace RF Module
RmtLPADisableFault	Major	Disable state of the LPA. The LPA is disabled because it encountered a problem	See "Identify the LPA Fault" on page 236. If fault cannot be corrected, replace the RF Module
RmtLPAHighTempFault	Minor	LPA is overheated	Check ambient temperature. Check remote temperature. Reset LPA. If persistent, consult ADC, replace RF Module

Table 11-1. *EMS Alarm Descriptions and Corrective Actions (Cont.)*

Alarm Name	Alarm Severity Level	Description	Action
RmtLPALoopFault	Major	The feedback loop inside the LPA is not working. Causes RF mute	Lower DART(s) remote gain by 10dB, reset the LPA, then return gain to values previously configured. If fault persists, replace RF Module.
RmtLPALowPowerFault	Major	Internal low power fault state of linear power amplifier (the gain of one or more internal amplifiers does not meet specification). Causes RF mute	Reset LPA. If error persists, consult ADC, replace RF Module
RmtLPAOverPowerFault		Internal over power fault state of linear power amplifier (power level is high enough to damage LPA)	Reduce FWD gain, reset the LPA, and then monitor power levels. Adjust gain to acceptable values. Reset LPA. If error persists, consult ADC, replace RF Module
RmtLPAVswrFault	Major	Internal VSWR fault state of linear power amplifier (greater than 3:1). Causes RF mute	Reset LPA. If error persists, consult ADC, replace RF Module
RmtMajorExtAlarmInputFault	Major	External major alarm contact input	Not used
RmtMinorExtAlarmInputFault	ALARM-TYPE (Minor, OK)	External minor alarm contact input	Not used
RmtModuleMissingFault	Major	One of the pluggable modules is missing on the Remote	Replace or decommission the missing module

Table 11-1. *EMS Alarm Descriptions and Corrective Actions (Cont.)*

Alarm Name	Alarm Severity Level	Description	Action
RmtNoRFPowerFault	Major	The RF power measured at the antenna output is too low. The threshold for this fault is 0 dBm.	Verify that there is an active Host DART Under Drive Fault, which indicates a loss of BTS input. If this fault is active, address this problem and the RmtNoRFPowerFault should clear. If there is *not* an active Host DART Under Drive Fault, the problem may be the result of another LPA fault such as VSWR or Over Power Faults. If there are no other faults, then reset the Remote RF Module. If power is still not, present then replace the module.
RmtOverTempFault	Major	High temperature reading from RSI card in Remote	Check ambient temperature. Check remote temperature. If not an actual over temperature fault, shut down Remote, consult ADC
RmtRangingFault	Major	The configured delay is outside the range of what can be supplied.	Enter a delay value within the permissible range see "Link a Remote DART to a Host DART" on page 162
RmtSERFFault	Major	Summary fault for SeRF combining SeRF synthesizer and SeRF FPGA status	Check for related SeRF alarms in active alarms list and respond to those alarms if found. If no SeRF alarm exists, FPGA is faulty; consult ADC, replace SeRF

Table 11-1. *EMS Alarm Descriptions and Corrective Actions (Cont.)*

Alarm Name	Alarm Severity Level	Description	Action
RmtSERFHstLostFault	Major	Remote not receiving any messages from connected Host	There are two possible actions: • Check for optics disconnect. Check the optical link and determine the source of lost communications. If an optical meter on the output of the SFP determines that no power is being transmitted, or meter measuring receive levels at the SFP determines the receiver is broken, replace SFP with the appropriate type for the range of signal supported. • There may be an IP conflict. For example, if the Host is configured in External Network mode but there's not a DHCP server running on the network, the Remote will not receive an IP address, there therefore will not be communication with the Host, which would activate this alarm.
RmtSERFOptLaserFault	Major	SFP reports that laser of forward path is faulty	Replace SFP with the appropriate type for range of signal supported
RmtSERFOptOverDriveFault	Major	The power of the signal received at the Remote is too strong	Externally attenuate Host forward path signal or replace Host SFP with one of less strength

Table 11-1. *EMS Alarm Descriptions and Corrective Actions (Cont.)*

Alarm Name	Alarm Severity Level	Description	Action
RmtSERFOptRxBERFault	Minor	Too many errors on the receiving fiber	Check fiber for kink or sharp bend. Check for too much gain. Make sure the fiber is clean.
RmtSERFOptRxNoLightFault	Major	No light detected from the receiving fiber	Check for broken or disconnected fiber. Check for out of service Host
RmtSERFOptUnderDriveFault	Minor	The power of the signal received on the fiber is too weak	Check fiber for too much gain, dirty connectors. Check SFP type being used (too weak for range)
RmtSERFSynthAlarmFault	Major	Onboard synthesizer fault	Check clock signal coming from Host. Host is not generating a proper signal. Possibly Host clock source is bad or Host has bad FPGA
RmtSystemVswrFault	Major	LPA VSWR Fault	Perform cable sweeps on external antenna cable system. Put a load on the Remote by disconnecting the external antenna cable to determine if the source of the VSWR condition is internal or external. If it's internal, replace the RF Module. If it's external, troubleshoot and determine source of high VSWR reading.
RmtUnderTempFault	Minor	Temperature is below lower acceptable limit (-40 degrees Farenheit)	Check ambient conditions

Table 11-1. *EMS Alarm Descriptions and Corrective Actions (Cont.)*

Alarm Name	Alarm Severity Level	Description	Action
fwuHstSERFOptIpEnableFault	Major	An attempt to enable IP on a fiber (Host) to a Remote that already has IP enabled on another fiber (Host) has been made.	The alarm is cleared if IP is disabled on the fiber. It is also cleared if an ACK is later received from the Remote. This latter condition can occur if the fiber that was already carrying IP later has IP disabled, or if the fiber otherwise becomes disabled. For information on setting Ip Enable, see "Configure the Remote SeRF Optical Ports" on page 158
fwuRmtFanOverSpeedFault	Minor	Remote fan has an Over Speed fault	Fan may require replacement.
fwuRmtFanUnderSpeedFault	Major	Remote fan has an Under Speed fault	Fan may require cleaning and/or replacement.
fwuRmtOpenDoorFault	Minor	Door on the Remote is open	Close the Remote door
fwuHstSysCardPrimaryCPFault	Major	Primary Clock Priority Fault	Set Primary CPL within acceptable range
fwuHstSysCardSecondaryCPFault	Minor	Secondary Clock Priority Fault	Set Secondary CPL within acceptable range

12 SNMP INTERFACE

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12.1 EMS SNMP INTERFACE

SNMP (Simple Network Management Protocol) is an international standard for remote monitoring and control of online devices. The EMS provides an interface for those wishing to access a Prism system using an SNMP manager such as the AdventNet application shown in Figure 12-1.

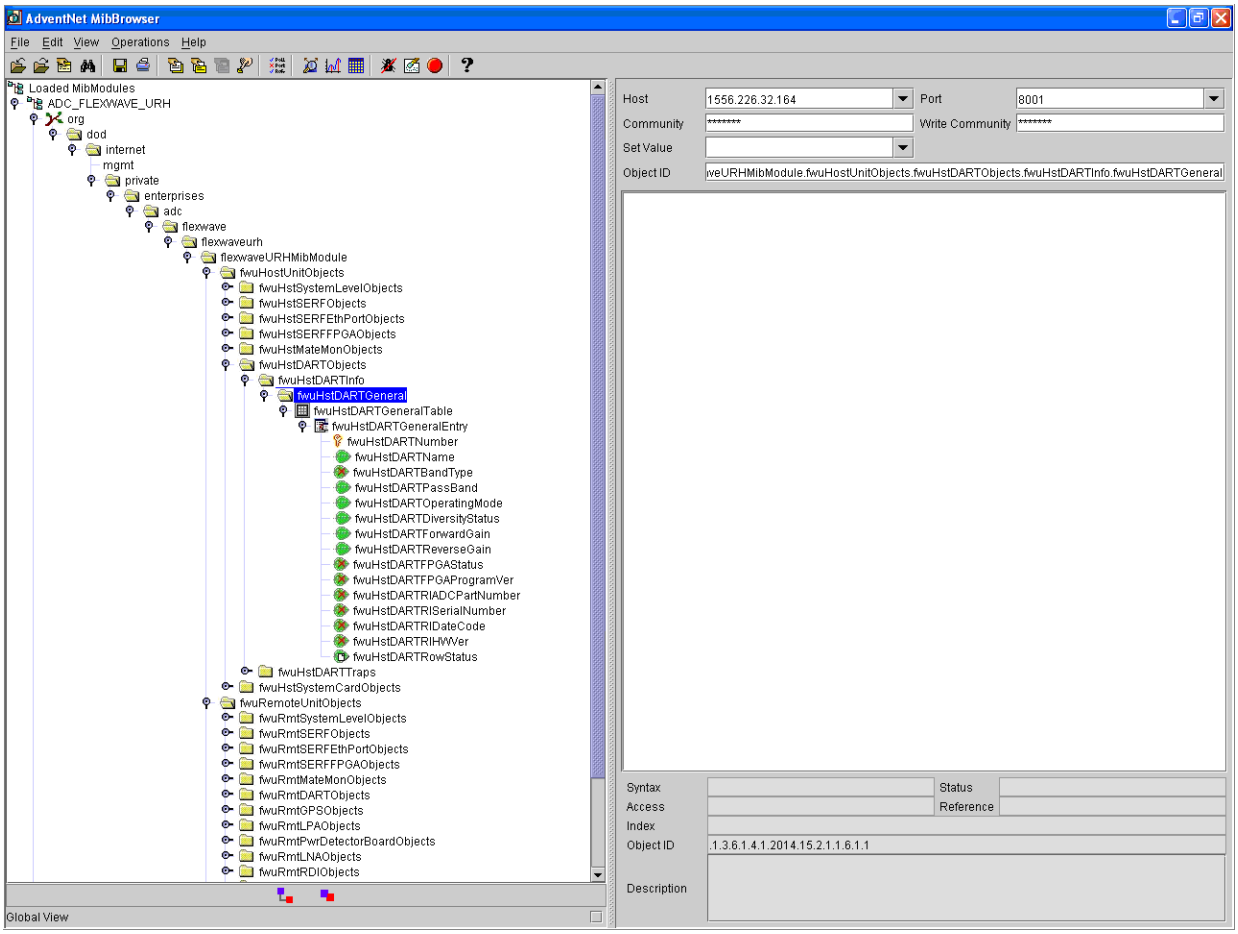


Figure 12-1. EMS SNMP Interface Example

The FlexWave EMS SNMP interface can manage FlexWave Prism and URH units. This document describes how to use the SNMP interface with a Prism system.

12.2 SNMP Overview

The FlexWave system SNMP interface, shown schematically in Figure 12-2, allows a remote user using an SNMP manager to access the same database as accessed by the standard EMS interface. The database accessed is an SNMP database called a Management Information Base (MIB).

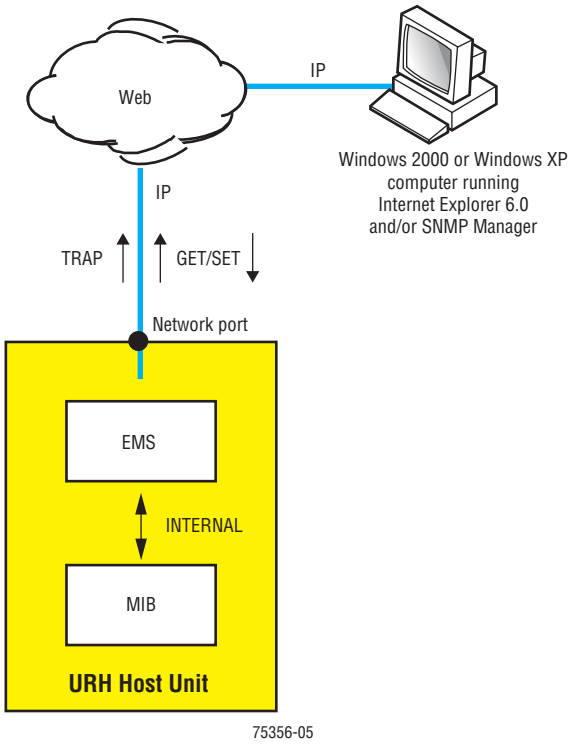


Figure 12-2. SNMP Interface

This section describes the FlexWave system SNMP interface, and provides procedures for using the SNMP interface to “get” and “set” system parameters and receive alarms.

In SNMP terminology, the parameters in a MIB are called “objects” and alarms are called “traps.”

12.2.1 Background Information on SNMP

SNMP (Simple Network Management Protocol) is an international standard for remote control of online devices. A typical scenario involves the devices being controlled, remote computers (called managers) that can control them, a network connection, and SNMP software. The SNMP software includes SNMP manager software on each controlling computer and SNMP "proxy agent" software and one or more MIBs on each of the controlled devices.

A MIB is a database defined in accordance with SNMP requirements. A MIB consists of tables of objects used to exchange information between a manager and agent. Information is exchanged using three basic operations: GET, SET, and TRAP. A manager uses GET to obtain an object value from a MIB and SET to set an object to a new value. A TRAP is a notification that is sent out by an agent when the value of a trap object exceeds a threshold defining an alarm state.

In a manager browser, a MIB looks like an Explorer hierarchy of folders and files, as shown in Figure 12-3. The items at the lowest level, analogous to files in the Explorer view, are not files, however; they are objects that each represent one system parameter (object) and its current value. MIB objects are arranged in tables. Each set of objects (within a single folder) represents one such table. An object marked with a key symbol indicates that view is the key value for that table.

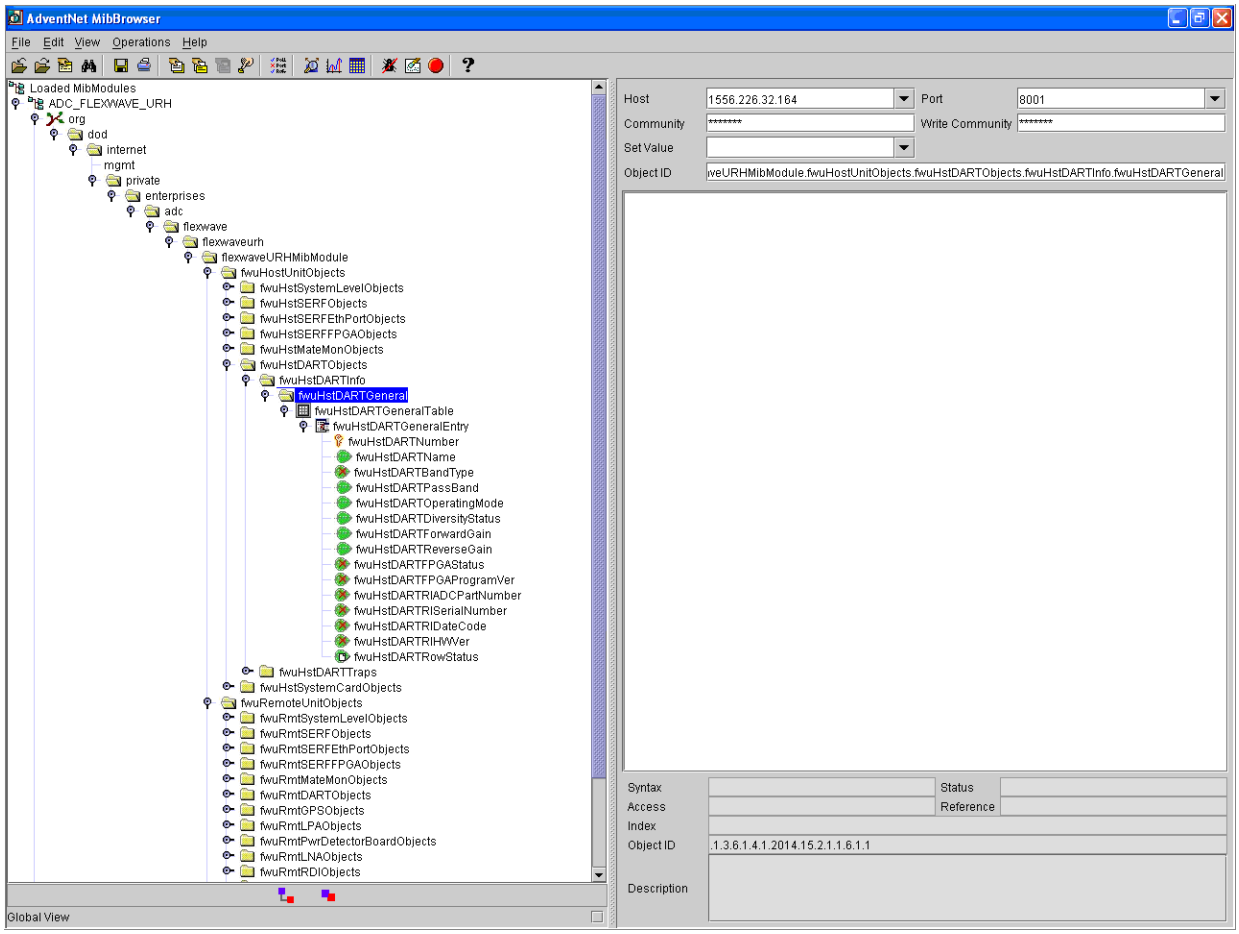


Figure 12-3. MIB in MIB Browser

In the FlexWave system, the MIB accessed through the SNMP interface is the same database as used by the EMS graphical user interface. There is therefore a one-to-one correspondence between MIB objects and the parameters displayed in the EMS Web pages. Likewise, there is a one-to-one correspondence between the SNMP trap objects and the alarm indicator LEDs displayed on the EMS pages. The MIB object names and the EMS page names for the same items differ in a way that can be easily figured out. For example, the MIB object “fwuHstDARTPassBand” corresponds to the “Host DART Pass Band” parameter on the Host DART Configuration and Alarm Details Page.

12.2.2 MIB Used by FlexWave System

The FlexWave system uses a single MIB called the ADC-FLEXWAVE-URH.mib. The MIB resides on the SeRF card in the Host where the EMS software also runs. The SNMP proxy agent software required for the interface with SNMP managers also resides and runs on the Host SeRF card.

A complete list of the objects that compose the FlexWave-Prism Agent MIB are listed in this section in two tables. Table 12-2 on Page 292 lists objects that may be accessed for GET/SET operation. Table 12-3 on page 308 lists traps that are sent to SNMP managers registered to receive them whenever the respective fault condition occurs.

12.3 SNMP PROCEDURES

This topic contains procedures done at the SNMP manager to interact with the FlexWave-Prism Agent MIB. Any SNMP manager may be used. These procedures are illustrated with examples from an AdventNet MIB Browser.

Figure 12-4 shows the features of a typical MIB browser.

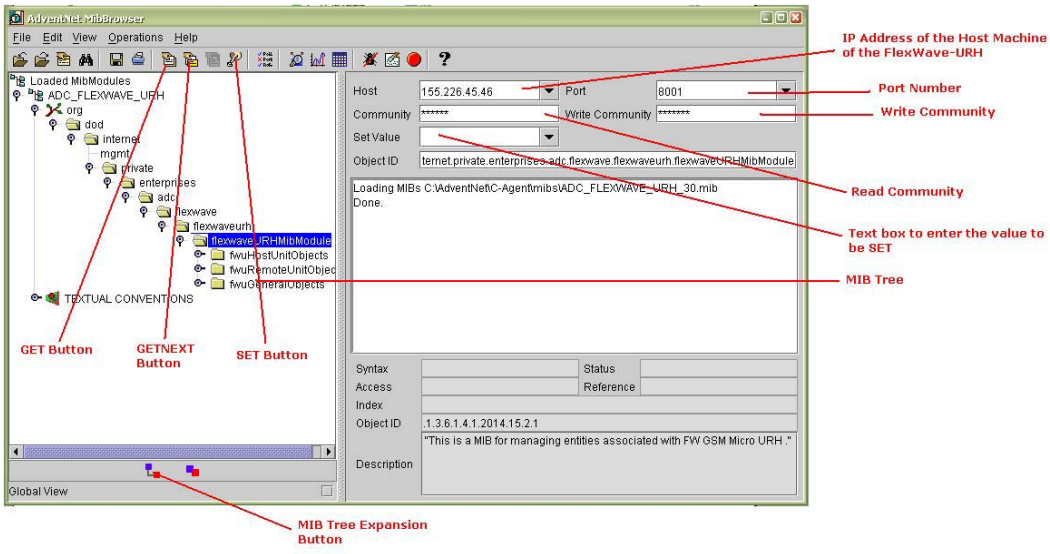


Figure 12-4. Typical MIB Browser

Examples shown in this chapter use the AdventNet MIB Browser. Some procedural details may vary with another browser, but the basic steps are the same.

12.4 ACCESSING THE FLEXWAVE-PRISM AGENT MIB

The FlexWave-Prism Agent MIB can be accessed using any SNMP manager with an active network connection. The IP address of the FlexWave-Prism Host must be known and entered in the MIB browser.

1 On the manager computer, open the MIB Browser.

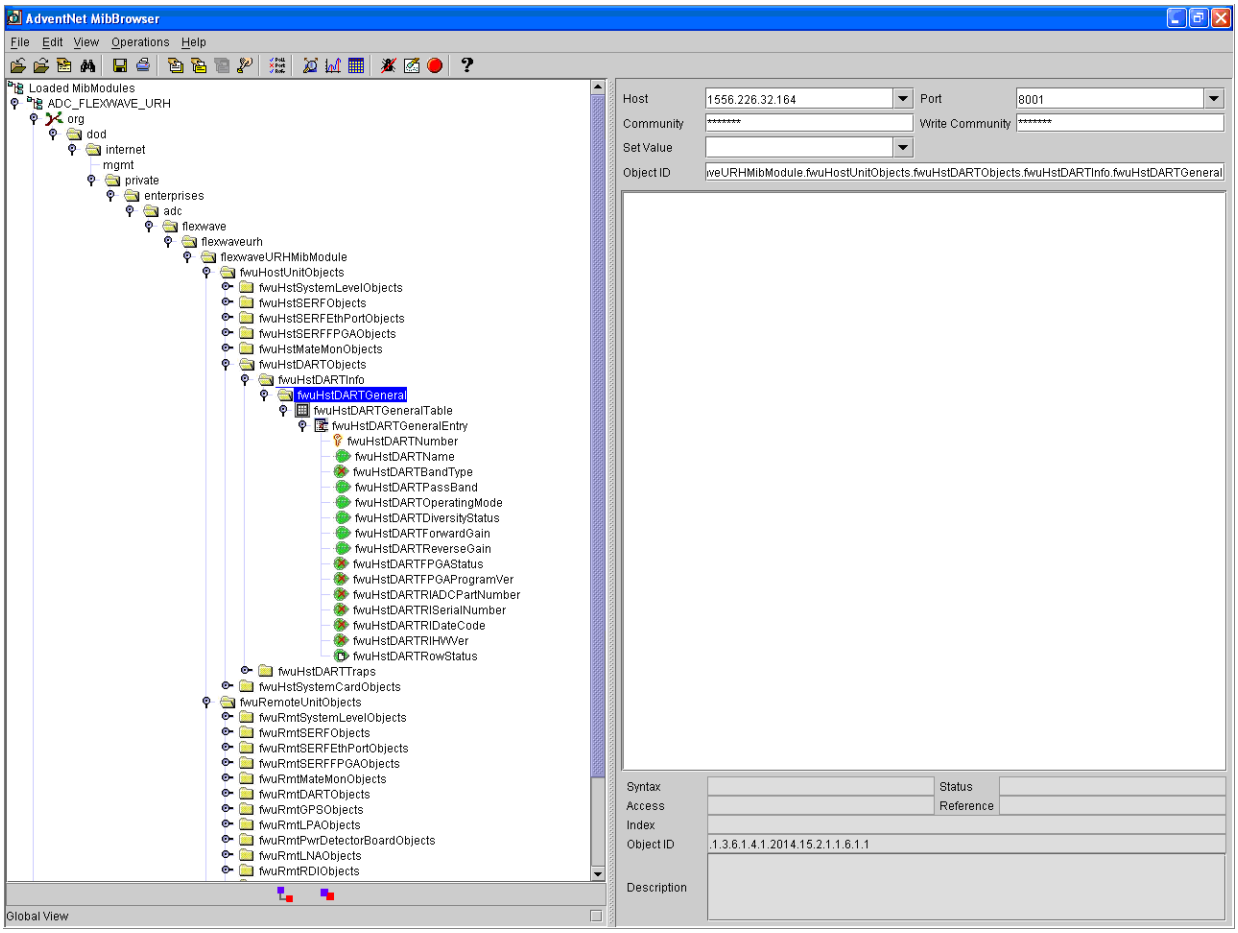
2 Load the **`ADC-FLEXWAVE-URH.mib`** file.

3 Enter the IP address of the Host of the FlexWave-Prism system in the text box provided next to **Host**.

4 Enter the **Port number** as **`8001`**.

5 Enter the Read Community as **`public`** and Write Community as **`private`**.

6 To see an overview the MIB content, expand the MIB tree.



12.5 CONFIGURING THE TRAP VIEWER

Configuring a trap viewer enables it to receive traps from the FlexWave system.

12.5.1 Registering the Manager for Receiving Traps (static—non AdventNet MIB Browser)

To receive traps, the manager must first be registered with the FlexWave-Prism Agent using the following procedure.

This procedure cannot be done with the AdventNet MIB Browser.

1 Open a telnet or ssh connection to the Host.

2 Stop the agent process with the following command: **`service URHagent stop`**

3 Edit `/usr/local/fwu/conf/snmp/v2managertable.txt` and add a line for each trap receiver that looks like this:

```
155.226.32.101 8003 SNMP_VERSION_2c public 30 5 ACTIVE
```

The balance of the line should be the same for all trap managers, except:

- **Replace "155.226.32.101" in the example with the IP address of the computer being used by the trap manager.**
- **8003 is the destination port used. The Default SNMP trap port is 162. Any port number is supported.**

4 Start the agent process with the following command: **`service URHagent start`**

You can't use both a static and dynamic trap agent configuration. You can only use one or the other. If you configure static, the dynamic entries will be deleted.

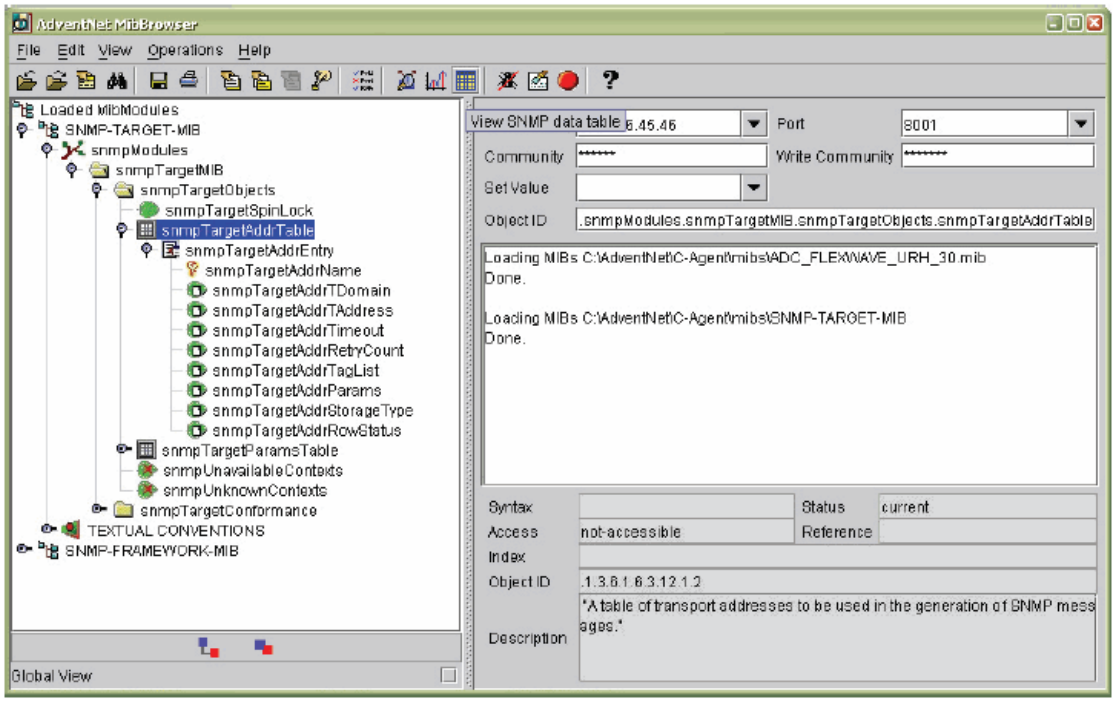
12.5.2 Registering the Manager for Receiving Traps (dynamic—AdventNet MIB Browser)

To receive traps, the manager must first be registered with the FlexWave-Prism Agent using the following procedure.

1 Open the MIB-browser and load the **SNMP–TARGET–MIB.**

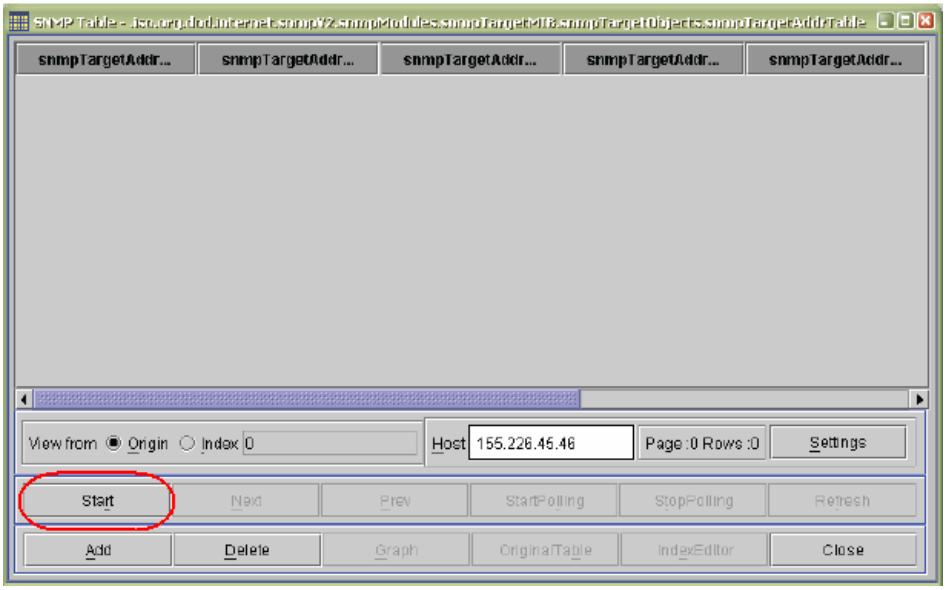
2 Expand the MIB tree.

3 Set the common parameters such as **Host, Port and Community,** and **Write Community.**

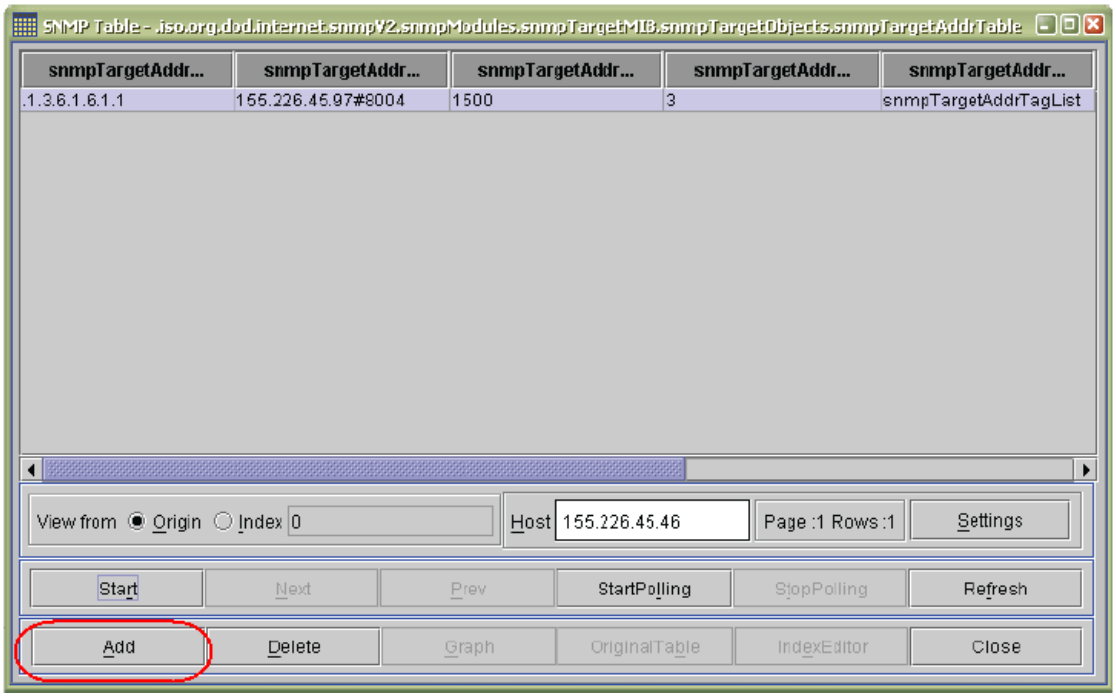


4 Select the **snmpTargetAddrTable** and then click on the **View SNMP Data Table** icon or **View –> SNMP Table.**

5 In the window that opens, click **Start.**



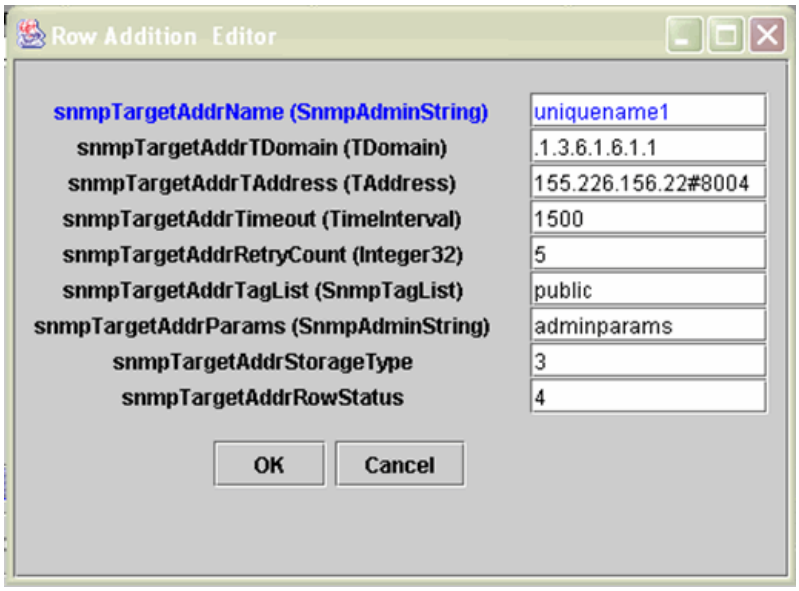
6 In the window that opens, click **Add** to add the manager information.



7 Set the manager information as follows:

- **snmpTargetAddrName**—any unique name
- **snmpTargetAddrDomain**—.1.3.6.1.6.1.1
- **snmpTargetAddrTAddress**—IP address of the machine where you want to receive the traps, The port number should also be provided next to IP address (for example, #8004)
- **snmpTargetAddrTimeout**—timeout value
- **snmpTargetAddrRetryCount**—retry count
- **snmpTargetAddrTagList**—any string that will be used as a community string to view the traps; the default community string is **public**
- **snmpTargetAddrParams**—any string, usually **group1**
- **snmpTargetAddrStorageType**—3

You can't use both a static and dynamic trap agent configuration. You can only use one or the other. If you configure dynamic, the static entries will be deleted.



8 Click **OK**.

The information given in Step 7 displays as a new row in the SNMP Table.

9 Click **Close** to close the SNMP Table.

12.5.3 Viewing Traps

This section describes how to view traps in the MIB Browser and how to interpret responses.

12.5.3.1 Date and Time Stamps

The FlexWave MIB imports the date and time in the format of:

```
EEE, MMM dd, HH:mm:ss
```

Table 12-1 describes the date and time fields.

Table 12-1. *MIB Date and Time Stamp Fields*

Field	Contents	Variable
EEE	Three letter abbreviation for the day of the week	SUN - SAT
MMM	Three letter month abbreviation	JAN - DEC
dd	Two-digit day of the month	01-31
HH	Two-digit hour for a 24-hour clock; AM/PM will not display	00 - 23
mm	Two-digit minute	00 through 59
ss	Two-digit second	00 through 59

For example, Tuesday February 26 at 1:30:15 PM would be displayed as:

```
TUE, FEB 26, 13:30:15
```

12.5.3.2 Variable Bindings

For Host Traps, there are 9 variable bindings:

1 sysUpTime
2 snmpTrapOID
3 fwuTrapSequenceNumber
4 fwuTrapTimeStamp
5 fwuModuleNumber
6 fwuModuleType
7 fwuHstNumber
8 fwuHstName
9 fwuNotificationStatus

For Remote Traps, there are 11 variable bindings:

1 sysUpTime
2 snmpTrapOID
3 fwuTrapSequenceNumber
4 fwuTrapTimeStamp
5 fwuModuleNumber
6 fwuModuleType
7 fwuHstNumber
8 fwuHstName
9 fwuRmtNumber
10 fwuRmtName
11 fwuNotificationStatus

You can therefore determine the affected module based on the module number and type (variable binding 5 and 6).

The module types are represented numerically as follows:

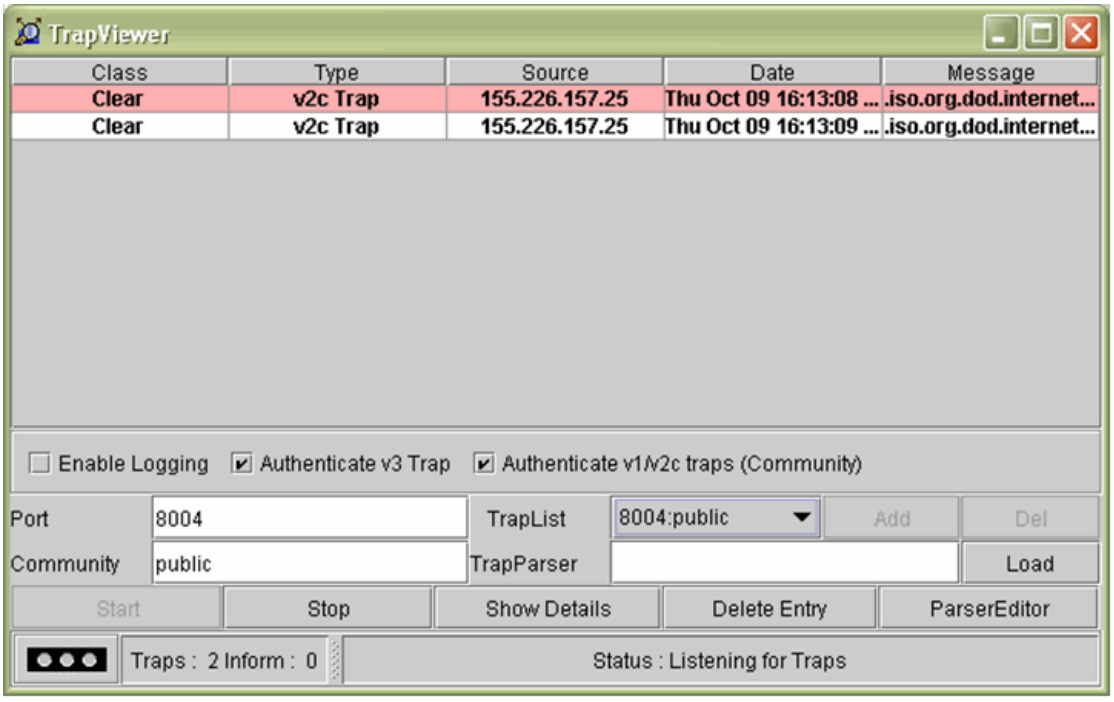
1 Host
2 Remote
3 SeRF
4 DART
5 SFP
6 RSI
7 RDI
8 Power Detector
9 LPA
10 LNA
11 Duplexer
12 GPS

12.5.3.3 View the Traps

1 In the AdventNet MIB Browser, click the **Trap Viewer** icon on the Toolbar.

To receive traps using the manager, you must first register the manager using the procedure in "Registering the Manager for Receiving Traps (static—non AdventNet MIB Browser)" on page 283 or in "Registering the Manager for Receiving Traps (dynamic—AdventNet MIB Browser)" on page 284.

The **Trap Viewer** dialog opens.



2 In the **Port** box, enter the desired port number. The default is **162**.

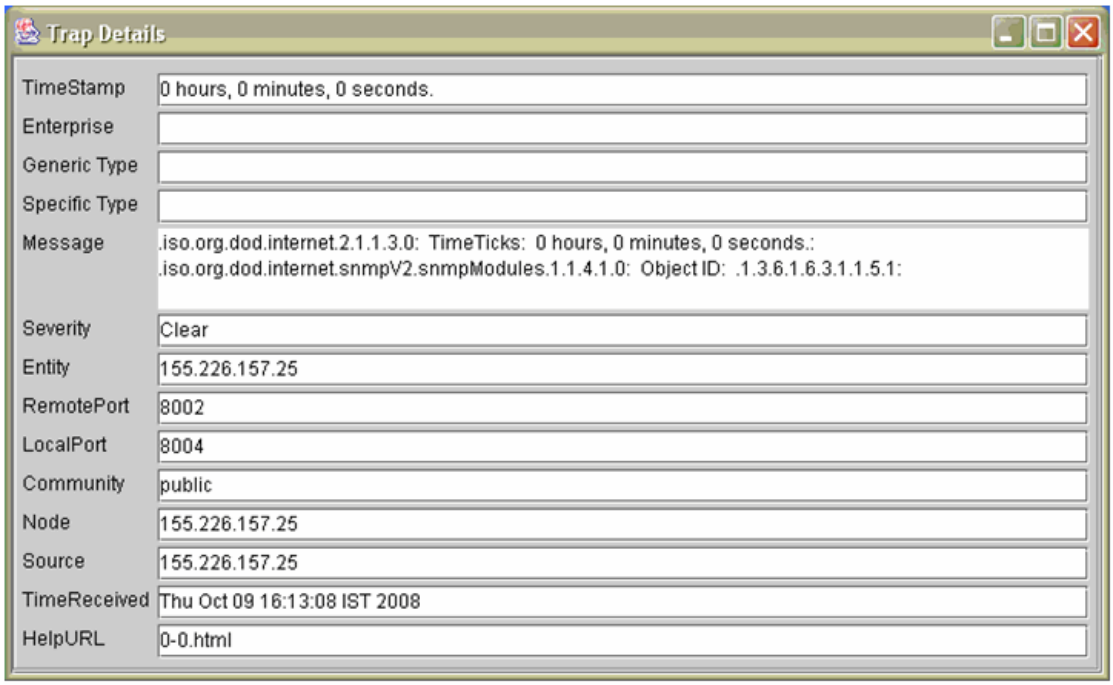
3 (Optional) In the **Community** box, enter the community string for the incoming traps. The default is **public**.

4 Click the **Add** button to add the **Port** and **Community** list to the **Trap** list (visible in the **TrapList** list box).

The Port and Community list can be deleted by clicking the Delete Entry button.

5 Click the **Load** button to load the trap parser file.

6 Click the **Start** button. Trap Viewer begins to receive traps from the specified port and community.



The traps when received are listed in the **Trap Table**. The trap table has the following five columns.

- **Class**—defines the severity of the trap.
- **Type**—defines the type of the trap or the inform request.
- **Source**—represents the IP address of the source from where the traps were sent.
- **Date**—shows the date and time when the trap was received.
- **Message**—lists the VarBind list of the trap, if any.

The status of the trap is displayed in the status pane at the bottom of the dialog box. Moreover, the Trap count and the inform count is displayed in the status pane.

7 To log the received traps, select the **Enable Logging** check box. All the incoming traps are logged to a file. The default name of the log file is **trap.log**.

8 To view the details of the traps, click on the **Show Details** button. You can also right-click the trap in the trap table and select **View Trap Details**.

9 Click **Stop** to stop listening to the port.

10 To delete a trap, select the trap and click the **Delete Entry** button. You can also right-click the trap in the trap table and select **Delete the Selected Rows**.

Another option in **Trap Viewer** is the **ParserEditor**. **Trap Viewer** can filter the incoming traps according to certain criterion called the Parser Criteria. The configuration of the criterion is made possible by using the **ParserEditor**.

12.6 FLEXWAVE-URH AGENT MIB

Objects in the FlexWave-URH Agent MIB divide into two types: **GET**/**SET** objects and trap objects. This section describes the **GET**/**SET** objects. For information on trap objects, see "Traps" on page 308.

Table 12-2 lists all objects within the FlexWave-URH Agent MIB that are available for **GET** and/or **SET** commands. Objects that are available for **SET** commands are also available for **GET** commands.

For each SNMP syntax, there is a range of values defined in the MIB file. These are the possible values that can be entered in a **SET** command and returned in a **GET** command.

You can also **Enable** or **Disable** masking, which sets whether the trap will be raised (**Disable**) or not (**Enable**). Thresholds dictate when a trap will be activated. Table 12-2 lists all FlexWave-URH Agent MIB objects for which traps, masks and thresholds are sent to the SNMP manager.

Table 12-2. *FlexWave-URH Agent MIB GET/SET Objects*

Object Name	Description	SNMP Syntax	Get or SET
fwuTrapSequenceNumber	Total number of traps raised by the agent.	Counter32	GET
fwuTrapTimeStamp	Time stamp when trap was raised.	DateAndTime	GET
fwuHstOverTempFaultMask	Show masking status of Over Temperature fault. Masking is disabled by default. If enabled, the trap will not be raised.	MASKType	SET
fwuHstUnderTempFaultMask	Show status of masking of Under Temperature fault. Masking is disabled by default. If enabled, the trap will not be raised.	MASKType	SET
fwuHstSERFFPGAStatus	Host SeRF Card FPGA status where 0 indicates that the SeRF can talk to the FPGA and 1 indicates that it cannot	INTEGER	GET
fwuHstSysCardRIADCPartNumber	Remote Inventory Data-ADC Part Number	DisplayString	GET
fwuHstSysCardRISerialNumber	Remote Inventory Data-Serial Number	DisplayString	GET
fwuHstSysCardRIDateCode	Remote Inventory Data-Date Code	DisplayString	GET
fwuHstSysCardRIHWVer	Remote Inventory Data-Hardware Version	DisplayString	GET

Table 12-2. *FlexWave-URH Agent MIB GET/SET Objects (Cont.)*

Object Name	Description	SNMP Syntax	Get or SET
fwuHstSysCard10MhzRefClock	System Card Reference clock, which can be can be internal (0) or external (1)	INTEGER	SET
fwuHstSysCardCPLevel	System Card Master Clock Priority Level, which can be from 0 to 15	Integer	SET
fwuHstSysCardFanFaultMask	Host System Card Fan Fault Mask. The alarm is disabled by default. Enable the alarm by setting it to enabled (1).	MASKType	SET
fwuHstSysCardPrimaryCPFaultMask	Primary Clock Priority Fault Mask. The alarm is disabled by default. Enable the alarm by setting it to enabled (1).	MASKType	SET
fwuHstSysCardSecondaryCPFaultMask	Secondary Clock Priority Fault Mask. The alarm is disabled by default. Enable the alarm by setting it to enabled (1).	MASKType	SET
fwuHstOverTempThreshold	Host System Card Over Temperature threshold value. This is not user settable.	Integer32	SET
fwuHstUnderTempThreshold	Host System Card Under Temperature Threshold value. This is not user settable.	Integer32	SET
fwuRmtSERFFPGAStatus	Remote SeRF Card FPGA status where 0 indicates that the SeRF can talk to the FPGA and 1 indicates that it cannot	INTEGER	GET
fwuRmtRSIRIADCPartNumber	Remote Inventory Data-ADC Part Number	DisplayString	GET
fwuRmtRSIRISerialNumber	Remote Inventory Data-Serial Number	DisplayString	GET
fwuRmtRSIRIDateCode	Remote Inventory Data-Date Code	DisplayString	GET
fwuRmtRSIRIHWVer	Remote Inventory Data-Hardware Version	DisplayString	GET
fwuRmtCapacity	The number of RF Modules that can be installed in the Remote (1 - 4)	Unsigned32	GET
fwuHstNumber	FlexWave URH Host Number	HOSTNBRType	GET
fwuHstName	User assigned name of the Host. It can be 40 characters long	DisplayString	SET

Table 12-2. *FlexWave-URH Agent MIB GET/SET Objects (Cont.)*

Object Name	Description	SNMP Syntax	Get or SET
fwuHstUnitReset	Host SeRF card can be reset by setting a value of 1	INTEGER	SET
fwuHstBackPlaneRev	Revision of Host back plane.	DisplayString	GET
fwuHstAlarmStatusSummary	Host Alarm Status Summary, where the severity of the alarm is: • Normal = 1 • Minor = 2 • Major = 3 • Not Present = 0	ALARMType	GET
fwuHstTempMeas	Host system temperature value in Celsius	DisplayString	GET
fwuSystemAlarmStatusSummary	System Alarm Status Summary, where the severity of the alarm is: • Normal = 1 • Minor = 2 • Major = 3 • Not Present = 0	ALARMType	GET
fwuHstLinkingMode	System Linking mode for DART linking	Integer	SET
fwuHstMajorContactAlarmOutput	Host Major contact output port state	CONTACTType	GET
fwuHstMinorContactAlarmOutput	Host Minor contact output port state	CONTACTType	GET
fwuRmtMajorContactAlarmOutput	Remote Major contact output port state	CONTACTType	GET
fwuRmtMinorContactAlarmOutput	Remote Minor contact output port state	CONTACTType	GET
fwuSystemAlarmSequenceNumber	Defines the index of the Alarm Table	Unsigned32	GET
fwuSystemAlarmAgentUpTime	Agent up time	TimeTicks	GET
fwuSystemAlarmType	Trap OID of the Alarm	OBJECT IDENTIFIER	GET
fwuSystemAlarmHstNumber	Host number from which the alarm has been raised	HOSTNBRType	GET
fwuSystemAlarmHstName	Name of the Host from which the alarm has been raised	DisplayString	GET
fwuSystemAlarmRmtNumber	Remote number from which the alarm has been raised	REMOTENBRType	GET

Table 12-2. *FlexWave-URH Agent MIB GET/SET Objects (Cont.)*

Object Name	Description	SNMP Syntax	Get or SET
fwuSystemAlarmRmtName	Remote name from which the alarm has been raised	DisplayString	GET
fwuSystemAlarmModuleType	Type of module raising the alarm	MODULEType	GET
fwuSystemAlarmModuleNumber	Identifier of the module raising the alarm.	Integer32	GET
fwuSystemAlarmSeverity	This object gives the severity of this Alarm notification. • Normal = 1 • Minor = 2 • Major = 3 • Not Present = 0	ALARMType	GET
fwuSystemAlarmTimeStamp	Time stamp of the Alarm	DateAndTime	GET
fwuHstSERFLinuxKernelVer	Linux Kernel Version of the Host system	DisplayString	GET
fwuHstSERFLinuxBootLoaderVer	Boot Loader Version of the Host system	DisplayString	GET
fwuHstSERFCompactFlashSWVer	Compact Flash Version of the Host system	DisplayString	GET
fwuHstSERFFPGAVer	Version of FPGA image loaded on SeRF	DisplayString	GET
fwuHstSERFPPCSNMPHTTPAgentSWVer	Software Version of the HTTP/SNMP agent running on Host	DisplayString	GET
fwuHstSERFPPCHWMonSWVer	Software Version of the Hardware Monitor process running on the Host	DisplayString	GET
fwuHstSERFPPCAPPMonSWVer	Software Version of the Application Monitor process running on the Host	DisplayString	GET
fwuHstSERFPPCMATEMonSWVer	Software Version of the Mate Monitor process running on the Host	DisplayString	GET
fwuHstSERFPPCENETMonSWVer	Software Version of the Ethernet Monitor process running on the Host	DisplayString	GET
fwuHstSERFPPCFPGAMonSWVer	Software Version of the FPGA Monitor process running on the Host	DisplayString	GET
fwuHstSERFRIDateCode	Host SeRF Inventory-Date Code	DisplayString	GET

Table 12-2. *FlexWave-URH Agent MIB GET/SET Objects (Cont.)*

Object Name	Description	SNMP Syntax	Get or SET
fwuHstSERFRIHWVer	Host SeRF Inventory-Hardware Version	DisplayString	GET
fwuHstSERFRISerialNumber	Host SeRF Inventory-Serial Number	DisplayString	GET
fwuHstSERFRIADCPartNumber	Host SeRF Inventory-ADC Part Number	DisplayString	GET
fwuHstSERFOptSFPNumber	SFP Number-Optical Port number (from 1 to 8)	INTEGER	GET
fwuHstSERFOptSFPName	User defined name of the SFP Optical Port that can be up to 32 characters long	DisplayString	SET
fwuHstSERFOptSFPType	SFP Type-Optical Port Type	OPTICSType	GET
fwuHstSERFOptSFPTxColor	SFP wavelength in nanometer	Integer32	GET
fwuHstSERFOptRevLaunchPowerMeas	Value of Host Receive measured optical power in dBm	DisplayString	GET
fwuHstSERFOptFwdLaunchPowerMeas	Value of Host Transmit measured optical power in dBm	DisplayString	GET
fwuHstSERFOptMateName	Name of Host Mates	DisplayString	GET
fwuHstSERFIPEnable	IP Enable mode for Host carrying RF, where 1 equals enable	Integer	SET
fwuHstSERFOptRxBERFaultThreshold	Threshold Value for declaring a Decoded word error state of the primary wavelength optical receiver (too many errors)	DisplayString	SET
fwuHstSERFOptOverDriveFaultThreshld	Threshold value for declaring SFP over drive fault. This is not user settable.	Integer32	SET
fwuHstSERFOptUnderDriveFaultThreshld	Threshold value for declaring SFP under drive fault. This is not user settable.	Integer32	SET
fwuHstSERFOptRxBERFaultMask	Shows the masking status of primary wavelength optical receiver; masking is disabled by default; if enabled, the trap will not be raised.	MASKType	SET
fwuHstSERFOptOverDriveFaultMask	Shows the masking status of SFP Over Drive Fault; masking is disabled by default; if enabled, the trap will not be raised.	MASKType	SET

Table 12-2. *FlexWave-URH Agent MIB GET/SET Objects (Cont.)*

Object Name	Description	SNMP Syntax	Get or SET
fwuHstSERFOptUnderDriveFaultMask	Shows the masking status of Under Drive Fault. Masked is disabled by default. If enabled, the trap will not be raised.	MASKType	SET
fwuHstSERFOptIpEnableFaultMask	Shows the masking status of the IP Enable Fault. Masked is disabled by default. If enabled, the trap will not be raised.	MASKType	SET
fwuHstSERFEthPortNumber	A unique identifier for each Ethernet port (from 1 to 12)	Unsigned32	GET
fwuHstSERFEthPortType	Identifies the type of Ethernet port	ENETType	GET
fwuHstSERFEthPortRxBytes	Receive byte counter	Counter64	GET
fwuHstSERFEthPortRxPkts	Receive packet counter	Counter64	GET
fwuHstSERFEthPortRxFcsErrors	Receive FCS error counter	Counter64	GET
fwuHstSERFEthPortRxBroadcastPkts	Receive Broadcast packet counter	Counter64	GET
fwuHstSERFEthPortRxMulticastPkts	Receive Multicast packet counter	Counter64	GET
fwuHstSERFEthPortRxFragmtdFrames	Receive fragments counter	Counter64	GET
fwuHstSERFEthPortRxJabbersFrames	Receive jabber counter	Counter64	GET
fwuHstSERFEthPortTxByteCounter	Transmit byte counter	Counter64	GET
fwuHstSERFEthPortTxPkts	Transmit packet counter	Counter64	GET
fwuHstSERFEthPortTxBroadcastPkts	Transmit broadcast packet counter	Counter64	GET
fwuHstSERFEthPortTxMulticastPkts	Transmit multicast packet counter	Counter64	GET
fwuHstSERFEthPortSFPId	Identifier of SFP to which this Ethernet port connects	Unsigned32	GET
fwuHstDARTNumber	A unique identifier for each DART Card Object (from 1 to 8)	Integer32	GET
fwuHstDARTName	A user defined name for each DART Card object that can be up to 32 characters long	DisplayString	SET
fwuHstDARTBandType	Band type of Host DART card	BANDType	GET
fwuHstDARTPassBand	Pass-band type of host DART card.	PASSBANDTyp e	SET

Table 12-2. *FlexWave-URH Agent MIB GET/SET Objects (Cont.)*

Object Name	Description	SNMP Syntax	Get or SET
fwuHstDARTOperatingMode	Operating mode of Host DART card	MODEType	SET
fwuHstDARTDiversityStatus	Diversity Status of Host DART card, where diversity is 1 and no diversity is 0	INTEGER	SET
fwuHstDARTForwardGain	Primary Gain in forward path of Host DART card	GAINType	SET
fwuHstDARTReverseGain	Primary Gain in reverse path of Host DART card	GAINType	SET
fwuHstDARTFPGAStatus	Indicates if the Host SeRF FPGA can talk to the DART FPGA where 0 indicates that the SeRF can talk to the FPGA and 1 indicates that it cannot	INTEGER	GET
fwuHstDARTFPGAProgramVer	FPGA Version on the Host DART card	DisplayString	GET
fwuHstDARTRIADCPartNumber	Host DART Inventory Data-ADC Part Number	DisplayString	GET
fwuHstDARTRISerialNumber	Host DART Inventory Data-Serial Number	DisplayString	GET
fwuHstDARTRIDateCode	Host DART Inventory Data - Date Code	DisplayString	GET
fwuHstDARTRIHWVer	Host DART Inventory Data-Hardware Version	DisplayString	GET
fwuHstDARTRowStatus	Status of this conceptual row	RowStatus	SET
fwuHstDARTOverDriveFaultThreshold	Threshold value for Host DART Card Over Drive. This is not user settable.	DisplayString	SET
fwuHstDARTUnderDriveFaultThreshold	Threshold value for Host DART Card Under Drive. This is not user settable.	DisplayString	SET
fwuRmtNumber	The Remote number of Remote connected (from 1 to 8)	INTEGER	GET
fwuRmtCatalogState	Catalog state of Remote. If fwuRmtCatalogState is commission (2) state, commission Remote. If it is in normal (1) state, do not commission Remote	CATALOGType	GET
fwuRmtName	User defined name of the Remote, which can be up to 40 characters long	DisplayString	SET

Table 12-2. *FlexWave-URH Agent MIB GET/SET Objects (Cont.)*

Object Name	Description	SNMP Syntax	Get or SET
fwuRmtAlarmStatusSummary	Summary of alarm status of all connected remote units where: • Normal = 1 • Minor = 2 • Major = 3 • Not Present = 0	ALARMType	GET
fwuRmtTempMeasurement	Temperature of each Remote in Celsius. This value comes from the RSI	DisplayString	GET
fwuRmtGeneralTableRowStatus	Status of this conceptual row	RowStatus	SET
fwuRmtType	Type of Remote: Prism or URH	REMOTEType	GET
fwuRmtSERFLinuxKernelVer	Linux Kernel Version of the Remote system	DisplayString	GET
fwuRmtSERFLinuxBootLoaderVer	Linux Boot loader Version of the Remote system	DisplayString	GET
fwuRmtSERFCompactFlashSWVer	Compact Flash Software Version of the Remote system	DisplayString	GET
fwuRmtSERFFPGAVer	Version of FPGA loaded on SeRF	DisplayString	GET
fwuRmtSERFPPCHWMonSWVer	Hardware monitor process Software Version of the Remote system	DisplayString	GET
fwuRmtSERFPPCAPPMonSWVer	Application monitor process Software Version of the Remote system	DisplayString	GET
fwuRmtSERFPPCGPSMonSWVer	GPS monitor process Software Version of the Remote system	DisplayString	GET
fwuRmtSERFPPCSNMPHTTPAgentSWVer	SNMP agent Software Version of the Remote system	DisplayString	GET
fwuRmtSERFPPCMATEMonSWVer	Mate monitor process Software Version of the remote system.	DisplayString	GET
fwuRmtSERFPPCENETMonSWVer	ENET monitor process Software Version of the Remote system	DisplayString	GET
fwuRmtSERFPPCFPGAMonSWVer	FPGA monitor process Software Version of the Remote system	DisplayString	GET
fwuRmtSERFRIDateCode	Remote SeRF Inventory-Date Code of the Remote system	DisplayString	GET

Table 12-2. *FlexWave-URH Agent MIB GET/SET Objects (Cont.)*

Object Name	Description	SNMP Syntax	Get or SET
fwuRmtSERFRIHWRev	Remote SeRF Inventory - Hardware Version of the Remote system	DisplayString	GET
fwuRmtSERFRISerialNumber	Remote SeRF Inventory-Serial Number	DisplayString	GET
fwuRmtSERFRIADCPartNumber	Remote SeRF Inventory-ADC Part Number	DisplayString	GET
fwuRmtSERFOptSFPNumber	A unique identifier of each SFP (from 1 to 8)	INTEGER	GET
fwuRmtSERFOptSFPName	User defined name of each Remote SFP.It can be 32 character long.	DisplayString	SET
fwuRmtSERFOptSFPType	SFP Type-Optical Port Type	OPTICSType	GET
fwuRmtSERFOptSFPColor	SFP wavelength in nanometer.	Integer32	GET
fwuRmtSERFOptRevLaunchPowerMeas	Value of Remote Receive measured optical power in dbm	DisplayString	GET
fwuRmtSERFOptFwdLaunchPowerMeas	Value of Remote Transmit measured optical power in dbm	DisplayString	GET
fwuRmtSERFOptMateName	Name of Remote mate	DisplayString	GET
fwuRmtSERFIPEnable	IP Enable mode for Host connected to the Remote that is carrying RF, where 1 equals enable	Integer	GET
fwuRmtSERFOptRxBERFaultThreshold	Threshold Value for declaring a Decoded word error state of the primary wavelength optical receiver (too many errors). This is not user settable.	DisplayString	SET
fwuRmtSerfOptOverDriveFaultThreshld	Threshold value for declaring SFP over drive fault. This is not user settable.	Integer32	SET
fwuRmtSerfOptUnderDriveFaultThreshld	Threshold value for declaring SFP under drive fault. This is not user settable.	Integer32	SET
fwuRmtSERFOptRxBERFaultMask	Trap enable/disable for primary wavelength optical receiver; trap is enabled by default; if disabled, the trap will not be raised	MASKType	SET

Table 12-2. *FlexWave-URH Agent MIB GET/SET Objects (Cont.)*

Object Name	Description	SNMP Syntax	Get or SET
fwuRmtSERFOptOverDriveFaultMask	Trap enable/disable for SFP Over Drive Fault. Trap is enabled by default. If disabled, the trap will not be raised.	MASKType	SET
fwuRmtSERFOptUnderDriveFaultMask	Trap enable/disable for SFP Under Drive Fault; trap is enabled by default; if disabled, the trap will not be raised	MASKType	SET
fwuRmtSERFEthPortNumber	A unique identifier for each Ethernet port (from 1 to 12)	Unsigned32	GET
fwuRmtSERFEthPortType	An identifier for the type of Ethernet port	ENETType	GET
fwuRmtSERFEthPortRxBytes	Receive byte counter	Counter64	GET
fwuRmtSERFEthPortRxPkts	Receive packet counter	Counter64	GET
fwuRmtSERFEthPortRxFscErrors	Receive FCS error counter	Counter64	GET
fwuRmtSERFEthPortRxBroadcastPkts	Receive broadcast packet counter	Counter64	GET
fwuRmtSERFEthPortRxMulticastPkts	Receive multicast packet counter	Counter64	GET
fwuRmtSERFEthPortRxFragmtdFrames	Receive fragments counter	Counter64	GET
fwuRmtSERFEthPortRxJabbersFrames	Receive jabber counter	Counter64	GET
fwuRmtSERFEthPortTxByteCounter	Transmit byte counter	Counter64	GET
fwuRmtSERFEthPortTxPkts	Transmit packet counter	Counter64	GET
fwuRmtSERFEthPortTxBroadcastPkts	Transmit multicast packet counter	Counter64	GET
fwuRmtSERFEthPortTxMulticastPkts	Transmit broadcast packet counter	Counter64	GET
fwuRmtSERFEthSFPID	Identifier of SFP to which this Ethernet port connects to	Unsigned32	GET
fwuRmtDARTNumber	A unique identifier for each DART Card Object of Remote (from 1 to 8)	Integer32	GET
fwuRmtDARTName	A user defined name for each DART Card object of Remote, which can be up to 32 characters	DisplayString	SET
fwuRmtDARTBandType	Band type of Remote DART card	BANDType	GET

Table 12-2. *FlexWave-URH Agent MIB GET/SET Objects (Cont.)*

Object Name	Description	SNMP Syntax	Get or SET
fwuRmtDARTPassBand	Pass-band type of remote DART card.	PASSBANDType	SET
fwuRmtDARTOperatingMode	Operating mode of Remote DART card	MODEType	SET
fwuRmtDARTDiversityStatus	Diversity Status of Remote DART card, where diversity is 1 and no diversity is 0	INTEGER	SET
fwuRmtDARTForwardGain	Primary Gain in forward path of Remote DART card	GAINType	SET
fwuRmtDARTReverseGain	Primary Gain in reverse path of Remote DART card	GAINType	GET
fwuRmtDARTForwardDelay	Forward Delay for Remote DART card Micro Seconds (from 1 to 500). If the Forward Delay value is not equal to Actual Forward Delay value then, then a Ranging fault will be raised if the Remote DART is Linked	DELAYType	SET
fwuRmtDARTReverseDelay	Reverse Delay for Remote DART card Micro Seconds (from 1 to 500). If the Reverse Delay value is not equal to the Actual Reverse Delay value then, then a Ranging fault will be raised if the Remote DART is linked	DELAYType	SET
fwuRmtDARTTempMeas	Temperature value of Remote DART card	DisplayString	GET
fwuRmtDARTFPGAStatus	Indicates if the Remote SeRF FPGA can talk to DART FPGA where 0 indicates that the SeRF can talk to the DART and 1 indicates that it cannot	INTEGER	GET
fwuRmtDARTFPGAProgramVer	FPGA Version on the Remote DART card	DisplayString	GET
fwuRmtDARTRIADCPartNumber	Remote DART Inventory Data-ADC Part Number	DisplayString	GET
fwuRmtDARTRISerialNumber	Remote DART Inventory Data-Serial Number	DisplayString	GET
fwuRmtDARTRIDateCode	Remote DART Inventory Data - Date Code	DisplayString	GET
fwuRmtDARTRIHWVer	Remote DART Inventory Data-Hardware Version	DisplayString	GET
fwuRmtDARTGeneralTableRowStatus	Status of a row in the DART General table	RowStatus	SET

Table 12-2. *FlexWave-URH Agent MIB GET/SET Objects (Cont.)*

Object Name	Description	SNMP Syntax	Get or SET
fwuRmtDARTActualForwardDelay	Forward Delay for Remote DART	Integer32	GET
fwuRmtDARTForwardLowerboundDelay	Lower bound forward delay value	Integer32	GET
fwuRmtDARTForwardUpperboundDelay	Upper bound delay value	Integer32	GET
fwuRmtDARTActualReverseDelay	Reverse Delay for Remote DART	Integer32	GET
fwuRmtDARTReverseLowerboundDelay	Lower bound Reverse delay value	Integer32	GET
fwuRmtDARTReverseUpperboundDelay	Upper bound Reverse delay value	Integer32	GET
fwuRmtDARTOverTempFaultMask	Masking status of DART over Temp fault; masking is disabled by default.If enabled trap will not raised	MASKType	SET
fwuRmtDARTUnderTempFaultMask	Masking status of DART under Temp fault. Masking is disabled by default.If enabled trap will not raised	MASKType	SET
fwuRmtDARTOverTempThreshold	Threshold value for remote DART over temperature. This is not user settable.	MASKType	SET
fwuRmtDARTUnderTempThreshold	Threshold value for remote DART under temperature. This is not user settable.	MASKType	SET
fwuRmtGPSLongitudeDegrees	The GPS Longitude in Degrees (from -180 to 180)	INTEGER	GET
fwuRmtGPSLongitudeMinutes	The GPS Longitude in Minutes (from -59 to 59)	INTEGER	GET
fwuRmtGPSLongitudeSeconds	The GPS Longitude in milliseconds (from -5999 to 5999)	INTEGER	GET
fwuRmtGPSLatitudeDegrees	The GPS Latitude in Degrees (from -180 to 180)	INTEGER	GET
fwuRmtGPSLatitudeMinutes	The GPS Latitude in Minutes (from -59 to 59)	INTEGER	GET
fwuRmtGPSLatitudeSeconds	The GPS Latitude in milliseconds (from -5999 to 5999)	INTEGER	GET
fwuRmtGPSAltitudeMeters	The GPS Altitude in Meters (from -180 to 180)	INTEGER	GET
fwuRmtGPSNumberOfSatellite	The Number of satellites discovered (from -180 to 180)	INTEGER	GET

Table 12-2. *FlexWave-URH Agent MIB GET/SET Objects (Cont.)*

Object Name	Description	SNMP Syntax	Get or SET
fwuRmtGPSFaultMask	Shows masking status of GPS Fault; masking is disabled by default; if enabled, the trap will not be raised	MASKType	SET
fwuRmtLPANumber	A unique identifier for an LPA (from 1 to 4)	Integer32	GET
fwuRmtLPAReset	Set this object to a value of 1 to cause LPA to reset itself. Normal value is 0	INTEGER	SET
fwuRmtLPAOpState	Operating mode of Remote LPA, where normal is 0 and standby is 1	INTEGER	SET
fwuRmtPowerDetectorNumber	A unique identifier for each power detector (from 1 to 4)	Integer32	GET
fwuRmtSystemVSWRMeas	VSWR (Voltage Standing Wave Ratio) measurement	DisplayString	GET
fwuRmtRFPowerOutputMeas	The value of Remote RF Power Output in dBm	DisplayString	GET
fwuRmtPwrDetectorBoardRIADCPartNum	Power Detector Inventory-ADC Part Number	DisplayString	GET
fwuRmtPwrDetectorBoardRISerialNum	Power Detector Inventory-Serial Number	DisplayString	GET
fwuRmtPwrDetectorBoardRIDateCode	Power Detector Inventory-Date Code	DisplayString	GET
fwuRmtPwrDetectorBoardRIHWVer	Power Detector Inventory-Hardware Version	DisplayString	GET
fwuRmtSystemVSWRFaultMask	System VSWR (Voltage Standing Wave Ratio) Fault	MASKType	SET
fwuRmtNoRFPowerFaultMask	No RF Power Fault	MASKType	SET
fwuRmtSystemVSWRFaultThreshold	Threshold value for System VSWR (Voltage Standing Wave Ratio) Fault. This is not user settable.	Integer32	SET
fwuRmtLNANumber	A unique identifier for LNA Objects (from 1 to 8)	Integer32	GET
fwuRmtLNAType	Remote LNA card type	BANDType	GET
fwuRmtLNARIADCPartNumber	LNA Inventory Data-ADC Part Number	DisplayString	GET
fwuRmtLNARISerialNumber	LNA Inventory Data-Serial Number	DisplayString	GET
fwuRmtLNARIDateCode	LNA Inventory Data-Date Code	DisplayString	GET

Table 12-2. *FlexWave-URH Agent MIB GET/SET Objects (Cont.)*

Object Name	Description	SNMP Syntax	Get or SET
fwuRmtLNARIHWVer	LNA Inventory Data-Hardware Version.	DisplayString	GET
fwuRmtLNAPowerFaultMask	Shows masking status of Remote LNA Power Fault; masking is disabled by default; if enabled, the trap will not be raised	MASKType	SET
fwuRmtRDINumber	A unique identifier for each RDI (from 1 to 4)	Integer32	GET
fwuRmtRDIRIADCPartNumber	RDI Inventory Data-ADC Part Number	DisplayString	GET
fwuRmtRDIRISerialNumber	RDI Inventory Data-Serial Number	DisplayString	GET
fwuRmtRDIRIDateCode	RDI Inventory Data-Date Code	DisplayString	GET
fwuRmtRDIRIHWVer	RDI Inventory Data-Hardware Version	DisplayString	GET
fwuHstDARTOverDriveFaultMask	Shows masking status of Host DART Over Drive Fault; masking is disabled by default; if enabled, the trap will not be raised	MASKType	SET
fwuHstDARTUnderDriveFaultMask	Shows masking status of Host DART Under Drive Fault; masking is disabled by default; if enabled, the trap will not be raised	MASKType	SET
fwuRmtOverTempFaultMask	Show status of masking of Remote over temperature Fault; masking is disabled by default; if enabled, the trap will not be raised	MASKType	SET
fwuRmtUnderTempFaultMask	Show status of masking of Remote Under Temperature Fault; masking is disabled by default; if enabled, the trap will not be raised	MASKType	SET
fwuRmtOpenDoorFaultMask	Show status of masking of Remote Open Door Fault; masking is disabled by default; if enabled, the trap will not be raised	MASKType	SET
fwuRmtFanOverSpeedFaultMask	Show status of masking of Remote Fan Over Speed Fault; masking is disabled by default; if enabled, the trap will not be raised	MASKType	SET

Table 12-2. *FlexWave-URH Agent MIB GET/SET Objects (Cont.)*

Object Name	Description	SNMP Syntax	Get or SET
fwuRmtFanUnderSpeedFaultMask	Show status of masking of Remote Fan Under Speed Fault; masking is disabled by default; if enabled, the trap will not be raised	MASKType	SET
fwuRmtOverTempFaultThreshold	Threshold value for remote over temperature Fault. This is not user settable.	MASKType	SET
fwuRmtUnderTempFaultThreshold	Threshold value for remote under temperature Fault. This is not user settable.	MASKType	SET
fwuHMmonIndex	Index of mate monitor table.	Integer32	GET
fwuHMmonRmtLocation	Location of Remote connected to Host	DisplayString	GET
fwuHMmonRmtIPAddress	IP addresses of Remote	IpAddress	GET
fwuHMmonRmtID	ID of connected Remote	REMOTENBRType	GET
fwuHMmonHstSideSFPID	Slot ID of the SFP at Host end.	Integer32	GET
fwuHMmonRmtSideSFPID	Slot ID of the SFP used at Remote end	Integer32	GET
fwuRMmonIndex	Index of mate monitor table	Integer32	GET
fwuRMmonHstIPAddress	IP addresses of Host connected to the Remote	IpAddress	GET
fwuRMmonHstID	ID of Host connected to the Remote	HOSTNBRType	GET
fwuRMmonRmtID	ID of companion remote unit.	REMOTENBRType	GET
fwuRMmonHstSideSFPID	Slot ID of the SFP at Host end	Integer32	GET
fwuRMmonRmtSideSFPID	Slot ID of the SFP used at Remote end.	Integer32	GET
fwuGeoHeartbeatTimer	Specifies Heartbeat can be sent at the timer specified here, from 1 to 30	INTEGER	SET
fwuGeoIndex	Geo objects Table Index.	Unsigned32	SET
fwuGeoLatitude	Identifies the Latitude of Remote	DisplayString	SET
fwuGeoLongitude	Identifies the Longitude of Remote	DisplayString	SET
fwuGeoRmtName	Identifies the Latitude of Remote	DisplayString	GET

Table 12-2. *FlexWave-URH Agent MIB GET/SET Objects (Cont.)*

Object Name	Description	SNMP Syntax	Get or SET
fwuGeoStatus	Identifies the Latitude of Remote	INTEGER	GET
fwuDARTMappingIndex	Index of the DART table.	Unsigned32	GET
fwuHstID	ID of the Host	HOSTNBRType	SET
fwuHstDARTID	ID of DART at Host to which the Remote DART is to be connected (from 1 to 8)	INTEGER	SET
fwuHstSFPID	ID of host side SFP ID connected toward the remote DART. (from 1 to 8)	INTEGER	SET
fwuHstDARTPassBand	Pass-band type of Host DART card	PASSBANDType	GET
fwuRmtID	ID of the Remote from which DART is to be connected	REMOTENBRType	SET
fwuRmtDARTID	ID of Remote DART to which the Host DART will connect (from 1 to 8)	INTEGER	SET
fwuRmtSFPID	ID of Remote side SFP ID connected toward the Host DART (from 1 to 8)	INTEGER	SET
fwuRmtDARTPassband	Remote side Band-PassBand information of the linked darts	PASSBANDType	GET
fwuHstSFPStartTimeSlot	Start timeslot on the fiber that is carrying the DART traffic. This is a read-write object but it is not available for user to do a RW operation.	Integer32	SET
fwuHstSFPEndTimeSlot	End timeslot on the fiber that is carrying the RF traffic from Host to Remote DART card. This is a Read-Write object, but is not available for user as a Read-Write operation.	Integer32	SET
fwuMappingStatus	Status of row	RowStatus	SET
fwuRmtUnitReset	Provides a way to reset the Remote SeRF card. Set to 1 to trigger a Remote reset	INTEGER	SET

12.7 TRAPS

The EMS receives traps from SNMP agents and converts them to alarms and non-alarmed events for further processing and reporting.

For information on **GET**/**SET** objects, see "FlexWave-URH Agent MIB" on page 292.

Table 12-3. *FlexWave-URH Agent MIB Traps*

Trap Object	Description
fwuHstSysCardFanFault	Host System Card Fan fault
fwuHstModuleMissingFault	Host Module missing fault
fwuHstOverTempFault	Host Over Temperature fault
fwuHstUnderTempFault	Host Under Temperature fault
fwuRmtModuleMissingFault	Remote Module missing fault
fwuRmtOverTempFault	Remote Over Temperature fault
fwuRmtUnderTempFault	Remote Under Temperature fault
fwuRmtOpenDoorFault	Door on the Remote is open
fwuRmtFanOverSpeedFault	Remote fan has an Over Speed fault
fwuRmtFanUnderSpeedFault	Remote fan has an Under Speed fault
fwuHstSERFSynthAlarmFault	Onboard synthesizer fault
fwuHstSERFFault	Consolidation of SeRF Onboard synthesizer fault and SeRF FPGA Status
fwuHstSERFRmtLostFault	Remote Lost fault-Host not receiving any messages from connected Remote
fwuHstSERFOptRxBERFault	Decoded word error state of the primary wavelength optical receiver (too many errors)
fwuHstSERFOptRxNoLightFault	Receiving light state of the primary wavelength optical receiver (no light)
fwuHstSERFOptLaserFault	Error state of laser forward path
fwuHstSERFOptOverDriveFault	Host SFP Over Drive fault
fwuHstSERFOptUnderDriveFault	Host SFP Under Drive fault
fwuHstSERFOptIpEnableFault	Host SFP IP Enable fault
fwuHstDARTDwnCon1SynLockFault	Lock State of the first Down Converter synthesizer
fwuHstDARTDwnCon2SynLockFault	Lock State of the second Down Converter synthesizer
fwuHstDARTUpConSynLockFault	Lock State of the Up Converter synthesizer
fwuHstDARTOverDriveFault	Host DART Card Over Drive fault. RF signal received from BTS is too high

Table 12-3. *FlexWave-URH Agent MIB Traps (Cont.)*

Trap Object	Description
fwuHstDARTUnderDriveFault	Host DART Card Under Drive fault. RF Signal received from the BTS is too low
fwuHstDARTFault	This fault is a consolidated fault of fwuHstDARTDwnCon1SynLockFault, fwuHstDARTDwnCon2SynLockFault, fwuHstDARTUpConSynLockFault, fwuHstDARTFPGAStatus and fwuHstDARTDCSupplyFault
fwuHstDARTDCSupplyFault	Host DART Card DC Supply fault
fwuHstDARTHardwareMismatchFault	Indicates a hardware mismatch for the RF and optical cards between Host and Remotes
fwuRmtAcPowerSupplyFault	Remote AC Power Supply fault. This is an aggregation of ACPowerSupplyMonitor1, ACPowerSupplyMonitor2, ACPowerSupplyMonitor3, ACPowerSupplyMonitor4
fwuRmtMajorExtAlarmInputFault	The remote Major Ext Alarm Input Fault
fwuRmtMinorExtAlarmInputFault	The remote Minor Ext Alarm Input Fault
fwuRmtSERFHstLostFault	Host Lost fault-Remote not receiving any messages from connected Host
fwuRmtSERFOptRxBERFault	Decoded word error state of the primary wavelength optical receiver (too many errors)
fwuRmtSERFOptRxNoLightFault	Receiving light state of the primary wavelength optical receiver (no light)
fwuRmtSERFOptLaserFault	Error state of laser forward path
fwuRmtSERFOptOverDriveFault	Remote SFP Over Drive fault
fwuRmtSERFOptUnderDriveFault	Remote SFP Under Drive Fault
fwuRmtSERFSynthAlarmFault	Onboard synthesizer fault
fwuRmtSERFFault	Consolidation of SeRF Onboard synthesizer fault and SeRF FPGA Status
fwuRmtDARTDwnCon1SynLockFault	Lock state of the first down converter synthesizer
fwuRmtDARTDwnCon2SynLockFault	Lock state of the second down converter synthesizer
fwuRmtDARTUpConSynLockFault	Lock state of the Upconverter synthesizer
fwuRmtDARTDCSupplyFault	Remote DART Card DC Supply fault
fwuRmtDARTFault	Consolidated fault for fwuRmtDARTDwnCon1SynLockFault, fwuRmtDARTDwnCon2SynLockFault, fwuRmtDARTUpConSynLockFault, fwuRmtDARTDCSupplyFault and DARTFPGAStatus
fwuRmtDARTHardwareMismatchFault	Indicate the hardware mismatch for the RF DART card between Host and Remotes
fwuRmtRangingFault	Host cannot auto-range a connected Remote anymore

Table 12-3. *FlexWave-URH Agent MIB Traps (Cont.)*

Trap Object	Description
fwuRmtDARTOverTempFault	indicates a Remote DART Card Over Temperature Fault
fwuRmtDARTUnderTempFault	Indicate the Remote DART Card Under Temperature Fault
fwuRmtGPSFault	Remote GPS fault
fwuRmtLPADisableFault	Disable state of the linear power amplifier
fwuRmtLPAOverPowerFault	Internal over power fault state of linear power amplifier (power level is high enough to damage LPA)
fwuRmtLPAHighTempFault	Remote LPA High Temperature fault
fwuRmtLPAVswrFault	Internal VSWR fault state of linear power amplifier (greater than 3:1)
fwuRmtLPADcFault	Remote LPA DC fault
fwuRmtLPALoopFault	Remote LPA Loop fault
fwuRmtLPALowPowerFault	Internal low power fault state of linear power amplifier (the gain of one or more internal amplifiers does not meet specification)
fwuRmtLPADetectFault	Presence fault state of linear power amplifier (the LPA is missing)
fwuRmtSystemVswrFault	Remote system Vswr fault
fwuRmtNoRFPowerFault	Remote No RF Power fault
fwuRmtLNAPowerFault	Remote LNA power fault
fwuRmtFanFault	Remote system VSWR fault. This object hasn't been implemented in this release
fwuRmtACPowerSupplyMon4Fault	AC Power monitor 4 Fault
fwuRmtACPowerSupplyMon1Fault	AC Power monitor 1 Fault
fwuRmtACPowerSupplyMon2Fault	AC Power monitor 2 Fault
fwuRmtACPowerSupplyMon3Fault	AC Power monitor 3 Fault
fwuHstSysCardPrimaryCPFault	Primary Clock Priority Fault
fwuHstSysCardSecondaryCPFault	Secondary Clock Priority Fault

PART IV

APPENDICES

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A

HOST UNIT MODULE REPLACEMENT

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A.4 SeRF Card Replacement Procedure 319
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A.4.4 Install New SeRF Card 324
A.5 DART Card Replacement/Installation Procedure 325
A.5.1 Replacing a DART Card in the Host Chassis 325
A.5.2 Installing a New DART Card in the Host Chassis 325

This section provides the Host maintenance procedures. Refer to this section when scheduled maintenance is required.

Recommendation: The replacement interval for the Host fan is 60 months.

A.1 HOST FAN REPLACEMENT PROCEDURE

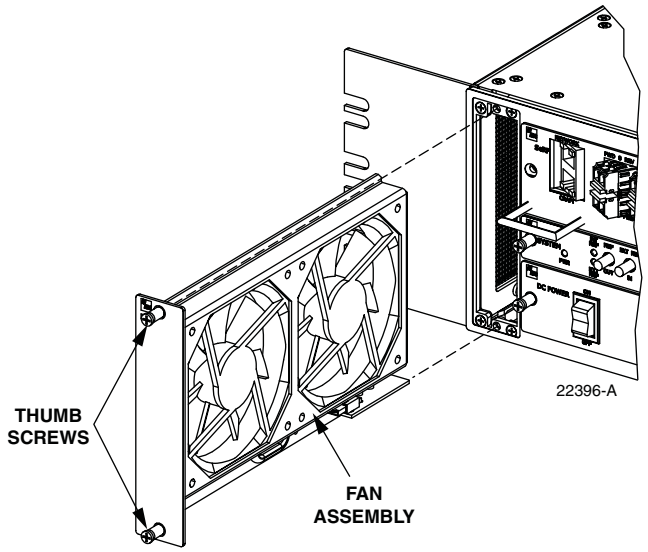
Continuous airflow for cooling is provided by a fan assembly mounted on the left side of the Host housing. The cooling fans blow cool air into the enclosure. Heated air is exhausted through the vent openings on the right side of the enclosure. An alarm is generated if a high temperature condition (>90º C/122º F) occurs. The fan assembly may be field-replaced if either fan fails. Replacement of fan assembly does not require that the Host be turned off.

Recommendation: The replacement interval for the Host fan is 60 months.

Use the following procedure to remove and replace the Host cooling fans:

Electronic components can be damaged by static electrical discharge. To prevent ESD damage, slip on an Electrostatic Discharge (ESD) wrist strap and connect the ground wire to an earth ground source. Wear the ESD wrist strap while completing each step in this procedure.

1. Notify the NOC or alarm monitoring system operator that the fan is being replaced.
2. Loosen the two thumb screws that secure the fan/grill assembly to the front of the Host enclosure.
3. Carefully withdraw the fan/grill assembly from the enclosure.
4. Slide the new fan assembly into the Host chassis until it is firmly seated.
5. Secure the fan/grill assembly to the front of the enclosure using the two screws loosened in Step 2.
6. Verify that the fans run properly following power-up.
7. Notify the NOC or alarm monitoring system operator that the fans are back in operation.

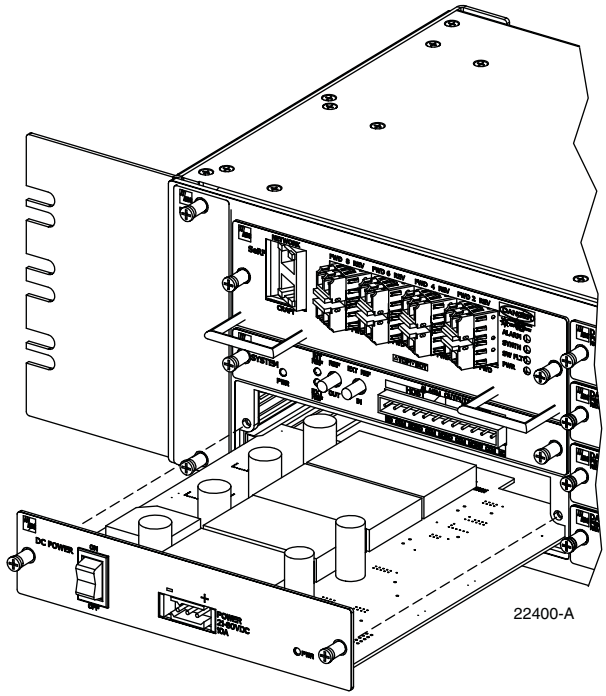


A.2 POWER SUPPLY REPLACEMENT PROCEDURE

Removing the power supply disables the Host and interrupts service.

Electronic components can be damaged by static electrical discharge. To prevent ESD damage, slip on an Electrostatic Discharge (ESD) wrist strap and connect the ground wire to an earth ground source. Wear the ESD wrist strap while completing each step in this procedure.

1. Notify the NOC or alarm monitoring system operator that the system will be out of service for a period of time.
2. Turn power switch to the OFF position.
3. Unplug power plug by applying pressure to the left and right side of the connector and pulling it straight out.
4. Loosen the two thumb screws that secure the Power Supply to the front of the Host enclosure.



5. Carefully withdraw the Power Supply from the enclosure.
6. Slide replacement Power Supply into the Host chassis until it is firmly seated.
7. Secure the Power Supply to the front of the enclosure using the two thumb screws loosened in Step 4.
8. Verify that the power switch is in its OFF position, and then plug power plug into the power connector on the front of the Power Supply. Make certain that it is fully seated.

9 Turn power switch to the ON position.

10 Notify the NOC or alarm monitoring system operator that the system is back in operation.

A.3 System Card Replacement Procedure

There will be a Loss of Service during the time it takes to complete this procedure. Notify the NOC and alarm managers before starting this process.

If the EXT REF is being used communications to other Hosts will be disrupted.

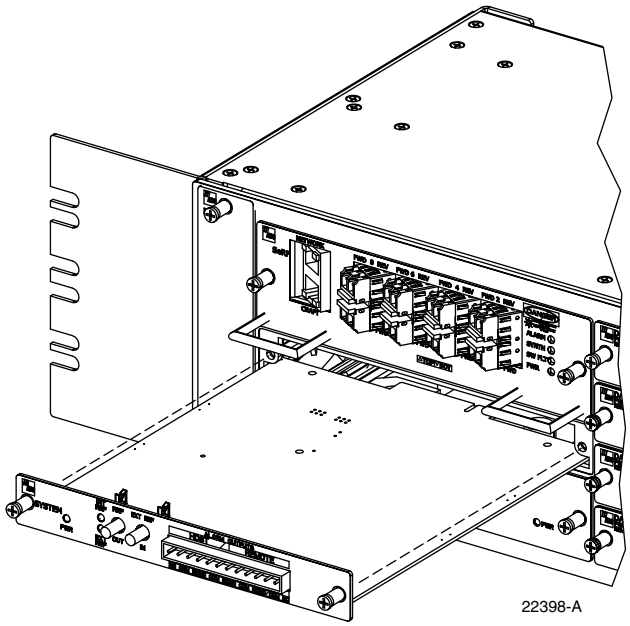
Electronic components can be damaged by static electrical discharge. To prevent ESD damage, slip on an Electro- Static Discharge (ESD) wrist strap and connect the ground wire to an earth ground source. Wear the ESD wrist strap while completing each step in this procedure.

1 Notify the NOC or alarm monitoring system operator that the System Card is being replaced.

2 If used, disconnect EXT REF cables from the front of the System Card.

3 Remove alarm plug from the front of the System Card by pressing on the lock tabs.

4 Loosen the two thumb screws that secure the System Card to the front of the Host enclosure.



5 Carefully withdraw the System Card from the enclosure.

6 Slide replacement System Card into the Host chassis until it is firmly seated.

7 Secure the System Card to the front of the enclosure using the two thumb screws loosened in Step 4.

8 If used, connect EXT REF cables to the front of the System Card.

9 Plug alarm plug into the connector on the System Card.

10 Notify the NOC or alarm monitoring system operator that the system is back in operation.

A.4 SeRF Card Replacement Procedure

Removing the SeRF Card will disable the Host and interrupt service. The entire system configuration is stored on the Compact Flash card on the SeRF. If you replace the SeRF with a new one, the system will NOT be operational immediately following replacement. Notify the NOC or alarm monitoring system operator that the system will be Out of Service (OOS) for a period of time.

Replacing the SeRF card is a 14-step procedure that is broken into four sections, Follow the steps in the order given.

A.4.1 Preserve System Configuration

1 Before you start the procedure to replace the SeRF card, decide how you will restore the system configuration, which can be accomplished in one of two ways:

- Option A—You can remove the Compact Flash card from the old SeRF and install it into the new SeRF before installing the SeRF card in the Host.
- Option B—You can reconfigure the system once the new SeRF is installed. If you are going to reconfigure the system, before you remove the SeRF card, record the system settings in Table A-1, including frequency bands, gain and delay settings, module names and network information.

Table A-1. *URH System Configuration*

EMS VIEW	PARAMETER	SETTING
	IP ADDRESSES	
	Host Network port IP address	
	Host Craft port IP address	
	Remote 1 IP address	
	Remote 2 IP address	
	Remote 3 IP address	
	Remote 4 IP address	
	Remote 5 IP address	
	Remote 6 IP address	
	Remote 7 IP address	
	Remote 8 IP address	
	HOST CONFIGURATION	
Host Summary	Host Name	
	10 MHz Reference Clock	
Optical Ports view for the Host	Optical Port 1 name	
	Optical Port 2 name	
	Optical Port 3 name	
	Optical Port 4 name	

Table A-1. *URH System Configuration (Cont.)*

EMS VIEW	PARAMETER	SETTING
	Optical Port 5 name	
	Optical Port 6 name	
	Optical Port 7 name	
	Optical Port 8 name	
Configuration and Alarm Details of DART 1	DART Name	
	DART Pass Band	
	DART Operating Mode	
	DART Diversity Status list	
	DART Forward Gain	
	DART Reverse Gain	
Configuration and Alarm Details of DART 2	DART Name	
	DART Pass Band	
	DART Operating Mode	
	DART Diversity Status list	
	DART Forward Gain	
	DART Reverse Gain	
Configuration and Alarm Details of DART 3	DART Name	
	DART Pass Band	
	DART Operating Mode	
	DART Diversity Status list	
	DART Forward Gain	
	DART Reverse Gain	
Configuration and Alarm Details of DART 4	DART Name	
	DART Pass Band	
	DART Operating Mode	
	DART Diversity Status list	
	DART Forward Gain	
	DART Reverse Gain	
Configuration and Alarm Details of DART 5	DART Name	
	DART Pass Band	
	DART Operating Mode	
	DART Diversity Status list	
	DART Forward Gain	
	DART Reverse Gain	
Configuration and Alarm Details of DART 6	DART Name	

Table A-1. *URH System Configuration (Cont.)*

EMS VIEW	PARAMETER	SETTING
	DART Pass Band	
	DART Operating Mode	
	DART Diversity Status list	
	DART Forward Gain	
	DART Reverse Gain	
Configuration and Alarm Details of DART 7	DART Name	
	DART Pass Band	
	DART Operating Mode	
	DART Diversity Status list	
	DART Forward Gain	
	DART Reverse Gain	
Configuration and Alarm Details of DART 8	DART Name	
	DART Pass Band	
	DART Operating Mode	
	DART Diversity Status list	
	DART Forward Gain	
	DART Reverse Gain	
	REMOTE CONFIGURATION	
Remote Unit view	Remote Name	
Optical Ports view for Remote n	Optics Port Name	
Configuration Details window	DART name	
	Remote Dart Id	
	Remote Dart SFP Id	
	DART Forward Gain	
	DART Forward Delay	
	DART Reverse Delay	
	LPA Operating Mode	

A.4.2 Remove the SeRF Card

Electronic components can be damaged by static electrical discharge. To prevent ESD damage, slip on an Electrostatic Discharge (ESD) wrist strap and connect the ground wire to an earth ground source. Wear the ESD wrist strap while completing each step in this procedure.

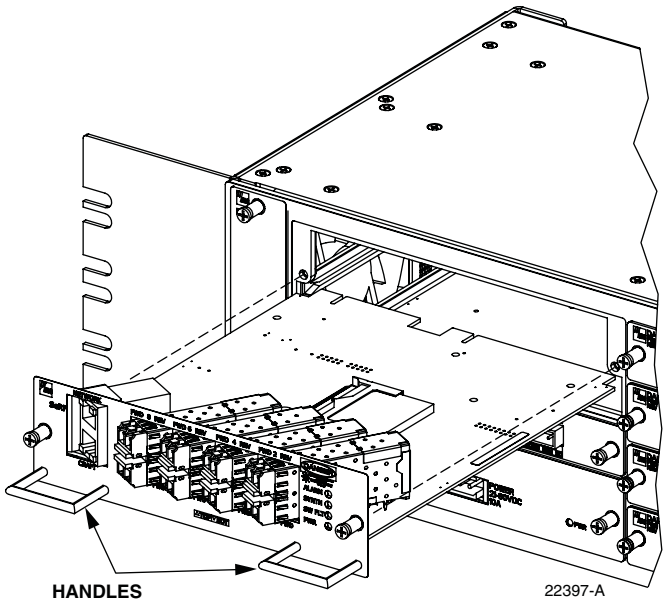
2 Remove Network and Craft RJ-45 plugs from the front of the SeRF Card.

This equipment uses a Class 1 Laser according to FDA/CDRH rules. Laser radiation can seriously damage the retina of the eye. Do not look into the ends of any optical fiber. Do not look directly into the optical transmitter of any unit or exposure to laser radiation may result. An optical power meter should be used to verify active fibers. A protective cap or hood MUST be immediately placed over any radiating transmitter or optical fiber connector to avoid the potential of dangerous amounts of radiation exposure. This practice also prevents dirt particles from entering the connector.

3 Remove fiber patch cord from the SFPs. Note the location of the fiber patch cords.

Improper handling can damage fiber optic cables. Do not bend fiber optic cable more sharply than the minimum recommended bend radius specified by the cable manufacturer. Do not apply more pulling force to the cable than specified.

4 Loosen the two thumb screws that secure the System Card to the front of the Host enclosure.



5 Use the two handles to carefully withdraw the SeRF Card from the enclosure.

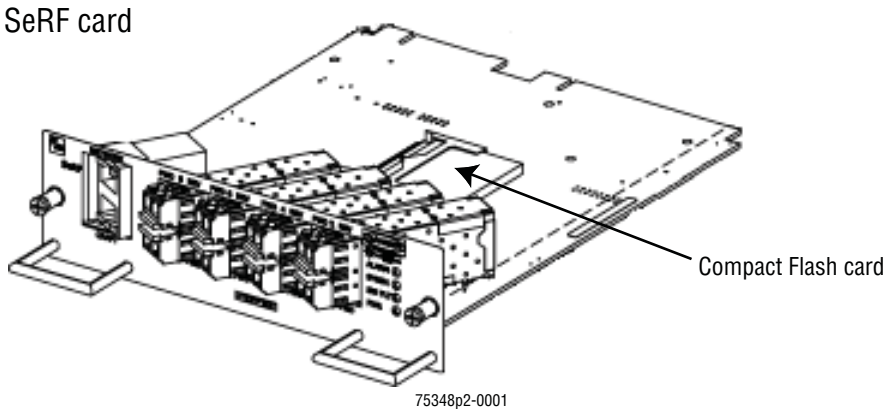
6 Do one of the following:

- If you plan to reconfigure the system once the new SeRF is installed, skip to Section A.5.2, Installing a New DART Card in the Host Chassis, on page 325.
- If you will be removing the Compact Flash card from the old SeRF and installing it into the new SeRF before installing the SeRF card in the Host, go to Section A.4.3, Swap Compact Flash From Old SeRF Card to New SeRF Card, on page 323.

A.4.3 Swap Compact Flash From Old SeRF Card to New SeRF Card

Do not complete this procedure if you are going to reconfigure the URH system after you install the new SeRF card—skip to "Install New SeRF Card" on page 324.

7 Remove the Compact Flash card from the new SeRF card by gently lifting the Compact Flash card out of its holder.



8 Slide the Compact Flash removed from the old SeRF card into the new SeRF card. Install the Compact Flash card label side up, and with the connectors pointing toward the middle of the SeRF card. Gently push the Compact Flash card in until it is firmly seated.

A.4.4 Install New SeRF Card

If you are going to swap the Compact Flash card from the old SeRF card to the new, before starting this procedure, complete the steps in "Swap Compact Flash From Old SeRF Card to New SeRF Card" on page 323.

9 Slide replacement SeRF Card into the Host chassis until it is firmly seated.

10 Secure the SeRF Card to the front of the enclosure using the two thumb screws loosened in Step 4.

11 If necessary, install new SFPs or remove them from the SeRF card removed in Step 5 and install them in the new SeRF Card.

12 Plug fiber patch cords back into the SFPs, making sure that you return the fiber patch cords to the position they were in prior to this procedure.

13 Plug Network and Craft RJ-45 plugs into the connector on the SeRF Card. Make certain the fiber patch cords are inserted in the correct SFP.

14 Notify the NOC or alarm monitoring system operator that the system is back in operation.

A.5 DART Card Replacement/Installation Procedure

Each DART card is spectrum specific and provides an interface between the SeRF and the Power Amplifier. When additional service is needed another DART card can be added to the Host. Individual DART cards may be replaced without disrupting service to the entire remote system. Only the RF spectrum of the DART card being removed is affected.

If you replace or install a DART card in the Host to change the RF, its equivalent must be replaced or added to the Remote by adding or replacing the corresponding Remote RF Module.

A.5.1 Replacing a DART Card in the Host Chassis

Electronic components can be damaged by static electrical discharge. To prevent ESD damage, slip on an Electrostatic Discharge (ESD) wrist strap and connect the ground wire to an earth ground source. Wear the ESD wrist strap while completing each step in this procedure.

1. Notify the NOC or alarm monitoring system operator that the DART card is being replaced.
2. Disconnect REF IN and OUT cables from the front of the DART card.
3. Loosen the two thumb screws that secure the DART card to the front of the Host enclosure.
4. Carefully withdraw the DART card from the enclosure.
5. Slide replacement DART card into the Host chassis until it is firmly seated.
6. Secure the DART card to the front of the enclosure using the two thumb screws loosened in Step 3.
7. Connect REF IN and OUT cables to the front of the DART card.
8. Notify the NOC or alarm monitoring system operator that the system is back in operation.

A.5.2 Installing a New DART Card in the Host Chassis

Electronic components can be damaged by static electrical discharge. To prevent ESD damage, slip on an Electrostatic Discharge (ESD) wrist strap and connect the ground wire to an earth ground source. Wear the ESD wrist strap while completing each step in this procedure.

1. Notify the NOC or alarm monitoring system operator that another DART card is being added the Host.
2. Determine slot location of the new DART card. See Figure 1-6 on Page 14 for DART card slot assignments.

3 Remove from the front of the Host the blank panel that corresponds to the selected slot location.

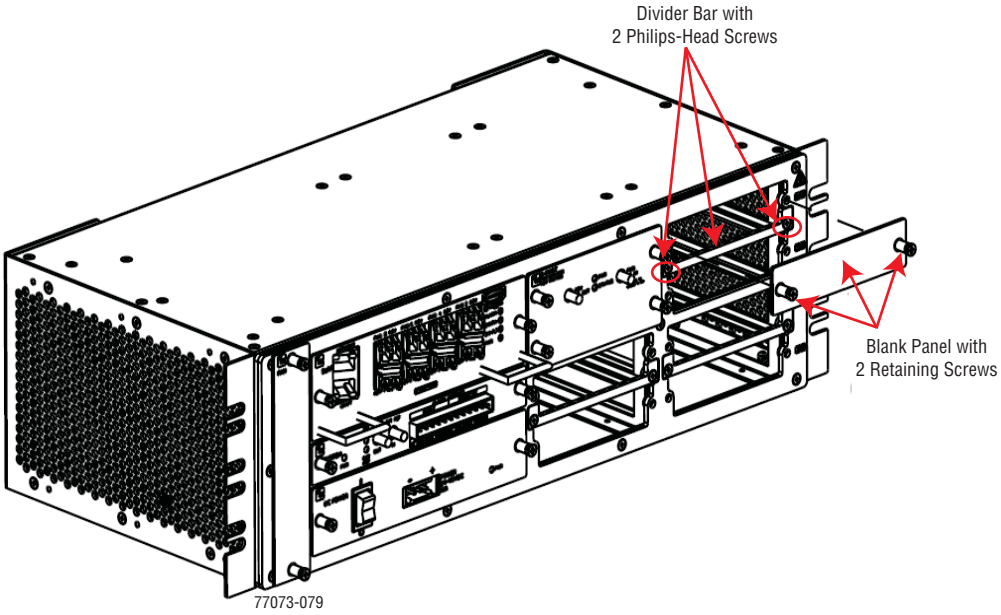
4 Do one of the following:

- If you are installing a Dual SuperDART card:

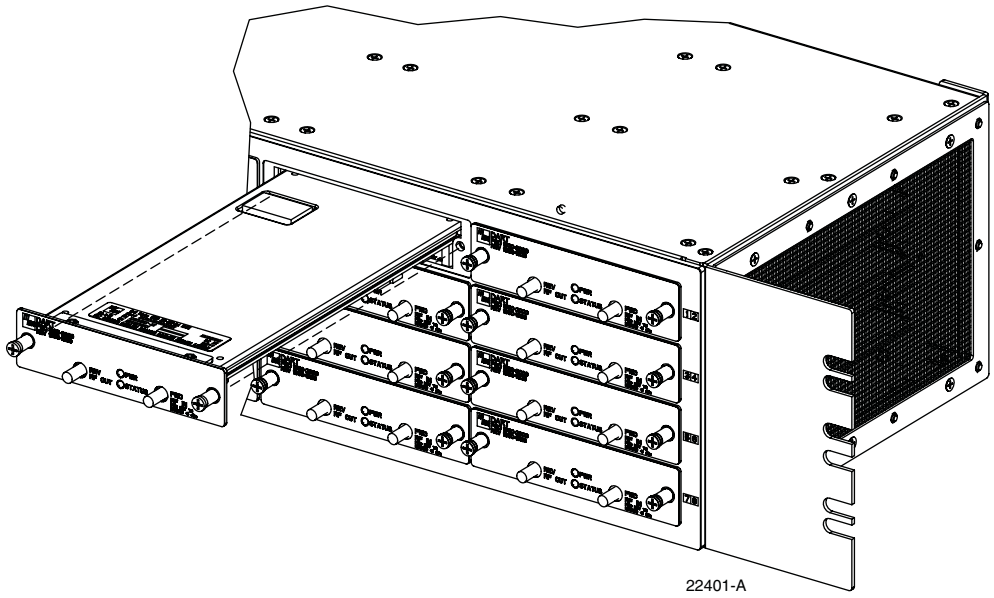
  a Loosen the two retaining screws on the front of the blank panel and then then remove the blank panel.

  b Use a Phillips screwdriver to remove the two screws from the divider bar, and then remove the divider bar, storing the bar and screws for potential future use.

- If a Dual SuperDART card had previously been installed and you are now installing a Single SuperDART or Classic DART, use two Phillips-head screws to reinstall a divider bar.



5 Slide the DART card into the Host chassis until it is firmly seated.



6 Secure the DART card to the front of the enclosure using the two thumb screws.

7 Obtain the required lengths of high performance, flexible, low loss 50-ohm coaxial communications cable (RG-400 or equivalent) for all coaxial connections.

8 Route the forward and reverse path coaxial cables between the Host and the BTS interface (per system design plan) and cut to the required length. Allow sufficient slack for dressing and organizing cables at the Host and for installing an external attenuator in the forward path link.

9 Terminate each cable with an QMA-type male connector following the connector supplier's recommendations.

10 If required, install an external attenuator in the forward path.

The composite forward path RF signal level at the Host must be between –25 and +5 dBm. Do not connect the forward path cable until the composite forward path RF signal level is measured and the amount of external attenuation required is determined.

11 Connect the forward and reverse path cables as shown as shown in Step 21 in Section 3.3.5, Coaxial Cable Connections, on page 70:

a Connect the forward path cable to the FWD RF IN connector on the Host DART front panel.

b Connect the reverse path cable to the REV RF OUT connector on the Host DART front panel.

12 Dress and secure cables at the right side of the Host.

13 Complete all remaining coaxial connections as specified in the system design plan.

14 Notify the NOC or alarm monitoring system operator that the DART card is ready for operation.

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B GENERAL INFORMATION

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B.1 WARRANTY/SOFTWARE

The Product and Software warranty policy and warranty period for all ADC Products is published in ADC's Warranty/Software Handbook. Contact the Technical Assistance Center at 1-800-366-3891, extension 73476 (in U.S.A. or Canada) or 952-917-3476 (outside U.S.A. and Canada) for warranty or software information or for a copy of the Warranty/Software Handbook.

B.2 SOFTWARE SERVICE AGREEMENT

ADC software service agreements for some ADC Products are available at a nominal fee. Contact the Technical Assistance Center at 1-800-366-3891, extension 73476 (in U.S.A. or Canada) or 952-917-3476 (outside U.S.A. and Canada) for software service agreement information.

B.3 REPAIR/EXCHANGE POLICY

All repairs of ADC Products must be done by ADC or an authorized representative. Any attempt to repair or modify ADC Products without written authorization from ADC voids the warranty.

If a malfunction cannot be resolved by the normal troubleshooting procedures, call the Technical Assistance Center at 1-800-366-3891, extension 73476 (in U.S.A. or Canada) or 952-917-3476 (outside U.S.A. and Canada). A telephone consultation can sometimes resolve a problem without the need to repair or replace the ADC Product.

If, during a telephone consultation, ADC determines the ADC Product needs repair, ADC will authorize the return of the affected Product for repair and provide a Return Material Authorization number and complete return shipping instructions. If time is critical, ADC can arrange to ship the replacement Product immediately. In all cases, the defective Product must be carefully packaged and returned to ADC.

B.4 REPAIR CHARGES

If the defect and the necessary repairs are covered by the warranty, and the applicable warranty period has not expired, the Buyer's only payment obligation is to pay the shipping cost to return the defective Product. ADC will repair or replace the Product at no charge and pay the return shipping charges.

Otherwise, ADC will charge a percentage of the current Customer Product price for the repair or NTF (No Trouble Found). If an advance replacement is requested, the full price of a new unit will be charged initially. Upon receipt of the defective Product, ADC will credit Buyer with 20 percent of full price charged for any Product to be Out-of-Warranty. Products must be returned within thirty (30) days to be eligible for any advance replacement credit. If repairs necessitate a visit by an ADC representative, ADC will charge the current price of a field visit plus round trip transportation charges from Minneapolis to the Buyer's site.

B.5 REPLACEMENT/SPARE PRODUCTS

Replacement parts, including, but not limited to, button caps and lenses, lamps, fuses, and patch cords, are available from ADC on a special order basis. Contact the Technical Assistance Center at 1-800-366-3891, extension 73476 (in U.S.A. or Canada) or 952-917-3476 (outside U.S.A. and Canada) for additional information.

Spare Products and accessories can be purchased from ADC. Contact Sales Administration at 1-800-366-3891, extension 73000 (in U.S.A. or Canada) or 1-952-938-8080 (outside U.S.A. and Canada) for a price quote and to place your order.

B.6 RETURNED MATERIAL

Contact the ADC Product Return Department at 1-800-366-3891, extension 73748 (in U.S.A. or Canada) or 952-917-3748 (outside U.S.A. and Canada) to obtain a Return Material Authorization number prior to returning an ADC Product.

All returned Products must have a Return Material Authorization (RMA) number clearly marked on the outside of the package. The Return Material Authorization number is valid for 90 days from authorization.

C GLOSSARY

Alarm
A physical or functional state affecting the ability of a Host/Remote pair to function normally. Reported by the Host/Remote pair to the EMS to notify the user that such a state exists.

Attenuation
Function applied to an RF signal to lower the signal level. Can be set for a Host/Remote pair using an EMS window or command.

Band
RF spectrum defined as an entity for communication purposes and assignable to a service provider for cell phones and similar devices. Examples are Cellular and PCS.

Base Transceiver Station
Signal processing station at the base of a tower or at some other location with access to the main antenna. Its primary function is to transport RF signals between the main antenna and cell phone users.

BTS
See Base Transceiver Station.

DART
Digital to Analog Receiver Transmitter. Interface card used in both Host and Remotes. Its primary function is data conversion of RF to optical and vice versa. Each DART provides one RF band.

Delay
RF propagation delay, which can be set for a linked Host DART and Remote DART using an EMS window or command.

EMS
FlexWave Prism Element Management System, the software application documented in this document.

ENET Port
Ethernet port capable of CAT5 transmission.

Forward Path
Signal path in the direction from the BTS to the cell phone.

Hypertext Transfer Protocol (HTTP)
HTTP is a is a request/response standard used by the World Wide Web in which the WWW is a web site is the server and the end user is the client. The EMS uses HTTP to allow access to a Host or Remote through its IP address.

Host Unit
FlexWave Prism network element that receives an RF signal from the BTS and converts it to an optical signal to its paired Remotes.

Linear Power Amplifier(LPA)
An electronic module in the Remote. Its job is to provide a large power gain to forward path signals.

LNA
Low Noise Amplifier. An electronic module in the Remote. The LNA amplifies the reverse path RF signal.

Log File
EMS history file into which alarms are written as they occur. It can be used to review recent alarms.

Mask
A software setting placed on an alarm type that causes all alarms of this type to not be reported in the EMS. The LEDs for a masked alarm display in gray instead of the standard red, yellow, and green.

Normal Mode
One of the operating modes of the DART and LPA. In this mode the equipment is transporting RF signals normally.

Radio Frequency
(RF) Radio-type frequency modulation signal received at the BTS and transmitted from the Remote to the cell phone.

Reverse Path
Signal path in the direction from the cell phone to the BTS.

Remote Unit
FlexWave Prism network element that receives an optical signal from its paired Host, converts the optical signal to RF, and transmits the RF signal to cell phones in a local coverage area.

RF Signal Level
Measured power of the forward path and reverse path RF signals as measured in the Host/Remote pair and reported in the EMS.

Standby Mode
One of the operating modes of the DART and LPA. In this mode, RF transport is disabled and power consumption is minimized.

Threshold
Value that defines when a reported state in the Host/Remote pair is considered to be in alarm.

URH
Universal Radio Head. This name derives from the ability of a FlexWave URH Remote to support multiple bands of different types.

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D

CONTACTING ADC

PHONE :

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Sales: 1-800-366-3891
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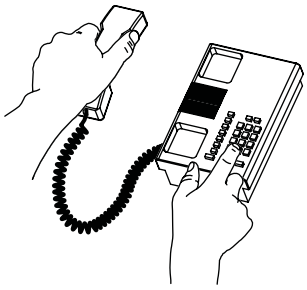

13944-Q

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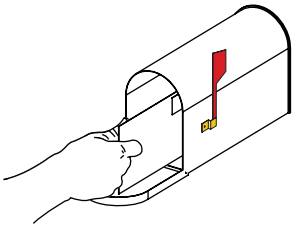

PRODUCT INFORMATION AND TECHNICAL ASSISTANCE:

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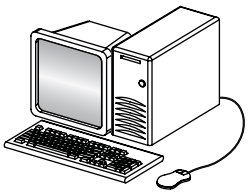

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PDF copies of manuals are available
for downloading at the following link:

www.adc.com/manuals ADCP Number: 77-073

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