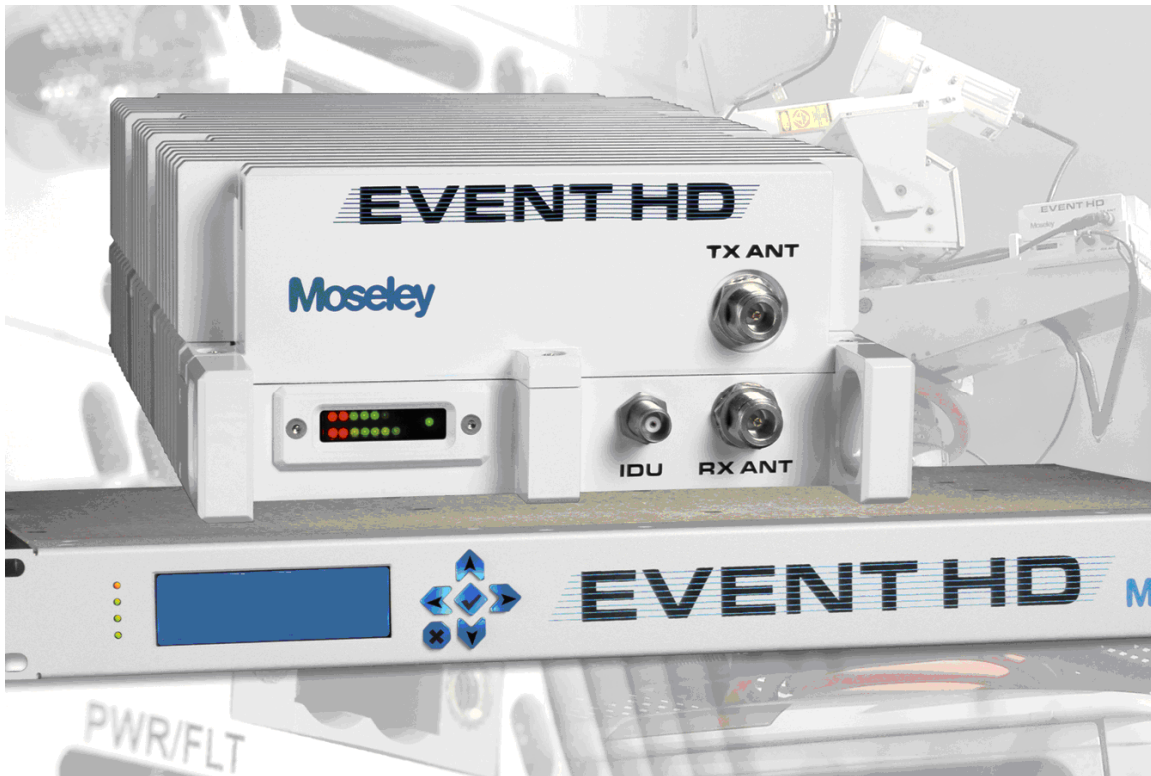




Event-HD

User Interface Guide



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1. Introduction

The document describes the user interfaces for accessing and configuring the Event-HD. The Event-HD can be accessed using:

- » Web Interface (Normal / SSL)
- » Command Line Interface, CLI (Serial Console/Telnet/SSH)
- » SNMP Agent
- » Optional Front Panel

1.1 Event-HD Features

- » Event-HD Provisioning
 - Network Time Protocol (NTP) client
 - Spanning-Tree Protocol (STP) configuration
 - SNMP configuration
 - Serial port configuration
 - Security configuration
 - Feature authorization
 - Configuration saving/retrieving
 - Alarm notification configuration
 - DHCP client for automated NMS network configuration
- » Link Provisioning
 - Modulation, Bandwidth, E1/T1 channels, Ethernet, STM-1/OC-3
- » Status and Monitoring
 - Automated alarm reporting
 - SNR, RSL, Errored-Seconds
 - Event Log
 - Alarm Log
 - Remote logging to Syslog server
 - SNMP TRAPS
- » Firmware Upgrade
- » User Management

1.2 Security Measures

The software allows for partitioning of resources and prohibiting access to sensitive information. The design of the software also prevents users from intruding on other users and/or resources on the network. Security measures include:

- » Encrypted passwords
- » Multilevel configuration permissions
- » Network data encryption
- » Accounting and logging features provide protection from and information about access attempts.



Blank Page

2. Getting Started

This section describes how to set up a PC to use the Web Interface, Command Line Interface (CLI), or an SNMP Agent. See Appendix A for information about using the optional Front Panel.

2.1 Station Configuration

2.1.1 Local Connection Requirements

A PC can be connected to a local Event-HD using a serial or network port:

Serial Port:

- » PC with serial port and DB-9 to HD-15 Event-HD cable
- » Serial communications software (e.g. Hyperterm)

Network Port:

- » PC with 10/100 Ethernet interface
- » CAT 5 patch cable for connecting the PC to the Event-HD NMS port
- » Web browser or Telnet or SSH client or SNMP manager

2.1.2 Remote Connection Requirements

A PC can be connected to a remote Event-HD using a serial communication connection or an internet connection. For a remote connection, you will need:

- » PC with network connection
- » Remote Event-HD with routable IP address
- » Web browser, or Telnet or SSH client or SNMP manager

2.1.3 PC Network Configuration

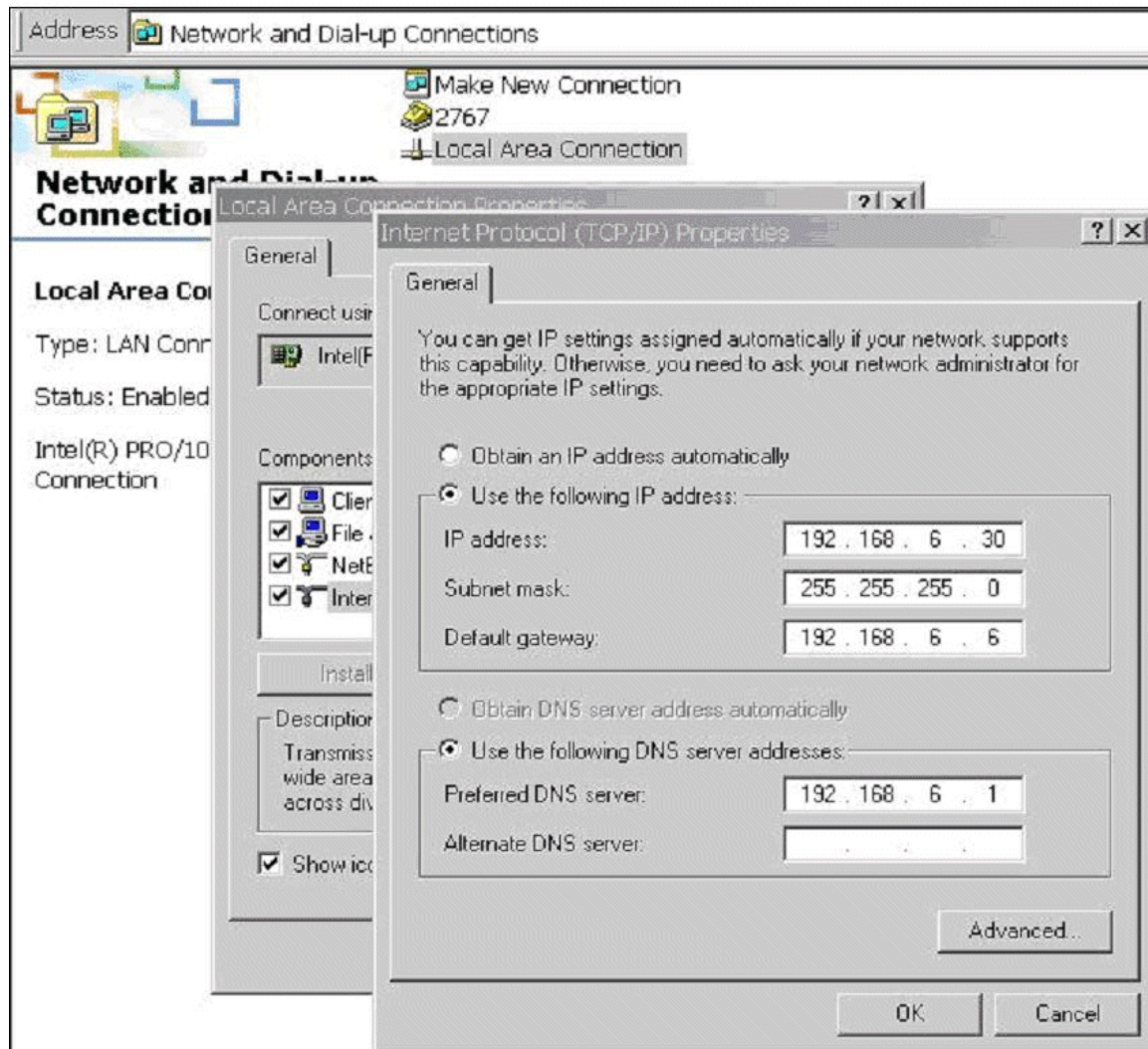


Figure 2-1. Network Connections

To set up a network connection:

- » Access the TCP/IP properties from the control panel network connection menu as shown in this illustration.
- » Verify the IP address, net mask, gateway, and DNS server settings.
- » Execute a ping to verify connectivity, by typing “ping” followed by the target Event-HD IP address at a command prompt.

2.1.4 Web Browser Requirements

Use one of the following web browsers:

- » Internet Explorer version 5.5 or above
- » Mozilla Firefox (latest version preferred)

Use the browser's default settings. See to Section 8 for information about obtaining one of these web browsers.

The web interface also requires the use of Sun Java JVM version 1.2.2 or above. See Section 8 for information about obtaining Sun Java JVM.

2.1.5 Telnet/SSH Client

When accessing the software via the CLI interface, use a telnet or SSH client. An SSH client is similar to a telnet client except it accesses the target over a secure connection.

Windows provides a Windows Standard telnet client that may be accessed through the command prompt. An alternate telnet client may be used. See Section 8 for information about downloading PuTTY, a popular Telnet / SSH Client for Windows.

2.1.6 SNMP

Configure the SNMP manager for accessing the target (Connected Product).

2.1.7 HyperTerminal

When connecting via a HyperTerminal program, use the following settings:

- » BaudRate=38400
- » Parity=none
- » DataBit=8
- » StopBit=1

The settings can be reconfigured based on system requirements.

2.2 User Access Rights

The system has five user access levels for configuring and viewing data through the user interface. User accounts can be added and deleted for different access levels. The five user levels and their corresponding user rights are described below.

User Level 1 - Monitor: A Level 1 User has minimum access rights and can only view the following web pages:

- » Home
- » General Device Information
- » Configuration Summary
- » Active Alarm Status
- » Alarm History
- » All Graphs

User Level 2 - Operator: A Level 2 User has all User Level 1 access rights and additional rights to edit the following web pages:

- » Reboot
- » All Radio Link and Data Link Configuration pages
- » Alarm Configuration page
- » BERT page

User Level 3 - Administrator: A Level 3 User has all User Level 2 access rights and additional rights to the following web pages:

- » All Network Configuration
- » Serial and Security configuration
- » All Device Information pages
- » All Maintenance and Restore Defaults pages
- » STP Screens

User Level 4 - Integrator: A Level 4 User has all User Level 3 access rights and additional rights to the following web pages:

- » ODU and MODEM Trace Screens

3. Web Interface

This section describes how to use the Web Interface to display and set Event-HD parameters.

3.1 Home Page

User Access Level: 1

The web interface can be used to configure and monitor the terminal. Access to the web interface is provided via a web browser and a normal or secure connection. To access the web interface:

- » Open a web browser.
- » Type the IP address of the Event-HD in the address bar and click GO.
- » A popup window will prompt for a user name and password.
- » Enter a user name and password and click OK.
- » Upon successful authentication, the Starting Information page is displayed.



Figure 3-1. Web Interface Starting Information

3.1.1 Navigation Panel

The left panel in this page is used to select and display web interface pages. The following navigation tree shows the location of each page in the Web Interface.

```
Home->Starting Information/Status Panel
Administration->Network Configuration->General Menu
Administration->Network Configuration->SNMP
Administration->Network Configuration->Syslog Configuration
```

```
Administration->Network Configuration->E-mail Configuration
Administration->Network Configuration->STP Data
Administration->Network Configuration->STP NMS
Administration->Serial Configuration
Administration->Security Configuration
Administration->Device Configuration->Device Information
Administration->Device Configuration->Device Names
Administration->Device Configuration->Set Date and Time
Administration->Device Configuration->Serial Number
Administration->Maintenance->Reprogramming CPU
Administration->Maintenance->Add User
Administration->Maintenance->Delete User/Edit User Entry
Administration->Maintenance->View Event Log
Administration->Restore System Defaults
Administration->Reboot
Link Configuration->Authorization
Link Configuration->Configuration Summary
Link Configuration->Data Link->E1/T1 Channel Map
Link Configuration->Data Link->E1/T1 Ports
Link Configuration->Data Link->Voice Codec
Link Configuration->Data Link->STM-1/OC3 Channel Map
Link Configuration->Data Link->STM-1/OC3 Ports
Link Configuration->Radio Link->APC Configuration
Link Configuration->Radio Link->Protection Configuration
Link Configuration->Radio Link->ODU Tx Mute
Link Configuration->Radio Link->Link Configuration
Link Configuration->Radio Link->ODU Power
Link Configuration->Radio Link->ODU Channel
Link Configuration->Radio Link->ODU Configuration
Analysis->Alarms->Alarm Threshold
Analysis->Alarms->Alarm Configuration
Analysis->Alarms->Alarm History
Analysis->Alarms->Active Alarms
Analysis->Graphs->[Graph]
Analysis->Statistics->Data Switch
Analysis->Statistics->NMS Switch
Analysis->ODU Trace
Analysis->Modem Trace
Analysis->Bert Mode
Analysis->CW Mode
Analysis->Loopback
Logout
```

3.1.2 Starting Information

The middle section of the home page shows general information about the Event-HD.

Device Name: Name of the product

Host Name: Name of the host

IP Address: IP Address of the system.

Application Version: Version information of the application

Chassis: Serial number of the product (factory assigned).

System Uptime: Hours, minutes, and seconds the Event-HD has been continuously operational (i.e., since the last reset).

3.1.3 Status Panel

The right/status panel shows modem and alarm status information. The following illustration shows the status panel for 1+0 and 1+1 configurations.



Figure 3-2. Status Panel

ALARM: This LED icon indicates the Alarm Status:

- » Red LED indicates an alarm has occurred.
- » Green LED indicates no alarms in the terminal.
- » Click the LED to view the “Active Alarms” Page.

East / West MODEM: These icons indicate modem status:

- » NA indicates MODEM is inactive.
- » LOCK Symbol indicates MODEM is locked.
- » UNLOCK Symbol indicates MODEM is unlocked.

TX Power: This field shows the transmit power level of the ODU in dB.

Far End TX Power: This field shows the transmit power level of the link partner ODU in dB.

RSL: This field shows RSL value in dBm.

SIGNAL/NOISE: This field shows the Signal-to-Noise ratio (in dB). If a Modem is unlocked, this value will not be displayed.

Mode: These fields show the operational mode of the East Link and the West Link.

Local IP/Host: These fields show the local IDU IP Address and Host Name.

Remote IP/Host: These fields show the remote IDU IP Address and Host Name.

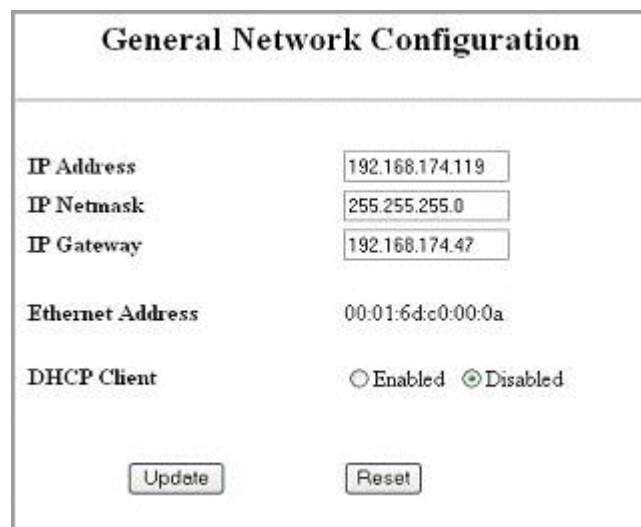
3.2 Administration -> Network Configuration

3.2.1 General Network Configuration

The General Network Configuration page is used to configure the general network related parameters:

User Access Level: 3

Navigation: Administration->Network Configuration->General Menu



General Network Configuration	
IP Address	192.168.174.119
IP Netmask	255.255.255.0
IP Gateway	192.168.174.47
Ethernet Address	00:01:6d:c0:00:0a
DHCP Client	☐ Enabled ☒ Disabled
Update Reset	

Figure 3-3. General Network Configuration

IP Address: Enter the IP Address for the terminal.

IP Netmask: Enter the appropriate netmask depending on the class of the network.

IP Gateway: Enter the gateway IP Address for your subnet.

Ethernet Address: This field shows the MAC or Hardware address of the terminal.

DHCP Client: Click the Enabled or Disabled radio button. When enabled, network parameters are obtained dynamically from a DHCP server. IP Address, Netmask, and Gateway parameters cannot be modified when DHCP is enabled.

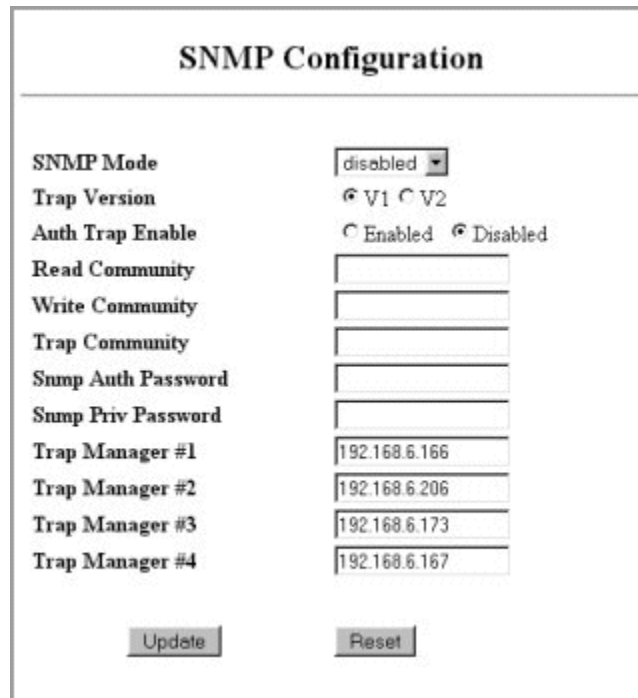
- » Click the **Update** button to save any changed parameters.
- » Click the **Reset** button to restore original values.

3.2.2 SNMP Configuration

The SNMP Configuration page is used to configure SNMP parameters.

User Access Level: 3

Navigation: Administration->Network Configuration->SNMP



The screenshot shows the 'SNMP Configuration' web interface. It contains the following fields and controls:

- SNMP Mode:** A dropdown menu currently set to 'disabled'.
- Trap Version:** Radio buttons for 'V1' (selected) and 'V2'.
- Auth Trap Enable:** Radio buttons for 'Enabled' and 'Disabled' (selected).
- Read Community:** A text input field.
- Write Community:** A text input field.
- Trap Community:** A text input field.
- Snmp Auth Password:** A text input field.
- Snmp Priv Password:** A text input field.
- Trap Manager #1:** A text input field containing '192.168.6.166'.
- Trap Manager #2:** A text input field containing '192.168.6.206'.
- Trap Manager #3:** A text input field containing '192.168.6.173'.
- Trap Manager #4:** A text input field containing '192.168.6.167'.
- Buttons:** 'Update' and 'Reset' buttons at the bottom.

Figure 3-4. SNMP Configuration.

SNMP Mode: Select the mode in which the SNMP Agent is currently configured.

Trap Version: Select the Trap Version (V1 or V2) in which the SNMP Agent is currently configured.

Auth Trap Enable: Select Enabled or Disabled to Enable/Disable sending authorization traps to the SNMP manager.

Read Community: Enter the Community String that will be used for reading data from the SNMP Agent in SNMP V1/V2 mode.

Write Community: Enter the Community String that will be used for writing data to the SNMP Agent in SNMP V1/V2 mode.

Trap Community: Enter the Community String that will be used for sending traps from the SNMP Agent.

SNMP Auth Password: Enter the Password required for authorization when reading or writing data in SNMP V3 Mode. Note that the current value is not shown because this parameter is treated as a password.

SNMP Priv Password: Enter the Privacy password that will be required when reading or writing data in SNMP V3 Mode. Note that the current value is not shown because this parameter is treated as a password.

Trap Manager #1...#4: Enter up to four IP Addresses of Trap Managers where Traps will be sent.

- » Click the **Update** button to save any changed parameters.
- » Click the **Reset** button to restore original values.

3.2.3 Syslog Configuration

The Syslog Configuration page is used to specify a Syslog server and facility.

User Access Level: 3

Navigation: Administration->Network Configuration->Syslog Configuration

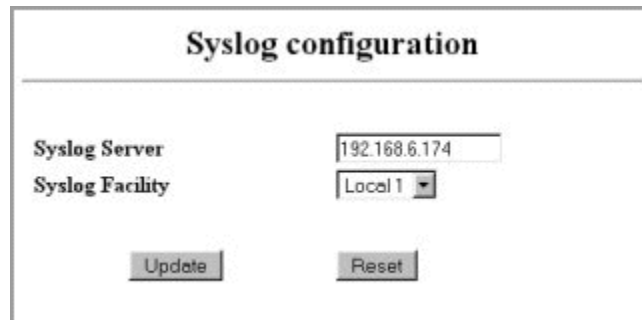
The image shows a web interface titled "Syslog configuration". It contains two input fields: "Syslog Server" with the value "192.168.6.174" and "Syslog Facility" with a dropdown menu showing "Local1". Below these fields are two buttons: "Update" and "Reset".

Figure 3-5. Syslog Configuration

Syslog IP: Enter the Syslog IP Address for the system.

Syslog Facility: Select the Syslog facility for the system.

- » Click the **Update** button to save any changed parameters.
- » Click the **Reset** button to restore original values.

3.2.4 E-mail Configuration

This page is used to configure Simple Mail Transfer Protocol parameters.

User Access Level: 3

Navigation: Administration->Network Configuration->E-mail Configuration

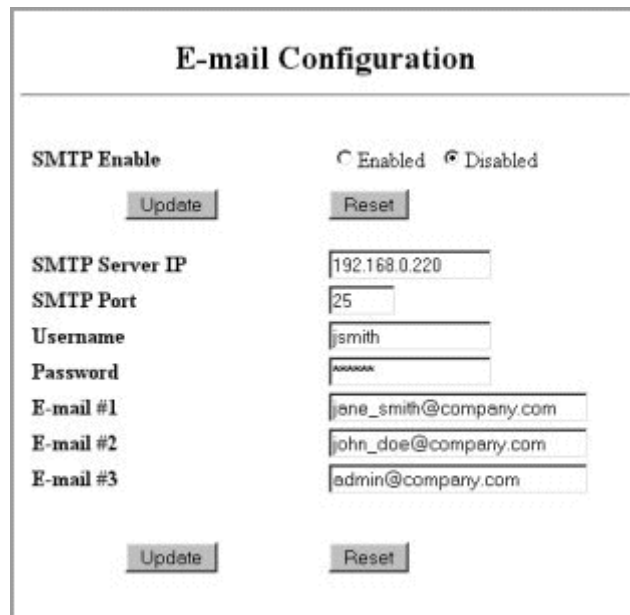
The image shows a web interface titled "E-mail Configuration". It has a section for "SMTP Enable" with radio buttons for "Enabled" and "Disabled" (selected). Below this are "Update" and "Reset" buttons. The main section contains input fields for "SMTP Server IP" (192.168.0.220), "SMTP Port" (25), "Username" (jsmith), "Password" (password), and three email addresses: "E-mail #1" (jane_smith@company.com), "E-mail #2" (john_doe@company.com), and "E-mail #3" (admin@company.com). At the bottom are "Update" and "Reset" buttons.

Figure 3-6. E-mail Configuration

SMTP Enable: Select the Enabled or Disabled radio button to Enable/Disable mail.

SMTP Server IP: Enter the SMTP server IP address.

SMTP Port: Enter the SMTP port. The default is 25.

Username: Enter the user name of your E-mail account.

Password: Enter the password of your mail account.

E-mail #1...#3: Enter up to three e-mail addresses.

» Click the **Update** button to save any changed parameters.

» Click the **Reset** button to restore original values.

 **NOTE:** User name and password should be left blank if the SMTP server does not require authentication. Enable the SMTP Enable parameter to send e-mail to the specified addresses upon occurrence of selected alarms.

3.2.5 STP Data Configuration

This page is used to configure the STP status (enable/disable) and the Bridge priority.

User Access Level: 3

Navigation: Administration->Network Configuration->STP Data

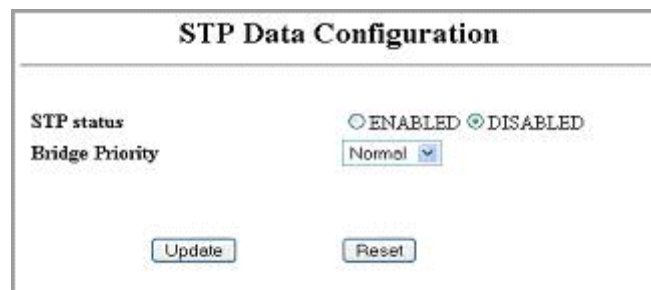


Figure 3-7. STP Data Configuration.

STP Status: Click the ENABLED or DISABLED radio button.

Bridge Priority: Choose a bridge priority from the drop-down list box.

» Click the **Update** button to save any changed parameters.

» Click the **Reset** button to restore original values.

3.2.6 STP NMS Configuration

This page is used to configure STP NMS status (enable/disable) and Bridge priority.

User Access Level: 3

Navigation: Administration->Network Configuration->STP NMS

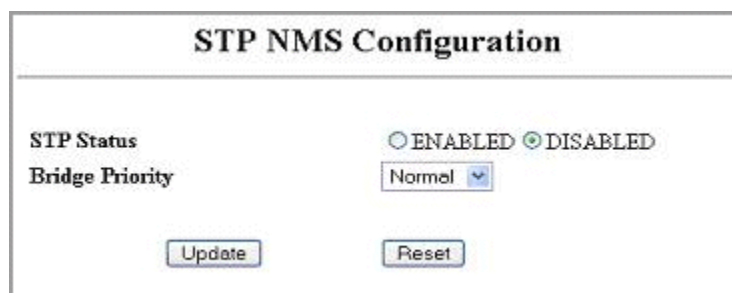


Figure 3-8. STP NMS Configuration

STP Status: Click the ENABLED or DISABLED radio button.

Bridge Priority: Choose a bridge priority from the drop-down list box.

- » Click the **Update** button to save any changed parameters.
- » Click the **Reset** button to restore original values.

3.3 Administration -> Serial Configuration

This page is used to configure the serial port parameters.

User Access Level: 3

Navigation: Administration->Serial Configuration

The screenshot shows a web interface titled "Serial Configuration". It contains two labels: "Device Selection" and "Data Baud rate". The "Device Selection" dropdown menu is set to "RS232". The "Data Baud rate" dropdown menu is set to "38400". Below these dropdowns are two buttons: "Update" and "Reset".

Figure 3-9. Serial Configuration

Data Baud Rate: Select the suitable baud rate for the selected device.

- » Click the **Update** button to save any changed parameters.
- » Click the **Reset** button to restore original values.

3.4 Administration -> Security Configuration

This page can be used to modify the security configuration of the terminal.

User Access Level: 3

Navigation: Administration->Security Configuration

The screenshot shows a web interface titled "Security Configuration". It contains two labels: "HTTP Access" and "Command Line Interface". The "HTTP Access" dropdown menu is set to "HTTP". The "Command Line Interface" dropdown menu is set to "CLI over Telnet". Below these dropdowns are two buttons: "Update" and "Reset".

Figure 3-10. Security Configuration

HTTP Access: Select the type of HTTP Access (SSL/None/Disabled).

Command Line Interface: Select the type of CLI Access (Telnet/ SSH / Disabled).

- » Click the **Update** button to save any changed parameters.
- » Click the **Reset** button to restore original values.

3.5 Administration -> Device Configuration

3.5.1 Device Information

This page is a read-only information page that provides terminal related information.

User Access Level: 1

Navigation: Administration->Device Configuration->Device Information

Device Information	
Model Number	Event-HD
Chassis	CF05160026
Application Version	1.0.2
Date	21-02-2006
Time	10:18

Figure 3-11. Device Information

Model Number: This field shows the Model number of the terminal.

Chassis: This field shows the Chassis Serial Number assigned during manufacturing.

Application Version: This field shows the Active Application Version information.

Date: This field shows the Current Date.

Time: This field shows the Current Time.

3.5.2 Device Names

This page can be used to modify terminal related information.

User Access Level: 3

Navigation: Administration->Device Configuration->Device Names

Device Names	
Device Name	Event-HD
Host Name	Event-HDHost
Model Number	Event-HD
Owner	Company
Contact	Jane Smith
Description	Event-HD 43722
Location	Building 3
Update Reset	

Figure 3-12. Device Names

Device Name: Enter the name of the device.

Host Name: Enter the host name of the device. The host name should not contain any spaces.

Model Number: Enter the Event-HD model number.

Owner: Enter the name of the device owner.

Contact: Enter the contact information of owner.

Description: Enter the device description.

Location: Enter the device location.

» Click the **Update** button to save any changed parameters.

» Click the **Reset** button to restore original values.

3.5.3 Set Date/Time

This page is used to modify the date and time of the terminal and set related parameters.

User Access Level: 3

Navigation: Administration->Device Configuration->Set Date and Time

Set Date & Time

SNTP Server Enable ☐ Enabled ☒ Disabled

SNTP Server Address

Timezone (eg. GMT -8.0 CA)

Date Format

Date

Time

[View World time zone list](#)

Date Formats Help :
US (e.g. 09-23-2004)
European (e.g. 23-09-2004)
Generic (e.g. 23-Sep-2004)

Figure 3-14. Set Date/Time

SNTP Server Enable: Click the Enabled or Disabled radio button to Enable / Disable the SNTP server.

SNTP Server Address: Specify the SNTP Server IP Address.

Timezone: Specify the time difference from GMT.

Date Format: Select a date format (US, European, Generic)

Date: Set current terminal date.

Time: Set current terminal time.

- » Click the **Update** to button submit these changes.
- » Click the **Reset** button to restore original values.

3.5.4 Serial Number Information

This page provides Part number, Revision and serial number information of various modules that may be installed in an Event-HD.

User Access Level: 1

Navigation: Administration->Device Configuration->Serial Number

Serial Number Information			
	Part Number	Revision	Serial Number
Controller Card	45000003	3B	CF05123011
Std IO Card	41000004	0C	CF05210153
Power Supply Lower	48000005	01	CF05180065
Modem Card East	49000003	03	CF05170109
Chassis	42000003	01	CF05160026
ODU East	5800XEP	A02	1416476
IF Card East	43500004	03	CF05170055

Figure 3-15. Serial Number Information

3.6 Administration -> Maintenance

3.6.1 Reprogramming CPU

This page is used to Reprogram / Upgrade the terminal software remotely.

User Access Level: 3

Navigation: Administration->Maintenance->Reprogramming CPU

Reprogramming		
☐ KERNEL	(0.1.3)	(0.1.3)
☒ APPLICATION	(1.0.2)	(1.0.2)
☐ FPGA	(24-Uni33)	(24-Uni33)
☐ ODU	(C1-1.0.2)	(C1-1.0.2)
☐ MODES	(PL05)	(PL05)
☐ CHANNELS	(PL-A2)	(PL-A2)
☐ ODU EAST FIRMWARE	(4.0.0)	(NA)
BOOTLOADER	(1.1.27)	(NA)
MODEM EAST FIRMWARE	(0.1.231)	(NA)

Figure 3-16. Reprogramming

This page allows you to upgrade the Kernel, Application, FPGA, ODU, modes, channel, Boot Loader, ODU and Modem firmware Images. Some options are only available depending on the type of upgrade.

Version Information: These fields display the version information for both active and passive images. The active/working image is indicated by a red LED icon .

Toggle: Click this button to swap the Active and Passive files (i.e., active file will become passive and vice versa).

WARNING: A reboot is required after toggle of kernel, applications, FPGA, or ODU

3.6.2 Add User

This page can be used by terminal administrators to add users to the terminal.

User Access Level: 3

Navigation: Administration->Maintenance->Add User

Add User	
User Name	
Group	Level 1
Password	
Confirm Password	
Add Reset	

Figure 3-17. Add User

User Name: Enter a user name.

Group: Select an access level. Administrators cannot add users with an access level greater than their own.

Password: Enter the user's password.

Confirm Password: Re-enter the password to confirm.

» Click the **Add** button add a new user.

» Click the **Reset** button to reset the page.

WARNING: The Web interface restricts the maximum number of users to 10. If 10 users exist, an error message will be displayed. Delete an existing user to add new user.

3.6.3 Delete User/Edit User Entry

This page can be used by terminal administrators to remove users from the terminal. The page can also be used to change the password of any user with equal or lesser access level.

User Access Level: 3

Navigation: Administration->Maintenance->Delete User/Edit User Entry

The screenshot shows a web interface with two main sections. The top section is titled 'Delete User' and contains a 'User Name' label followed by a dropdown menu showing 'integrator'. Below this is a 'Delete' button. The bottom section is titled 'Change Password' and contains three labels: 'User Name' (with a dropdown menu showing 'operator'), 'New Password' (with a text input field), and 'Confirm Password' (with a text input field). Below these fields is a 'Change' button.

Figure 3-18. Delete User

Delete User

User Name: Select the name of the user to be removed

Delete: Click this button to delete the user.

Change Password

User Name: Select a user name from the drop-down list box.

New Password: Enter the user's new password.

Confirm Password: Re-enter the password to confirm.

Change: Click the button to change the user's password.

 **NOTE:** You can change your own password or the password of any user with an equal or lesser access level. To change the password for another user, the user must be removed from the terminal and added again. The default “admin” user cannot be deleted.

3.6.4 View Event Log

This page can be used by terminal administrators to view the event log of the terminal and clear it when required.

User Access Level: 3

Navigation: Administration->Maintenance->View Event Log

Eventlog	
Description	Time
WEB: factory	01-Aug-2005 06:40:09
WEB: factory	01-Aug-2005 06:35:45
CLI: factory	01-Aug-2005 06:35:25
WEB: monitor	01-Aug-2005 06:32:39
CLI: factory	01-Aug-2005 06:31:39
Clear	

Figure 3-20. Event Log

A log of terminal access is available here in the form of a table listing user (e.g., WEB Factory, CLI Factory, etc.) and time of login. This log is non-volatile and available across terminal reboots. Click the **Clear** button to clear the event log.

3.7 Administration -> Restore System Defaults

This page can be used to restore all terminal defaults.

User Access Level: 3

Navigation: Administration->Restore System Defaults

Restore System Defaults
Restore

Figure 3-21. Restore System Defaults

Click the **Restore** button to restore terminal defaults

3.8 Administration -> Reboot

This page can be used to reboot the terminal or certain devices within the terminal.

User Access Level: 2

Navigation: Administration->Reboot

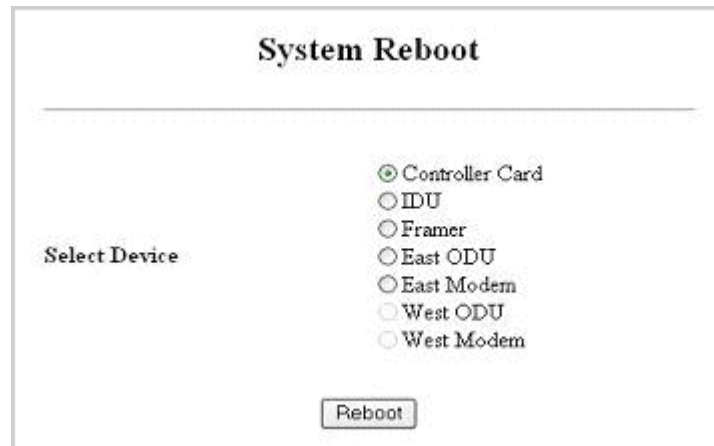
The screenshot shows a web interface titled "System Reboot". On the left side, there is a label "Select Device". To the right of this label is a list of radio buttons with corresponding device names: "Controller Card", "IDU", "Framer", "East ODU", "East Modem", "West ODU", and "West Modem". The "Controller Card" option is selected, indicated by a filled circle. At the bottom center of the interface is a button labeled "Reboot".

Figure 3-22. System Reboot

This page displays a list of devices that can be rebooted. The devices you can select depend on the availability and configuration of devices.

- » Select the device to reboot from the list (i.e., Controller Card, IDU, Framer, etc.)
- » Click the **Reboot** button.

3.9 Link Configuration

3.9.1 Authorization

This page can be used to enter an authorization key.

User Access Level: 3

Navigation: Link Configuration->Authorization

The screenshot shows a web interface titled "Authorization Key". Below the title is a label "Auth Key" followed by a text input field. At the bottom of the interface are two buttons: "Update" and "Reset".

Figure 3-23. Authorization Key

Auth Key: Enter the authorization key. If the authorization key is valid, "Key accepted" is displayed. Otherwise "Invalid Key" is displayed.

- » Click the **Update** button to save the authorization key.
- » Click the **Reset** button to restore original values.

3.9.2 Configuration Summary

This page displays the current value of Framer and ODU parameters.

User Access Level: 1

Navigation: Link Configuration->Configuration Summary

Summary of Configurations	
ODU Operational Mode	Standard Mode
IDU Operational Mode	5.8G-100FE1-2T
<u>Radio Link</u>	
Modulation	32QAM
<u>E1/T1</u>	
Mode	T1
Max Active Channels	2
<u>Ethernet</u>	
Datarate	100.0 Mbps
<u>ODU</u>	
ODU Selection	LT
Frequency/Channel	5.75

Figure 3-24. Summary of Configurations

In the case of East-West mode of operation, parameters will be displayed in two columns.

- » ODU Operational Mode: This field shows the operational mode of the ODU. It can be standard, protected NonDiversity, protected Diversity, or east-west.
- » IDU Operational Mode
- » E1/T1 mode
- » E1/T1 number of active channels
- » E1/T1 active channel list
- » STM-1 number of active channels (Contact factory for availability)
- » STM-1 active channel list (Contact factory for availability)
- » ODU type (LT: Low-band transmit, HT: high-band transmit)
- » ODU polarization (horizontal, vertical: if supported)
- » ODU channel number

3.10 Link Configuration -> Data Link Configuration

3.10.1 E1/T1 Channel Map

This page can be used to modify the E1/T1 channel map settings.

User Access Level: 2

Navigation: Link Configuration->Data Link->E1/T1 Channel Map

E1/T1 Channel Map

Channel Mapping Type: All_East

Channel Map

Valid Mappings:
E1,FP1
E2,FP2
E3,FP3
E4,FP4

Unused Mappings:
E5,FP5
E6,FP6
E7,FP7
E8,FP8

Update Reset

Figure 3-25. E1/T1 Channel Map

Channel Mapping Type: Choose which modem to channel map.

Channel Map: Valid channel mappings are set with the convention: modem time-slot, front panel port.

Map desired timeslots to front panel ports.

- » Click the **Update** button to save any changes in this page.
- » Click the **Reset** button to restore original values.

Before updating the values in the system, the user interface performs a validation to detect incorrect mapping. In case of failure, an error message with the location of the error will be displayed. Before selecting Update, take care of the following conditions to avoid error: 1) Map all available timeslots, 2) Do not map a timeslot more than once, 3) Do not map a front panel port to both an east and a west timeslot, 4) For pass-through, map any timeslot in both east and west.

3.10.2 E1/T1 Ports

This page can be used to configure the E1/T1 channel related parameters.

User Access Level: 2

Navigation: Link Configuration->Data Link->E1/T1 Ports

E1 / T1 Configurations			
Physical Channel	Current Settings		Apply Settings
1	Encoding	HDB3_B8ZS	☐
	Tx Data	Normal	
	Loopback	Normal	
	LOS Action	AIS	
	AIS Type	T1.231	
	Build Out	120 Ohm	
2	Encoding	HDB3_B8ZS	☐
	Tx Data	Normal	
	Loopback	Normal	
	LOS Action	AIS	
	AIS Type	T1.231	
	Build Out	120 Ohm	
3	Encoding	HDB3_B8ZS	☐
	Tx Data	Normal	
	Loopback	Normal	
	LOS Action	AIS	
	AIS Type	T1.231	
	Build Out	120 Ohm	
4	Encoding	HDB3_B8ZS	☐
	Tx Data	Normal	
	Loopback	Normal	
	LOS Action	AIS	
	AIS Type	T1.231	
	Build Out	120 Ohm	

New Settings

Encoding:

Tx Data:

Loopback:

LOS Action:

AIS Type:

Build Out:

Figure 3-26. E1/T1 Configurations

WARNING: To configure E1/T1 related parameters, the Standard I/O card should be configured and present. Otherwise an error message will be displayed.

Apply Settings: Click/check each check box where you want the New Settings applied to the selected channel(s).

Encoding: Select encoding for the selected E1/T1 channel(s).

TX Data: Select TX data for the selected E1/T1 channel(s).

Loop back: Select Loop back for the selected E1/T1 channel(s).

LOS Action: Select LOS Action for the selected E1/T1 channel(s). "Auto transmit all ones" will be selectable only if TX Data is "All ones".

AIS type: Select an AIS type for the selected E1/T1 channel(s). Depending on the channel type (E1/T1) configuration, the choices displayed will differ.

Build out: Select Build out for the selected E1/T1 channel(s). Depending on the channel type (E1/T1) configuration, the choices displayed will differ.

- » Click the **Update** button to save any changes in this page.
- » Click the **Reset** button to restore original values.

3.10.3 Voice Codec

This page can be used to configure voice codec channel related parameters.

User Access Level: 3

Navigation: Link Configuration->Data Link->Voice Codec



The screenshot shows a web interface titled "Voice Codec Configuration". It contains two radio button groups: "Mode" with options "Disabled" and "Enabled" (selected), and "Send Test Tone" with options "Off" (selected) and "On". Below these are four buttons: "Update", "Reset", "Enable Loopback", and "Disable Loopback".

Figure 3-29. Voice Codec Configuration

WARNING: To configure Voice codec related parameters, the Standard I/O card should be configured and present. Otherwise an error message will be displayed.

Mode: Click the Enabled/Disabled radio button to select the voice codec mode.

Send Test Tone: Click the Off or On radio button to send or not send a test tone to the Voice Codec.

- » **Update:** Click this button to update the Mode and Send Test Tone parameters.
- » **Reset:** Click this button to restore original parameters.
- » **Enable Loopback:** Click this button to Enable loopback.
- » **Disable Loopback:** Click this button to Disable loopback.

3.10.4 STM1/OC3 Channel Map

Contact factory for availability. This page can be used to modify the channel map settings of STM1/OC3.

User Access Level: 2

Navigation: Link Configuration->Data Link->STM-1/OC3 Channel Map

STM-1/OC-3 Channel Map

East
West

Channel 1

Mini IO ▼

Update

Channel 1

Mini IO ▼

Reset

Figure 3-30. STM-1/OC-3 Channel Map

WARNING: To configure STM-1 related parameters, the Optional I/O and/or the Mini I/O card should be configured and present. Otherwise an error message will be displayed.

East Channel 1: Select one of the following options: Opt IO 1, Opt IO 2, Mini IO, disable, or passthrough.

West Channel 1: Select one of the following options: Opt IO 1, Opt IO 2, Mini IO, disable, or passthrough.

- » Click the **Update** button to submit these changes.
- » Click the **Reset** button to restore original settings.

3.10.5 STM1/OC3 Ports

Contact factory for availability. This page can be used to configure STM-1 channel related parameters.

User Access Level: 2

Navigation: Link Configuration->Data Link->STM-1/OC3 Ports

STM-1/OC-3 Channel Configurations

Physical Channel	Current Settings		Apply Settings
OPT IO #1	Loopback	Normal	☐
OPT IO #2	Loopback	Normal	☐

New Settings

Loopback Normal ▼

Update

Reset

Figure 3-31. STM-1/OC-3 Channel Configurations

WARNING: To configure STM-1 related parameters, the Optional I/O and/or the Mini I/O card should be configured and present. Otherwise an error message will be displayed.

Apply Settings: Click/check each check box to select each STM-1 Channel where you want the new settings applied.

Loopback: Choose a Loop back (Normal, Local, Remote) from the drop-down list box.

» **Update:** Click this button to apply the new settings to the selected STM-1 channels.

» **Reset:** Click this button to restore the original values.

3.11 Link Configuration -> Radio Link

3.11.1 APC Configuration

This page can be used to configure Adaptive Power Control (APC) parameters:

User Access Level: 3

Navigation: Link Configuration->Radio Link->APC Configuration

APC Configuration	
Adaptive Power Control	☒ Disabled ☐ Enabled
RSL Low Threshold	-59.000000 dBm
RSL High Threshold	-56.000000 dBm
RSL Maximum Threshold	-10.000000 dBm
CER Threshold	0.000010
TxPower Maximum	26.000000 dBm
TxPower Minimum	-6.000000 dBm
Step Size	5 6
Update Far End Thresholds	☐ Enabled ☒ Disabled
Update Reset	

Figure 3-33. APC Configuration

Adaptive Power Control (APC): Click the Disabled or Enabled radio button to enable/disable APC.

RSL Low Threshold: This field defines the Radio Link APC RSL Low Threshold

RSL High Threshold: This field defines the Radio Link APC RSL High Threshold

RSL Maximum Threshold: This field defines the Radio Link APC RSL Maximum Threshold

CER Threshold: This field defines the Radio Link APC CER Threshold

Tx Power Maximum: This field defines the Radio Link APC Tx Maximum Power

Tx Power Minimum: This field defines the Radio Link APC Tx Minimum Power

Step Size: This field defines the APC Step size to be used for the link

Update Far End Thresholds: Click the Disabled or Enabled radio button to enable/disable update of far end thresholds.

- » Click the **Update** button to submit these changes.
- » Click the **Reset** button to restore original settings.

3.11.2 Protection Configuration

This page can be used to configure protection and non-diversity mode parameters.

User Access Level: 3

Navigation: Link Configuration->Radio Link->Protection Configuration

Protection Configuration

RSL Minimum Threshold

-90.000000

dBm

SNR Minimum Threshold

14.000000

dB

Power down ODU after switch

☒ Enabled
 ☐ Disabled

Update

Reset

Non-Diversity Mode Configuration

Switch Transmitting ODU

Preferred ODU

☐ East
 ☒ West

Update

Reset

Figure 3-34. Protection Configuration

RSL Minimum Threshold: This field defines Radio Link Protection RSL Minimum Threshold

SNR Minimum Threshold: This field defines Radio Link Protection SNR Minimum Threshold

Power down ODU after switch: Enable/Disable querying the faulted ODU for its status.

Preferred ODU selection (only in protected 1+1 mode): Click the East or West radio button.

- » Click the **Update** button to submit any changes.
- » Click the **Reset** button to restore original settings.

3.11.3 ODU Tx Mute Configuration

User Access Level: 3

Navigation: Link Configuration->Radio Link->ODU Tx Mute

Configure the action to be taken in the event of an ODU communication failure. Should a failure occur, selecting 'Mute' will cause the ODU to be muted to prevent spurious transmission in case the ODU has failed, otherwise no action will be taken.

ODU Tx mute

Action on ODU Comm Failure ☒ Mute ☐ Output Remains Same

Update
Reset

Figure 3-35. ODU Tx mute

This page can be used to configure the ODU Tx mute parameter. This page will not be available in the case of protected (1+1) operation.

Action on ODU Comm Failure: Click the radio button to select the required option.

- » Click the **Update** button to submit any changes.
- » Click the **Reset** button to restore original settings.

3.11.4 Link Configuration Wizard

This page can be used to configure Framer and ODU related parameters.

User Access Level: 2

Navigation: Link Configuration->Radio Link->Link Configuration

Link Configuration

ODU Operational Mode East-West Mode ▼

Next >>

Figure 3-36. Link Configuration Wizard

Framer and ODU configuration is divided across many pages:

- » ODU op-mode page: To select ODU operation mode.
- » IDU op-mode page: To select IDU operation mode.
- » ODU configuration page: To configure ODU type, polarization, alignment mode and starting TX power.

- » ODU channel plan page: To select channel number for ODU.
- » Summary page: Displays all parameter values as selected by the user from the proceeding pages. Upon pressing the “update” button, all Framer and ODU parameters are updated.

**NOTES:**

- » A single set of Framer and ODU parameters will be displayed for the “standard” ODU operational mode.
- » A single set of Framer parameters and two sets of ODU parameters will be displayed for the “Protected” ODU operational mode.
- » Two sets of Framer and ODU parameters will be displayed, if the ODU operational mode selected in the first page of the wizard is “East-West”.

Complete the following steps to select and use the Link Configuration Wizard:

- 1) Navigate to Link Configuration->Radio Link->Link Configuration.
- 2) Select ODU op-mode and click the Next button.
- 3) Select IDU op-mode and click the Next button. In the case of East-West mode, two independent IDU op-modes can be selected.
- 4) Select ODU type, Polarization, and Alignment Mode. Enter Starting TX Power and click the Next button.
- 5) Select/Enter ODU Channel Number and click the Next button.
- 6) All the above selected parameters are displayed in the summary page. Verify all values and click the Update button. To reconfigure, click the Redo button in summary page.
- 7) After you click the Update button, a new page will display the status of the link configuration.

WARNING: To configure the Framer and ODU related parameters, a standard I/O card and modem should be configured and present. Otherwise an error message will be displayed.



NOTE: In the Link Configuration Wizard, use only Back/Next buttons given in the web page to move to previous/next page. **Do not use the browser back button.** If the selected parameters on the current page are not supported by the terminal, an error message will be displayed on the next page. To correct the error, go back to the previous page and select a different value for that parameter.

3.11.5 ODU Power

This page can be used to configure the ODU power.

User Access Level: 2

Navigation: Link Configuration->Radio Link->ODU Power

Figure 3-37. ODU Power

Start Tx Power: To change the starting Tx power of ODU, select a value from the list box.

Current Tx Power: This field shows the current Tx power.

Select the required Start Tx Power by pressing the UP or DOWN arrows and Click the Update button.

3.11.6 ODU Channel Wizard

This page can be used to configure ODU related parameters.

User Access Level: 2

Navigation: Link Configuration->Radio Link->ODU Channel

Figure 3-38. ODU Channel Selection

NOTE: A single set of ODU parameters will be displayed for the Standard ODU op-mode. Two sets of ODU parameters will be displayed for the Protected and East-West ODU operating modes.

- 1) Navigate to Link Configuration->Radio Link->ODU Channel.
- 2) Select the ODU channel and click the Next button.

WARNING: To configure ODU related parameters, a modem should be configured and present. Otherwise an error message will be displayed.

 **NOTE:** In the Link Configuration Wizard, use only Back/Next buttons given in the web page to move to previous/next page. **Do not use the browser back button.** If the selected parameters on the current page are not supported by the terminal, an error message will be displayed on the next page. To correct the error, go back to the previous page and select a different value for that parameter.

3.11.7 ODU Configuration

This page can be used to configure the ODU.

User Access Level: 3

Navigation: Link Configuration->Radio Link->ODU Configuration

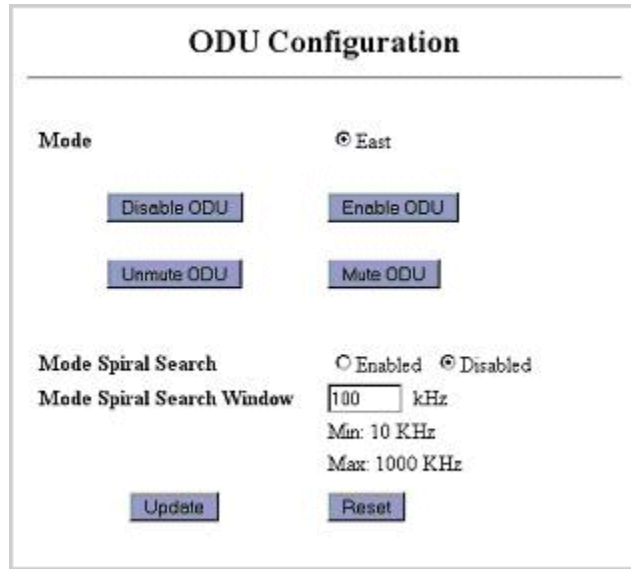


Figure 3-39. ODU Configuration

The spiral search function is not generally used for operational links. The function is included to allow for carrier searches when oscillators are far off in frequency or for testing ODU performance.

Mode: Click the radio button to select the ODU (East/West).

Disable ODU/Enable ODU: Click the Disable or Enable button.

Unmute ODU/Mute ODU: Click the Mute or Unmute button. In the case of Protected mode, the mute and unmute options will not be available.

Mode Spiral Search: Click the radio button to Enable or Disable Spiral Search. For general operation, this option should be disabled.

Mode Spiral Search Window: The Spiral Search Window value can be entered in the text box and it should be within the range specified (10 KHz...1000 KHz).

- » Click the **Update** button to update the Spiral Search Values.
- » Click the **Reset** button to reset the Spiral Search Values.

3.12 Analysis -> Alarms

3.12.1 Alarm Threshold

This page can be used to configure the following alarm threshold parameters.

User Access Level: 2

Navigation: Analysis->Alarms->Alarm Threshold

Figure 3-40. Alarm Configuration

RSL Alarm Threshold: This field sets the Radio Alarm Threshold Setting for RSL Low (dBm units).

SNR Threshold: This field sets the Radio Alarm Threshold Setting for SNR Low (in dB units).

External Alarm1..4 Signal Level: Select Active Low or Active High.

- » Click the **Update** button to save any changed parameters.
- » Click the **Reset** button to restore original values.

Based on the External Alarm1...4 Signal Level selections, the External alarm input jumper positions will be displayed.

3.12.2 Alarm Configuration

This page can be used to configure the following attributes of the terminal alarms.

User Access Level: 2

Navigation: Analysis->Alarms->Alarm Configuration

Alarm - Configuration							
Description	Mask	Email	Severity	AL1	AL2	AL3	AL4
External Alarm 2	☐	☐	INFO	☐	☐	☐	☐
External Alarm 3	☐	☐	INFO	☐	☐	☐	☐
External Alarm 4	☐	☐	INFO	☐	☐	☐	☐
Remote IDU Alarm	☐	☐	MAJOR	☐	☐	☐	☐
Remote IDU External Alarm 1	☐	☐	INFO	☐	☐	☐	☐
Remote IDU External Alarm 2	☐	☐	INFO	☐	☐	☐	☐
Remote IDU External Alarm 3	☐	☐	INFO	☐	☐	☐	☐
Remote IDU External Alarm 4	☐	☐	INFO	☐	☐	☐	☐
BERT/CW Test Mode	☐	☐	INFO	☐	☐	☐	☐
Protection Switch	☒	☐	CRITICAL	☐	☐	☐	☐
East ATPC Tx at Max Power	☐	☐	INFO	☐	☐	☐	☐
West ATPC Tx at Max Power	☐	☐	INFO	☐	☐	☐	☐
T1E1 Test Mode	☐	☐	INFO	☐	☐	☐	☐

Figure 3-41. Alarm Configuration

Description: Description of the alarm. If an alarm is active (set), the description of that alarm will be red.

Mask: Used to mask specific alarm. If checked, the alarm will be ignored.

E-mail: If checked, users are notified by E-mail when an alarm occurs. To configure e-mail parameters, see the e-mail configuration section.

Severity: Specifies the type of the alarm (Critical, Major and Info).

AL1...AL4: Maps alarm output to one of the four external alarm outputs.

See Appendix B for a complete list of alarms.

- » **Check All Mail:** Click this button to select/check all Email checkboxes.
- » **Uncheck All Mail:** Click this button to un-check all Email checkboxes.
- » **Check All Mask:** Click this button to select/check all Mask checkboxes.
- » **Uncheck All Mask:** Click this button to un-check all Mask checkboxes.

3.12.3 Alarm History

This page lists alarms that have occurred with a description, status, and time.

User Access Level: 2

Navigation: Analysis->Alarms->Alarm History

Alarm - History		
Description	Status	Time
EbNo Low Lower	Set	07-02-2006 11:22:15
Power Supply Fault Lower	Set	07-02-2006 11:22:07
Remote Fault	Set	06-02-2006 15:14:13
EbNo Low Upper	Reset	06-02-2006 15:13:09
EbNo Low Lower	Reset	06-02-2006 15:13:09
EbNo Low Upper	Set	06-02-2006 15:13:08
EbNo Low Lower	Set	06-02-2006 15:13:07
Power Supply Fault Upper	Set	06-02-2006 15:12:59
Remote Fault	Set	06-02-2006 13:11:00
EbNo Low Upper	Reset	06-02-2006 13:09:55
EbNo Low Upper	Set	06-02-2006 13:09:53
Modem Unlock Lower	Reset	06-02-2006 13:09:53
EbNo Low Lower	Reset	06-02-2006 13:09:53
Modem Unlock Lower	Set	06-02-2006 13:09:51
EbNo Low Lower	Set	06-02-2006 13:09:48
Power Supply Fault Upper	Set	06-02-2006 13:09:39
Clear History		

Figure 3-42. Alarm History

A maximum of 300 alarms can be displayed. If the alarm history exceeds 300 alarms, the oldest alarms will be removed/overwritten.

Description: Description (name) of the alarm.

Status: Status of alarm (set/reset).

Time: The time at which an particular alarm was set/reset.

Clear History: Click this button to clear the Alarm History records.

3.12.4 Active Alarms

This page displays active alarm information.

User Access Level: 2

Navigation: Analysis->Alarms->Active Alarms

Active Alarms	
Description	Set Time
Modem Card Installed Lower	28-Jul-2005 06:19:36
Modem Unlock Lower	31-Jul-2005 21:42:47
EbNo Low Lower	01-Aug-2005 06:40:32
Modem Unlock Upper	31-Jul-2005 21:42:46
EbNo Low Upper	01-Aug-2005 06:40:29
Power Supply Fault Lower	31-Jul-2005 21:42:30
Power Supply Fault Upper	31-Jul-2005 21:42:30
TIE1 Test Mode	29-Jul-2005 09:57:42

Figure 3-43. Active Alarms

Description: Description (name) of the alarm.

Time: The time at which each alarm was set.

 **NOTE:** The last 100 alarms are stored in non-volatile memory and will be available after a power cycle.

3.13 Analysis -> Graphs

User Access Level: 1

Navigation: Analysis->Graphs->[Graph]

Based on the ODU operating mode, the number of graphs displayed will differ. For example, if the ODU operation is East-West, all 8 parameters' graphs will be accessible. If the ODU operation mode is not East-West, only 4 (either East or West) graphs will be accessible.

For parameters 1-8, the last 24 hours of data will be plotted with the parameter along the Y-axis (vertical) and time along the X-axis (horizontal). Equalizer Taps and Constellations are plotted as shown in Figure 3-45 and Figure 3-46.

The X-axis time range can be selected (1, 2, 4, 12 or 24). If 1 hour is selected, it will plot the graph using the last hour of data.

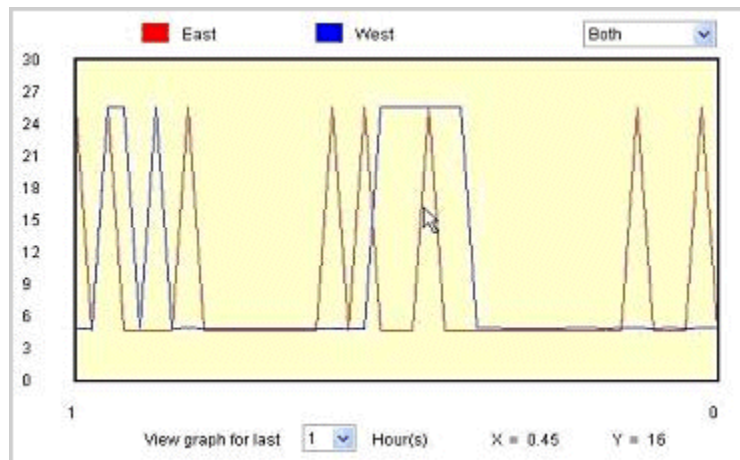


Figure 3-44. SNR Plot

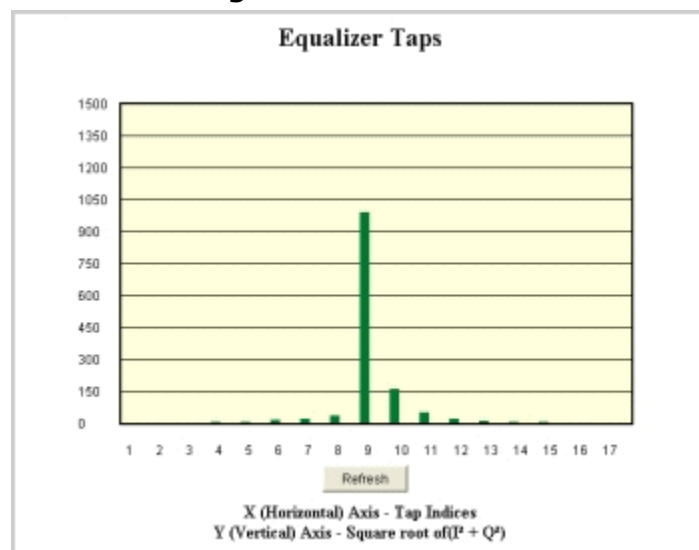


Figure 3-45. Equalizer Taps

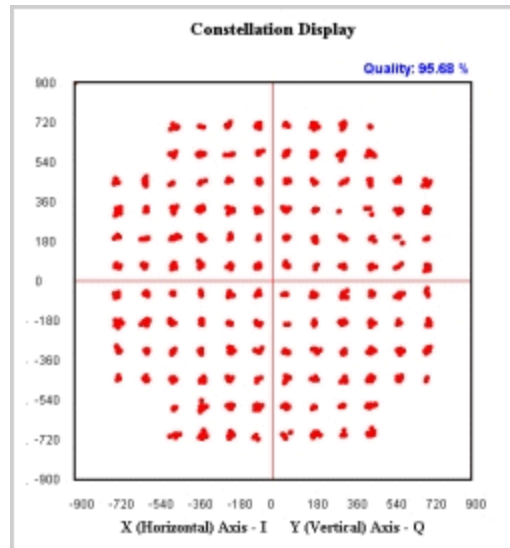


Figure 3-46. Constellation Display (128 QAM)

When the mouse is moved over the graph area, the corresponding value at the mouse point will be displayed under the graph area. This enables you to easily read X and Y values.

3.14 Analysis -> Statistics

3.14.1 Data Switch

This page shows statistics information for Port 1, Port 2, CPU, Radio Link (East) and Radio Link (West) of the Data Switch.

User Access Level: 1

Navigation: Analysis->Statistics->Data Switch

Data Switch Statistics				
Statistics	Port 1	Port 2	CPU	Radio Link
Rx Bytes	58346372	0	0	1313202
Rx Bytes/sec	1851553	0	0	41718
Tx Bytes	1313202	0	0	58346372
Tx Bytes/sec	41754	0	0	1850035
Rx Frames	41001	0	0	20507
Rx Frames/sec	1301	0	0	651
Tx Frames	20507	0	0	41001
Tx Frames/sec	652	0	0	1300
Errors	0	0	0	0
Errors/sec	0	0	0	0
Collisions	0	0	0	0
Collisions/sec	0	0	0	0

Clear

Figure 3-47. Data Switch Statistics

Click the **Clear** button to clear the data and start accumulating again.

3.14.2 NMS Switch

This page shows statistics information for Port 1, Port 2, CPU, Radio Link (East) and Radio Link (West) of the NMS Switch.

User Access Level: 1

Navigation: Analysis->Statistics->NMS Switch

NMS Switch Statistics				
Statistics	Port 1	Port 2	CPU	Radio Link
Rx Bytes	0	4446	10324	0
Rx Bytes/sec	0	301	732	0
Tx Bytes	0	10324	4446	0
Tx Bytes/sec	0	732	301	0
Rx Frames	0	38	42	0
Rx Frames/sec	0	3	3	0
Tx Frames	0	42	38	0
Tx Frames/sec	0	3	3	0
Errors	0	0	0	0
Errors/sec	0	0	0	0
Collisions	0	0	0	0
Collisions/sec	0	0	0	0

Clear

Figure 3-48. NMS Switch Statistics

Click the **Clear** button to clear the data and start accumulating again.

3.15 Analysis -> ODU Trace

Customer Service may ask you to use the ODU Trace page for debugging purposes. This page is used to communicate with ODU directly by sending commands and receiving the responses.

User Access Level: Level 4

Navigation: Analysis->ODU Trace

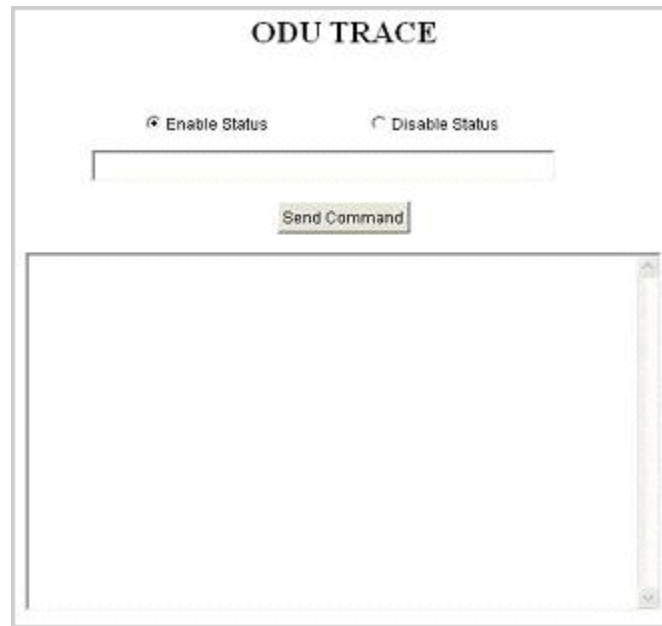


Figure 3-49. ODU Trace

Enable/Disable Status: Enable/disable status messages.

Text field: Enter a command to send to the ODU.

Send Command: Click this button to send the command entered in the text field to the ODU. After few seconds (depending on your network speed), the response from the ODU will be displayed in the text area.

Text Area: Displays the response message from ODU. Each time a new response message is received, it is appended at the end of the text field. Use the scroll bar to see all the messages.

 **NOTE:** The ODU Trace page is only available for some ODU types. The ODU may generate unsolicited messages without any command being sent from this page. These messages are also appended in the text area. To copy & save the response messages:

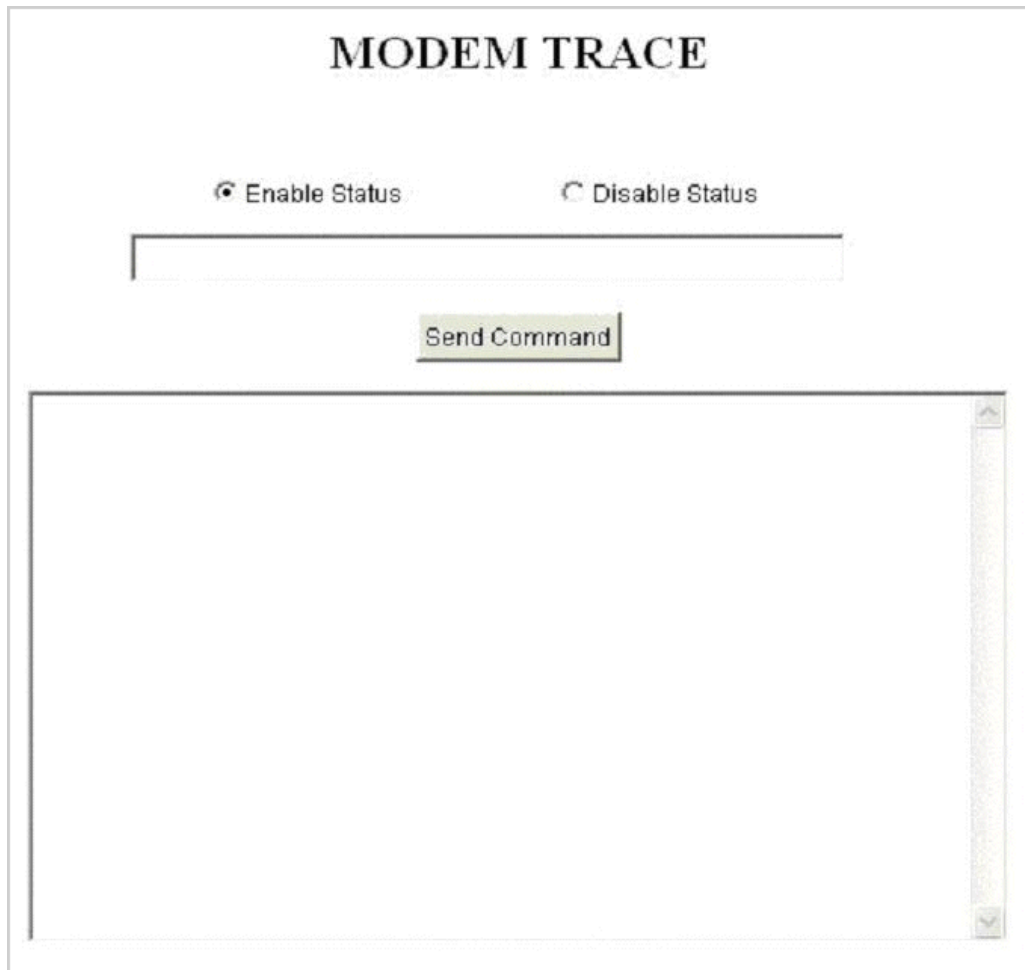
- » Click inside the text area.
- » Press Ctrl+A and Ctrl+C.
- » Open notepad (or any text editor) and press Ctrl+V.
- » Save the file.

3.16 Analysis -> Modem Trace

Customer Service may ask you to use Modem Trace for debugging purposes. This page is used to communicate with MODEM directly by sending commands and receiving the responses.

User Access Level: Level 4

Navigation: Analysis->Modem Trace



MODEM TRACE

☒ Enable Status ☐ Disable Status

Send Command

Figure 3-50. Modem Trace

Enable/Disable Status: Enable/disable status messages.

Text field: Enter a command to send to the MODEM.

Send Command: Click this button to send the command entered in the text field to the MODEM. After few seconds (depending on your network speed), the response from the MODEM is displayed in the text area.

Text Area: To display the response messages from MODEM. Each time a new response message is received, it is appended at the end of the text field. Use the scroll bar to see all the messages.

 **NOTE:** The MODEM may generate unsolicited messages without any command being sent from this page. These messages are also appended in the text area. To copy & save the response messages

- » Click inside the text area.
- » Press Ctrl+A and Ctrl+C.
- » Open notepad (or any text editor) and press Ctrl+V.
- » Save the file.

3.17 Analysis -> BERT Mode

This page is used to communicate with the MODEM directly by sending a command and receiving the response.

User Access Level: 2

Navigation: Analysis->Bert Mode

BERT Mode

☐ East Enable ☐ East Disable

Cumulative Bits

Cumulative Bit Error

Bit-Error Rate

☐ West Enable ☐ West Disable

Cumulative Bits

Cumulative Bit Error

Bit-Error Rate

Figure 3-51. BERT Mode

To use the Event-HD BERT capabilities, the BERT mode must be enabled independently at both ends of the link because there is no separate NMS stream when operating in BERT mode. This will require the use of two PCs, one connected directly to the NMS port of each Event-HD.

To begin testing:

- 1)** Navigate to Analysis and click the "BERT mode" in the left panel.
- 2)** Enable BERT mode at one Event-HD.
 - Click on one command. (East Enable or West Enable).
 - After few seconds (depending on your network speed) the response from MODEM for the given command will be displayed in the text area.
 - Enabling this mode will generate random data over the link causing the other Event-HD to trigger the buzzer, generating noise.
- 3)** Enable BERT mode at the other Event-HD. This should silence the buzzer noise.
- 4)** Send the "Clear" command to both Event-HDs to reset the cumulative bits, cumulative bit errors, and bit error rate counters.
 - Click the Clear button.
 - After few seconds (depending on your network speed) the response from MODEM for the given command will be displayed in the text area.

- 5) Each response message will be appended at the end. You can use the scroll bar to see all messages.
- 6) To insert an error and see whether the modem catches it, click the "Insert Bit Error" button.

To stop testing:

- 1) Disable BERT mode at one Event-HD.
 - Click on one command. (East Disable or West Disable),
 - This will cause this Event-HD to generate buzzer noise.
- 2) Disable BERT mode at the other Event-HD to silence the buzzer noise.

Number of Bits, Bit Errors, and BER will be accumulated until the BERTs are disabled or Event-HD power is cycled, which will clear the BERT mode.

 **NOTE:** The MODEM may generate unsolicited messages without any command being sent from this page. These messages are also appended in the text area. To copy & save the response messages

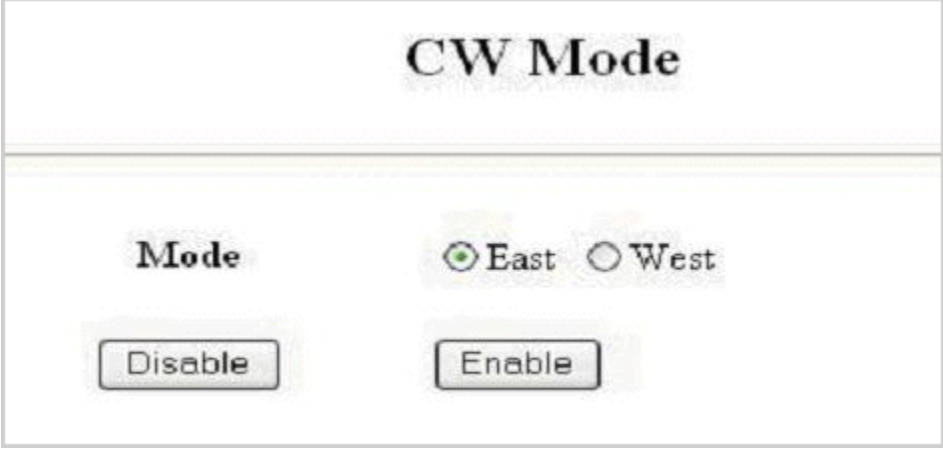
- » Click inside the text area.
- » Press Ctrl+A and Ctrl+C.
- » Open notepad (or any text editor) and press Ctrl+V.
- » Save the file.

3.18 Analysis -> CW Mode

This page can be used to enable or disable CW (single tone) mode. When set to CW mode, the modem generates a tone rather than a modulated signal. This mode is used for non-operational purposes, such as calibration and pointing.

User Access Level: 2

Navigation: Analysis->CW Mode



The screenshot shows a web interface for 'CW Mode'. At the top, the text 'CW Mode' is displayed. Below this, there is a section with a 'Mode' label and two radio buttons: 'East' (which is selected, indicated by a green dot) and 'West'. At the bottom of the interface, there are two buttons: 'Disable' and 'Enable'.

Figure 3-52. CW Mode

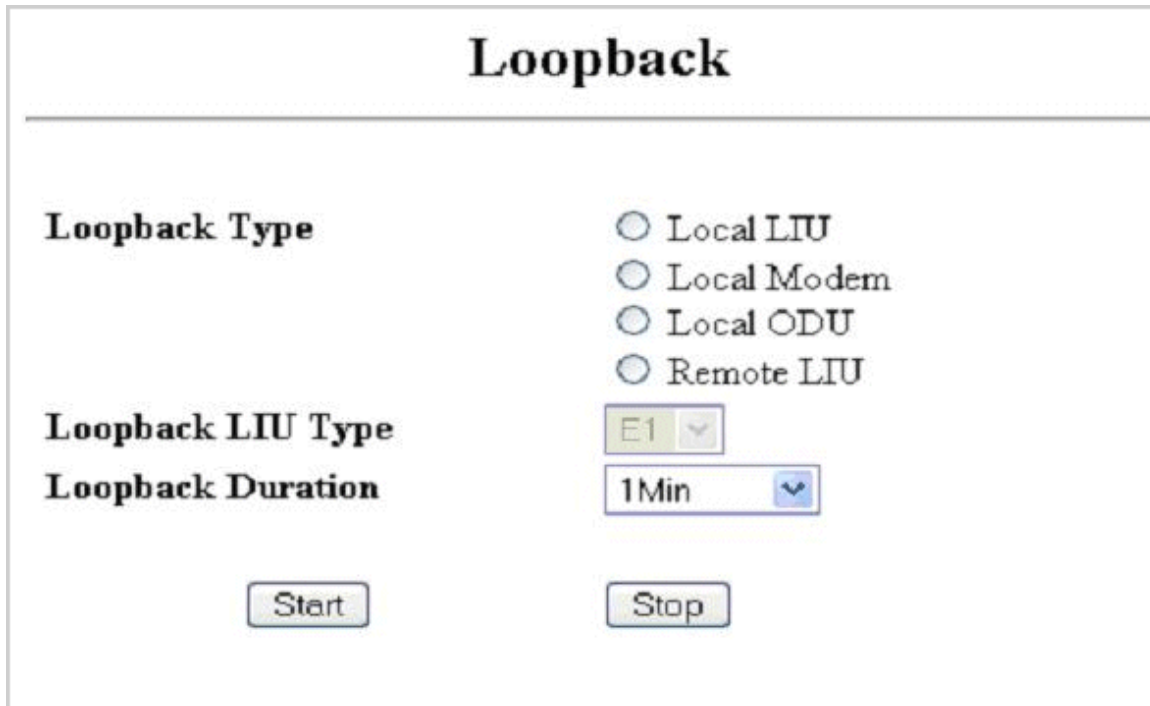
Select the required mode (East/West) and click the Enable or Disable button. A status message will be displayed to indicate success/failure. When CW mode is enabled, the transmitter status in the Status Panel (Right side panel) will display CW Mode.

3.19 Analysis -> Loopback

This page can be used to start or stop Loop Back. Not all ODUs support ODU loopback.

User Access Level: 2

Navigation: Analysis->Loopback



The screenshot shows a web interface titled "Loopback". It contains three main configuration sections: "Loopback Type" with four radio button options (Local LIU, Local Modem, Local ODU, Remote LIU), "Loopback LIU Type" with a dropdown menu showing "E1", and "Loopback Duration" with a dropdown menu showing "1Min". At the bottom, there are two buttons: "Start" and "Stop".

Figure 3-53. Loopback

Loopback Type: Select the type of loopback (Local LIU, Local Modem, Local ODU or Remote LIU).

Loopback LIU Type: If Local or Remote LIU is selected, select the LIU type from the drop down list box.

Loopback Duration: Select the duration of the loopback.

Start: Click the Start Button to start loopback.

Stop: If loopback is running, click the Stop button to terminate the loopback.

3.20 Logout

This page is used to log out of the Web Interface.

User Access Level: 1

To logout:

Click the "Logout" link below.

[LOGOUT](#)

Figure 3-54. Logout

In you are using Internet Explorer, the logout link will close the browser. For other browsers, you may need to close and reopen the browser.

4. Command Line Interface (CLI)

This section describes how to use the Command Line Interface (CLI) to view and modify Event-HD parameters.

4.1 Overview

The CLI provides a text based interface for configuring and monitoring the terminal. The CLI is accessed by doing one of the following:

Using an Ethernet interface,

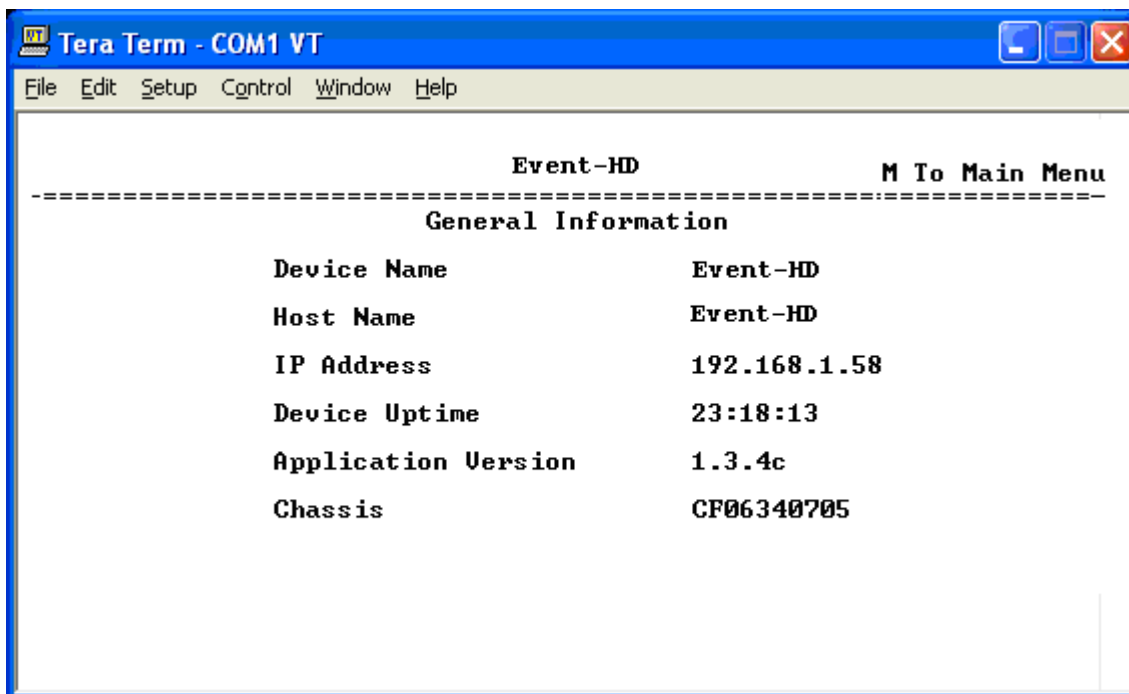
- » Telnet / SSH to the terminal (using IP address of the terminal).
- » Enter a user name and password at the login prompt.

Using a Serial interface,

- » Establish an RS232 connection using a serial terminal.
- » Enter a user name and password at the login prompt.

 **NOTE:** CLI screens should be viewed at 25 rows by 80 columns (25 x 80). A window of less than 25x80 will have incomplete content.

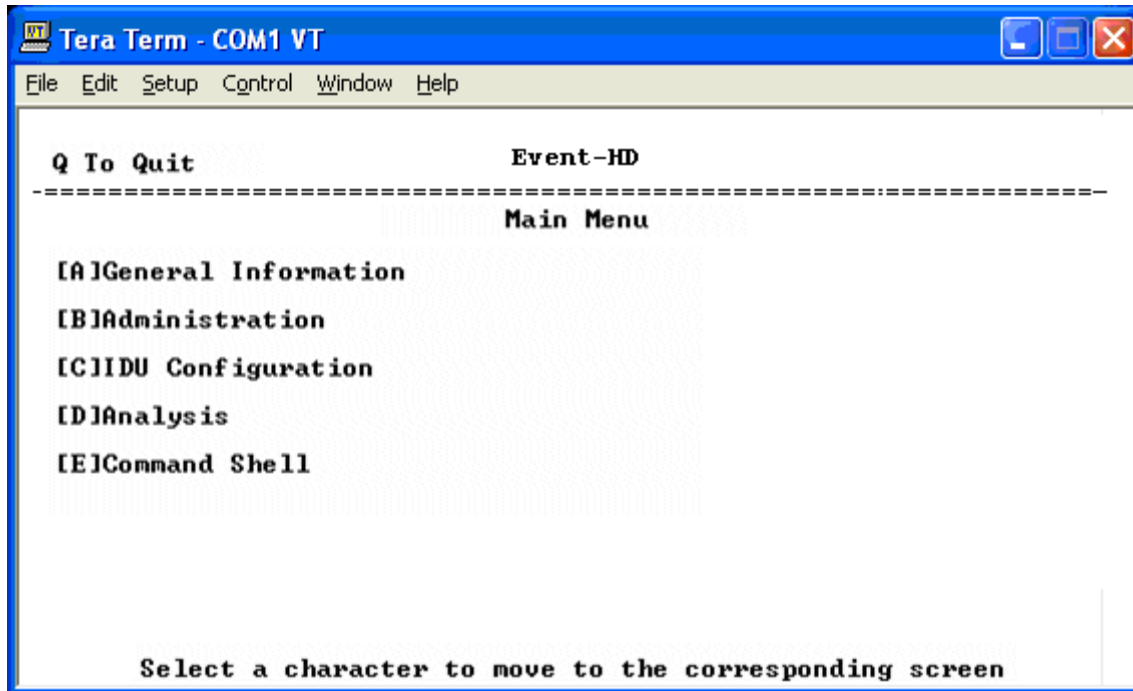
Upon successful authentication the General Information screen is displayed.



Enter "M" to display the Main Menu. From the Main Menu, you can navigate to other CLI screens.

4.1.1 Menu Screens

Menu screens are used to navigate between functions. They display a list of navigation choices.

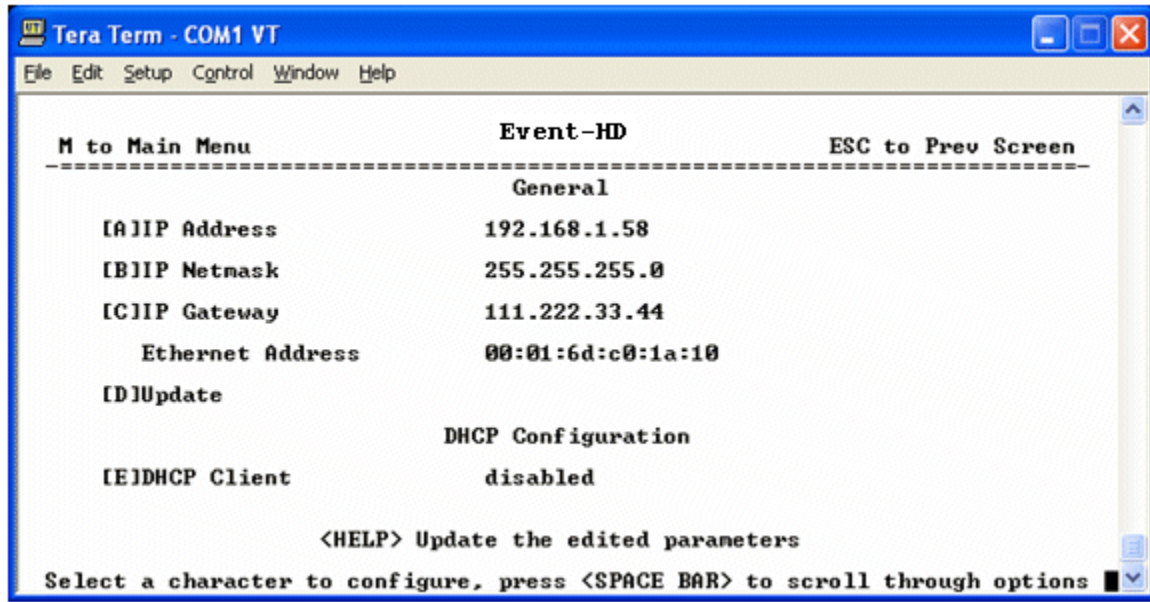


Each choice is listed with a character in brackets [] or hotkey. Enter the hotkey to display the corresponding screen. For example, enter a/A, to display the General Information screen.

4.1.2 Configuration Screens

Configuration screens are used to set various parameters. The following screen is an example of a configurable screen. Parameters are listed with their values and a hotkey shown in brackets []. Enter the hotkey to configure the corresponding parameter. For example, enter a/A, to edit the IP address, then press Enter key. Some parameters may have a set list of values. For example, the DHCP Client parameter has two values: Enabled and Disabled. To edit this type of parameter, enter the corresponding hotkey (in this case "E"), then press the Space Bar, to scroll through different values. When the desired value is displayed, press the Enter key. If the parameter is displayed without a hotkey, it indicates a read-only parameter.

 **NOTE:** Further references to "hotkey" in this document will refer to the character in brackets [] (e.g., [A]) for the individual parameter.



All CLI screens show the following messages:

Navigation Message: Help message about possible navigation from the screen. This will be displayed at top left and top right of the screen.

Screen Message: Help message about the screen. This will be displayed at 24th row.

Access Message: Help message about how to access parameters in the screen. This will be displayed at 25th (last) row.

In the CLI, there are two different types of parameter updates. Some parameters are updated individually and others are updated as a group.

To perform an Individual Update:

- 1) Edit the parameter value.
- 2) Press the Enter key.
- 3) If update was successful, the message "Updated Successfully" will be displayed.
- 4) If the update failed, a failure message will be displayed.

To perform a Group Update:

- 1) Edit the parameter value.
- 2) Press the Enter key.
- 3) Enter the character specified for "Update."
- 4) If the update was successful, the message "Updated Successfully" will be displayed.
- 5) If the update failed, a failure message will be displayed.

4.1.3 CLI Navigation Tree

```
[M] Main Menu
[A] General Information
[B] Administration
[B] Administration->[A] Network Configuration
[B] Administration->[A] Network Configuration->[A] General
```

```

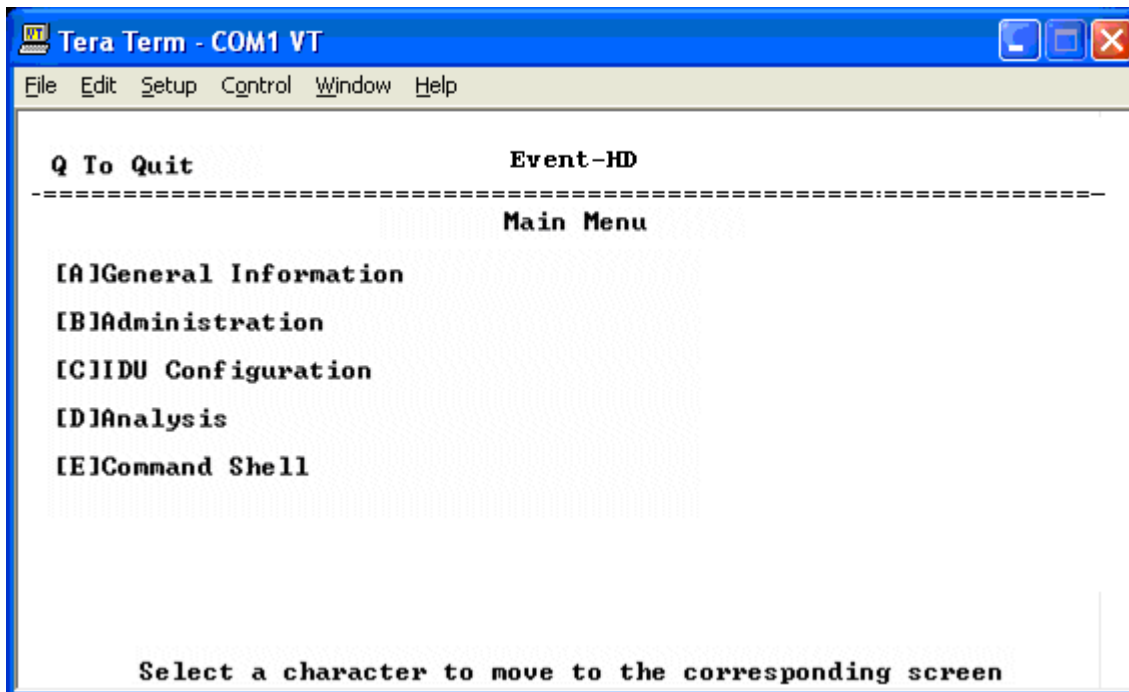
[B] Administration->[A] Network Configuration->[B] SNMP Configuration
[B] Administration->[A] Network Configuration->[C] SYSLOG Configuration
[B] Administration->[A] Network Configuration->[D] E-mail Configuration
[B] Administration->[A] Network Configuration->[E] Ethernet Configuration
[B] Administration->[A] Network Configuration->[E] Ethernet Configuration
    ->[A] Ethernet Payload Configuration
[B] Administration->[A] Network Configuration->[E] Ethernet Configuration
    ->[B] Ethernet NMS Configuration
[B] Administration->[A] Network Configuration->[F] Static Routing
[B] Administration->[B] Serial Configuration
[B] Administration->[C] Security Configuration
[B] Administration->[D] Device Configuration
[B] Administration->[D] Device Configuration->[A] General Information
[B] Administration->[D] Device Configuration->[B] Device Names
[B] Administration->[D] Device Configuration->[C] Date and Time
[B] Administration->[D] Device Configuration->[D] Uptime Individual Cards
[B] Administration->[D] Device Configuration->[E] Serial Numbers
[B] Administration->[E] Maintenance
[B] Administration->[E] Maintenance->[A] Reprogramming
[B] Administration->[E] Maintenance->[B] View Event Log
[B] Administration->[E] Maintenance->[C] Clear Event Log
[B] Administration->[E] Maintenance->[D] Add User Entry
[B] Administration->[E] Maintenance->[E] Delete/Edit User Entry
[B] Administration->[F] Restore System Defaults
[B] Administration->[G] Reboot
[C] IDU Configuration
[C] IDU Configuration->[A] Data Link
[C] IDU Configuration->[A] Data Link->[A] E1/T1 Ports
[C] IDU Configuration->[A] Data Link->[A] E1/T1 Ports->[A] E1/T1 Channel
[C] IDU Configuration->[A] Data Link->[B] Voice Codec
[C] IDU Configuration->[A] Data Link->[C] DS3 Ports
[C] IDU Configuration->[B] Radio Link
[C] IDU Configuration->[B] Radio Link->[A] Framer Summary
[C] IDU Configuration->[B] Radio Link->[B] ACR Key
[C] IDU Configuration->[B] Radio Link->[C] Link Configuration
[C] IDU Configuration->[B] Radio Link->[D] IDU ODU Configuration
[C] IDU Configuration->[C] STM Mux/Demux Configuration
[C] IDU Configuration->[C] STM Mux/Demux Configuration->
    [A] SONET Medium Configuration
[C] IDU Configuration->[C] STM Mux/Demux Configuration->
    [B] Regenerator Section
[C] IDU Configuration->[C] STM Mux/Demux Configuration->
    [C] Multiplex Section
[C] IDU Configuration->[C] STM Mux/Demux Configuration->
    [D] High Order Path
[C] IDU Configuration->[C] STM Mux/Demux Configuration->
    [E] Low Order Path
[C] IDU Configuration->[C] STM Mux/Demux Configuration->
    [F] Update Mux/Demux Settings
[C] IDU Configuration->[D] STM Mux/Demux Trace Message
[C] IDU Configuration->[D] STM Mux/Demux Trace Message->
    [E] High Order Transmit Message
[C] IDU Configuration->[D] STM Mux/Demux Trace Message->
    [F] High Order Expected Message
[C] IDU Configuration->[D] STM Mux/Demux Trace Message->
    [G] Low Order Transmit Message
[C] IDU Configuration->[D] STM Mux/Demux Trace Message->
    [H] Low Order Expected Message
[D] Analysis
[D] Analysis->[A] Status Information
[D] Analysis->[B] Peek Poke
[D] Analysis->[B] Peek Poke->[A] Framer Peek Poke
[D] Analysis->[B] Peek Poke->[B] E1 T1 Interface
[D] Analysis->[B] Peek Poke->[C] E3 DS3 Interface

```

```
[D]Analysis->[B]Peek Poke->[D]User Payload
[D]Analysis->[B]Peek Poke->[E]NMS
[D]Analysis->[B]Peek Poke->[E]I2C
[D]Analysis->[C]SNMP Switch Statistics
[D]Analysis->[D]Data Switch Statistics
[D]Analysis->[E]Loopback
```

4.2 Main Menu

The following illustration shows the format of the CLI Main Menu:



[A] General Information: Select this option to show the General Starting Information screen.

[B] Administration: Select this option to show the Administration Menu.

[C] IDU Configuration: Select this option to show the IDU Configuration Menu.

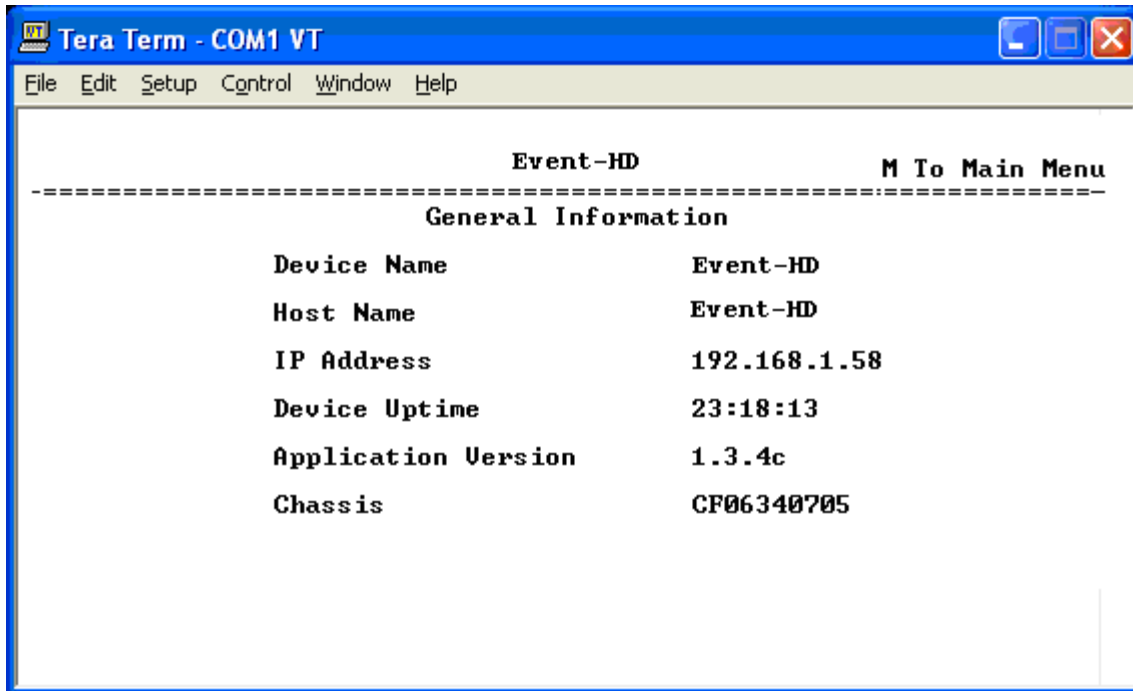
[D] Analysis: Select this option to show the Analysis Menu.

[E] Command Shell: This option is reserved for internal factory use. Do not use unless instructed to do so by Moseley Technical Support.

4.3 Starting Information

This screen provides general information about the Event-HD:

Navigation: [M] Main Menu->[A] General Information



Device Name: Name of the product

Host Name: Name of the host

IP Address: IP Address of the system.

Device Uptime: Hours, minutes, and seconds the Event-HD has been continuously operational (i.e., since the last reset).

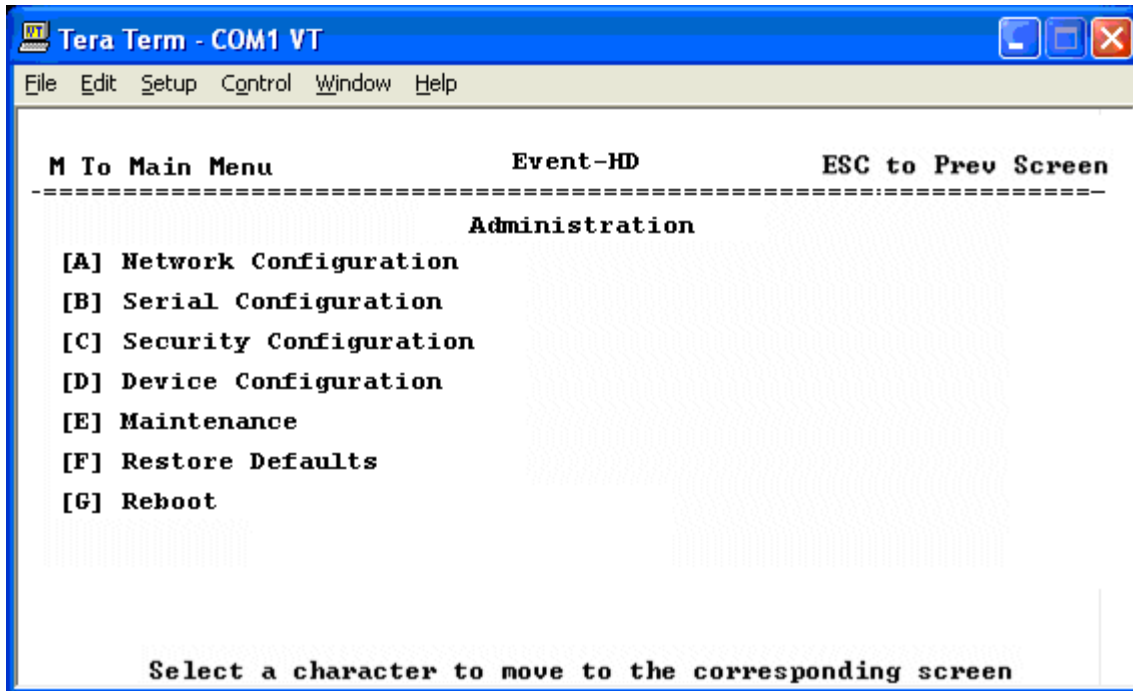
Application Version: Version information of the application

Chassis: Serial number of the product (factory assigned).

4.4 Administration Menu

The [B]Administration option in the Main Menu shows the Administration menu:

Navigation: [M] Main Menu->[B] Administration



[A] Network Configuration: Select this option to show the Network Configuration Menu.

[B] Serial Configuration: Select this option to show the Serial Configuration screen.

[C] Security Configuration: Select this option to show the Security Configuration screen.

[D] Device Configuration: Select this option to show the Device Configuration Menu.

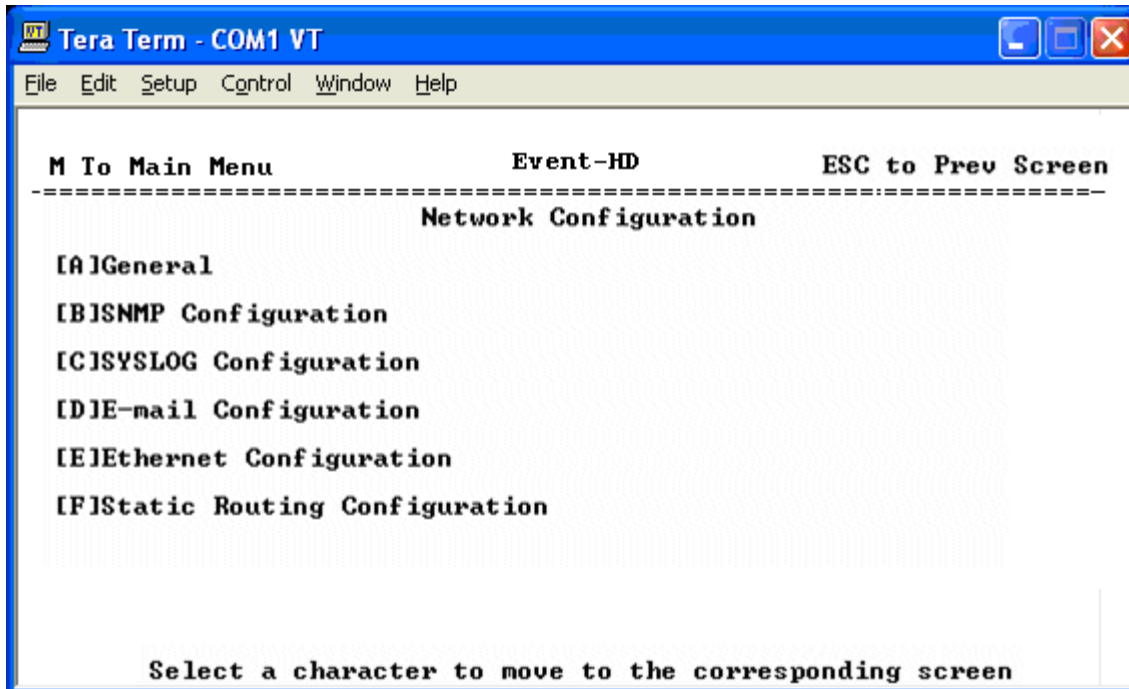
[E] Maintenance: Select this option to show the Maintenance Menu.

[F] Restore Default: Select this option to show the Restore Defaults screen.

[G] Reboot: Select this option to show the Reboots screen.

4.4.1 Administration -> Network Configuration

Navigation: [M] Main Menu->[B] Administration->[A] Network Configuration



[A] General: Select this option to show the General Network Configuration screen.

[B] SNMP Configuration: Select this option to show the SNMP Configuration screen.

[C] SYSLOG Configuration: Select this option to show the SYSLOG Configuration screen.

[D] E-mail Configuration: Select this option to show the E-mail Configuration screen.

[E] Ethernet Configuration: Select this option to show the Ethernet Configuration Menu.

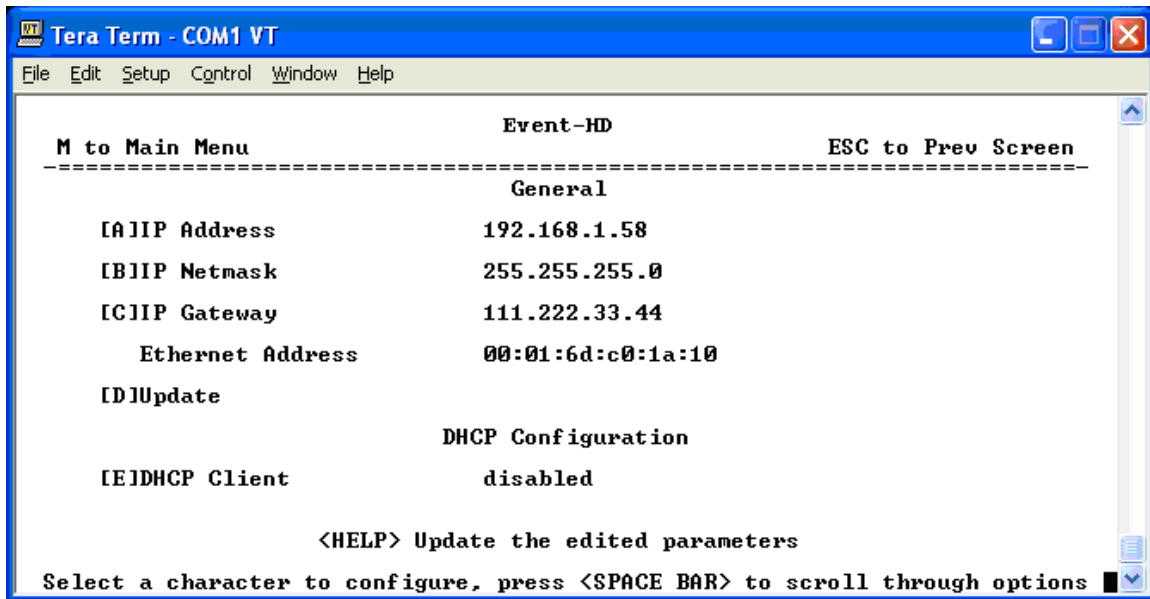
[F] Static Routing: Select this option to show the Static Routing configuration screen.

4.4.1.1 General Network Configuration

The General Network Configuration screen is used to configure general network related parameters.

User Access Level: 3

Navigation: [M] Main Menu->[B] Administration->[A] Network Configuration->[A] General



[A] IP Address: Enter the IP Address for the terminal. If unsure contact your network administrator.

[B] IP Netmask: Enter the appropriate netmask depending on the class of the network. If unsure contact your network administrator.

[C] IP Gateway: Enter the gateway IP Address for your subnet. If unsure contact your network administrator.

Ethernet Address: This field shows the MAC or Hardware address of the terminal.

[D] Update: If you change any parameters in this screen, enter "D" to update the changed parameters.

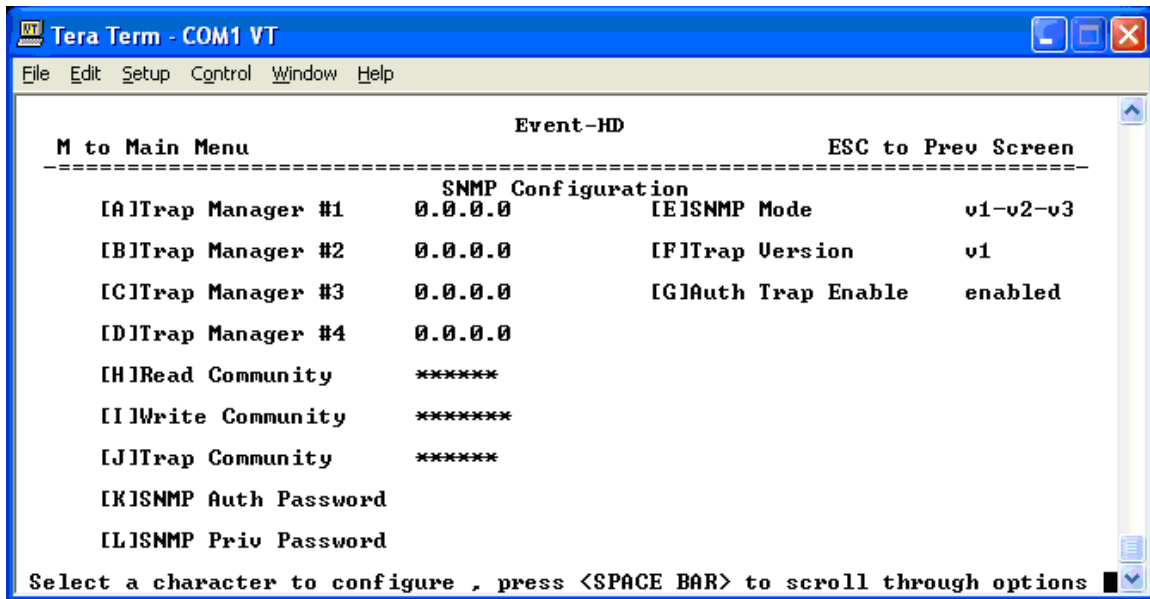
[E] DHCP Client: When enabled, network parameters are obtained dynamically from a DHCP server. The other parameters on the page cannot be modified when DHCP is enabled.

4.4.1.2 SNMP Configuration

This screen is used to configure SNMP parameters.

User Access Level: 3

Navigation: [M] Main Menu->[B] Administration->[A] Network Configuration->[B] SNMP Configuration



[A] Trap Manager #1: IP Address of the Trap Manager to which Traps are to be sent.

[B] Trap Manager #2: IP Address of the Trap Manager to which Traps are to be sent.

[C] Trap Manager #3: IP Address of the Trap Manager to which Traps are to be sent.

[D] Trap Manager #4: IP Address of the Trap Manager to which Traps are to be sent.

[E] SNMP Mode: The mode in which SNMP Agent is currently configured.

[F] Trap Version: The Trap Version in which SNMP Agent is currently configured.

[G] Auth Trap Enable: Enable/Disable sending of authorization traps to SNMP manager.

[H] Read Community: Community String used while reading data from the SNMP Agent in SNMP V1/V2 mode. Note that the current value is not shown because this parameter is treated as a password.

[I] Write Community: Community String used while writing data to the SNMP Agent in SNMP V1/V2 mode. Note that the current value is not shown because this parameter is treated as a password.

[J] Trap Community: Community String used while sending traps from the SNMP Agent. Note that the current value is not shown because this parameter is treated as a password.

[K] SNMP Auth Password: Password required for authorization while reading or writing data in SNMP V3 Mode.

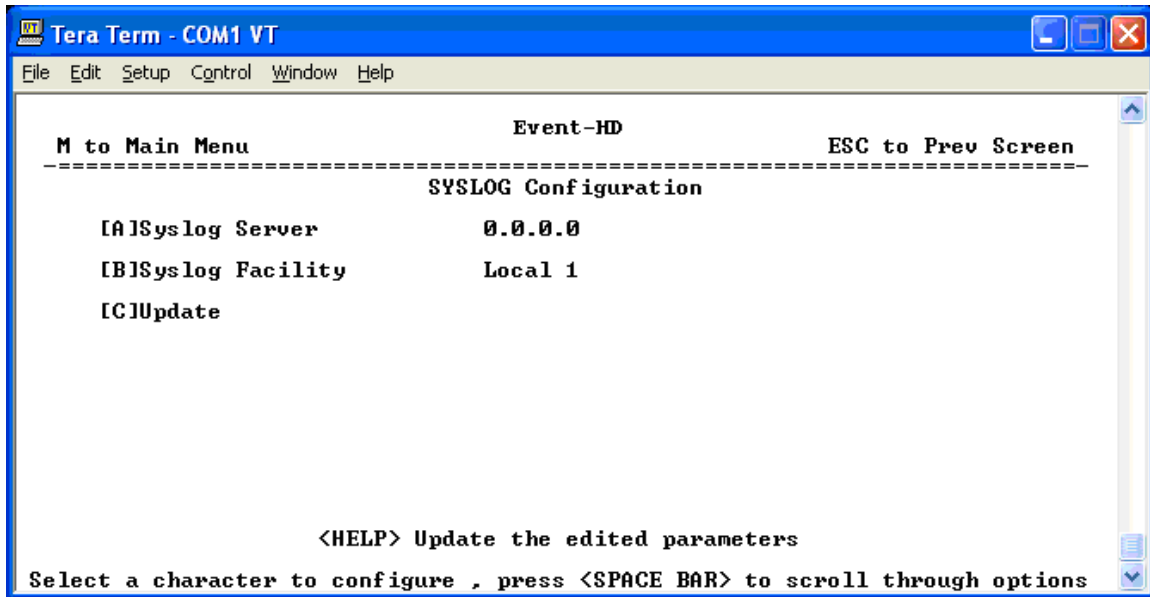
[L] SNMP Priv Password: Privacy password required while reading or writing data in SNMP V3 Mode.

4.4.1.3 SYSLOG Configuration

This screen is used to configure SYSLOG parameters.

User Access Level: 3

Navigation: [M] Main Menu->[B] Administration->[A] Network Configuration->[C] SYSLOG Configuration



[A] Syslog IP: Enter the Syslog IP Address for the system.

[B] Syslog Facility: Select the Syslog facility for the system.

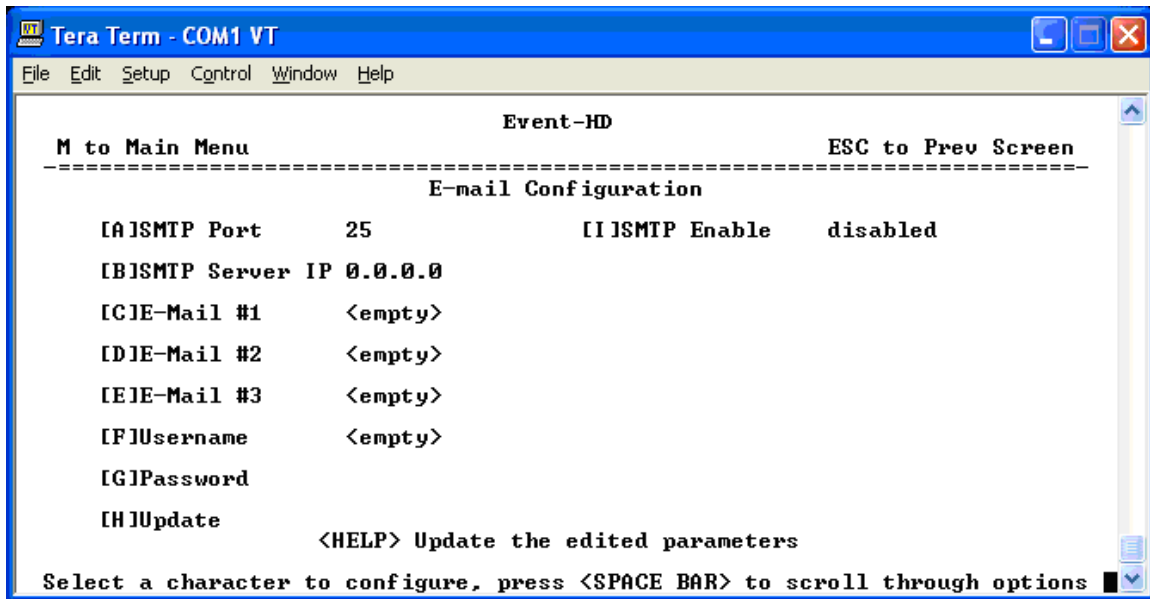
[C] Update: Enter "C" to update any changed parameters in this screen.

4.4.1.4 E-mail Configuration

This screen is used to configure E-Mail parameters.

User Access Level: 3

Navigation: [M] Main Menu->[B] Administration->[A] Network Configuration->[D] E-mail Configuration



[A] SMTP Port: Enter the SMTP port. Default 25.

[B] SMTP Server IP: Enter the SMTP server IP.

[C] E-mail #1: Enter the recipients' mail addresses.

[D] E-mail #2: Enter the recipients' mail addresses.

[E] E-mail #3: Enter the recipients' mail addresses.

[F] Username: Enter the user name of your E-mail account.

[G] Password: Enter the password of your mail account.

[H] Update: Enter "H" to update any changed parameters in this screen.

[I] SMTP Enable: Enable / Disable mail.

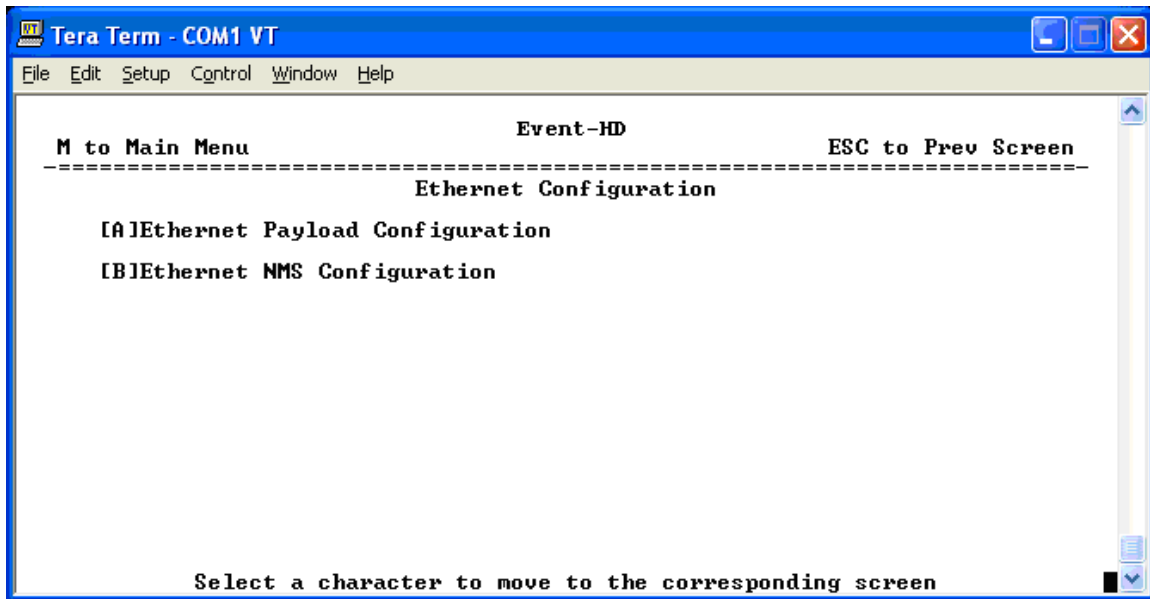
 **NOTE:** User name and password should be left blank if the SMTP server does not require authentication. Enable the SMTP Enable parameter to send e-mail to the specified addresses upon occurrence of selected alarms.

4.4.1.5 Ethernet Configuration

This menu is used to select Ethernet Configuration options.

User Access Level: 3

Navigation: [M] Main Menu->[B] Administration->[A] Network Configuration->[E] Ethernet Configuration

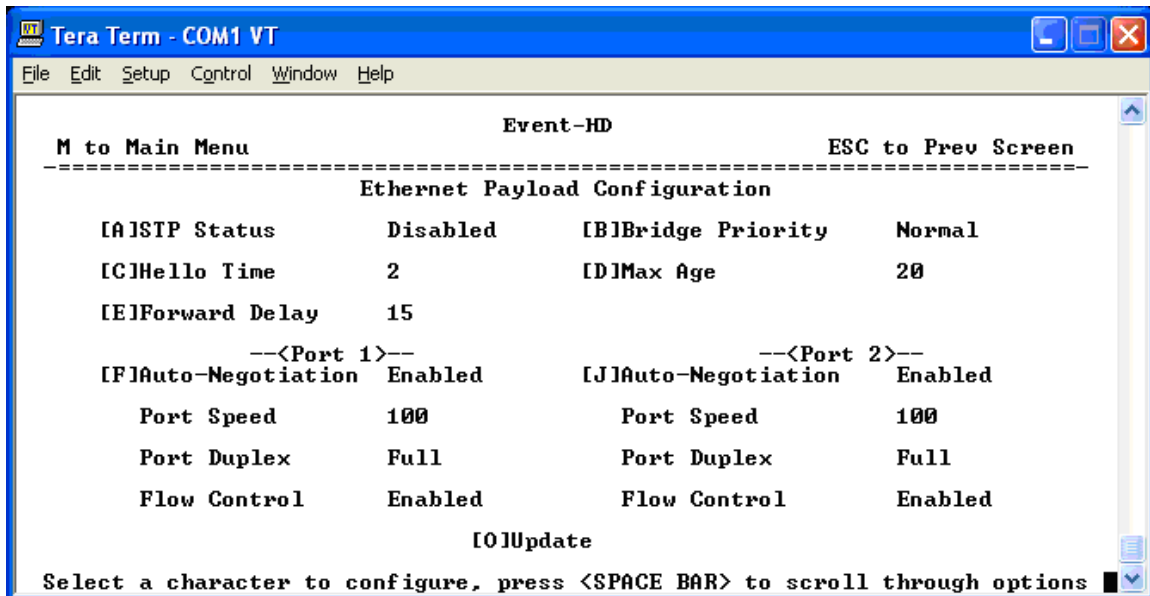


4.4.1.6 Ethernet Payload (STP Data) Configuration

This screen is used to configure the STP status (enable/disable) and the Bridge priority.

User Access Level: 3

Navigation: [M] Main Menu->[B] Administration->[A] Network Configuration->[E] Ethernet Configuration->[A] Ethernet Payload Configuration



[A] STP Status: Enter "A" and press the Space Bar to select Enabled/Disabled.

[B] Bridge Priority: Enter "B" and press the Space Bar to select a bridge priority.

[C] Hello Time: Determines how often the switch broadcasts its hello message to other switches.

[D] Max Age: Measures the age of the received protocol information recorded for a port and ensures that this information is discarded when its age limit exceeds the value to the maximum age parameter recorded by the switch. The timeout value for this timer is the maximum age parameter of the switches.

[E] Forward Delay: Monitors the time spent by a port in the learning and listening states. The timeout value is the forward delay parameter of the switches.

[F] Auto-Negotiation: Enable/Disable auto-negotiation on Port 1.

[J] Auto-Negotiation: Enable/Disable auto-negotiation on Port 2.

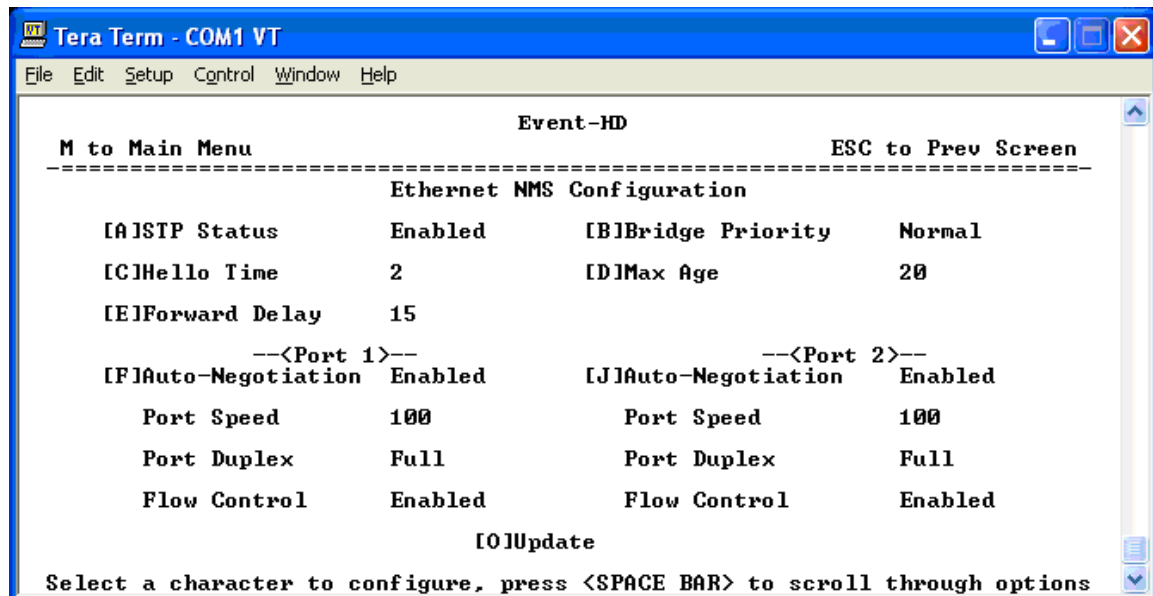
[O] Update: Enter "O" to update any changed parameters in this screen.

4.4.1.7 Ethernet NMS Configuration

This screen is used to configure STP NMS status (enable/disable) and Bridge priority.

User Access Level: 3

Navigation: [M] Main Menu->[B] Administration->[A] Network Configuration->[E] Ethernet Configuration-> [B] Ethernet NMS Configuration



[A] STP Status: Enter "A" and press the Space Bar to select Enabled/Disabled.

[B] Bridge Priority: Enter "B" and press the Space Bar to select a bridge priority.

[C] Hello Time: Determines how often the switch broadcasts its hello message to other switches.

[D] Max Age: Measures the age of the received protocol information recorded for a port and ensures that this information is discarded when its age limit exceeds the value to the maximum age parameter recorded by the switch. The timeout value for this timer is the maximum age parameter of the switches.

[E] Forward Delay: Monitors the time spent by a port in the learning and listening states. The timeout value is the forward delay parameter of the switches.

[F] Auto-Negotiation: Enable/Disable auto-negotiation on Port 1.

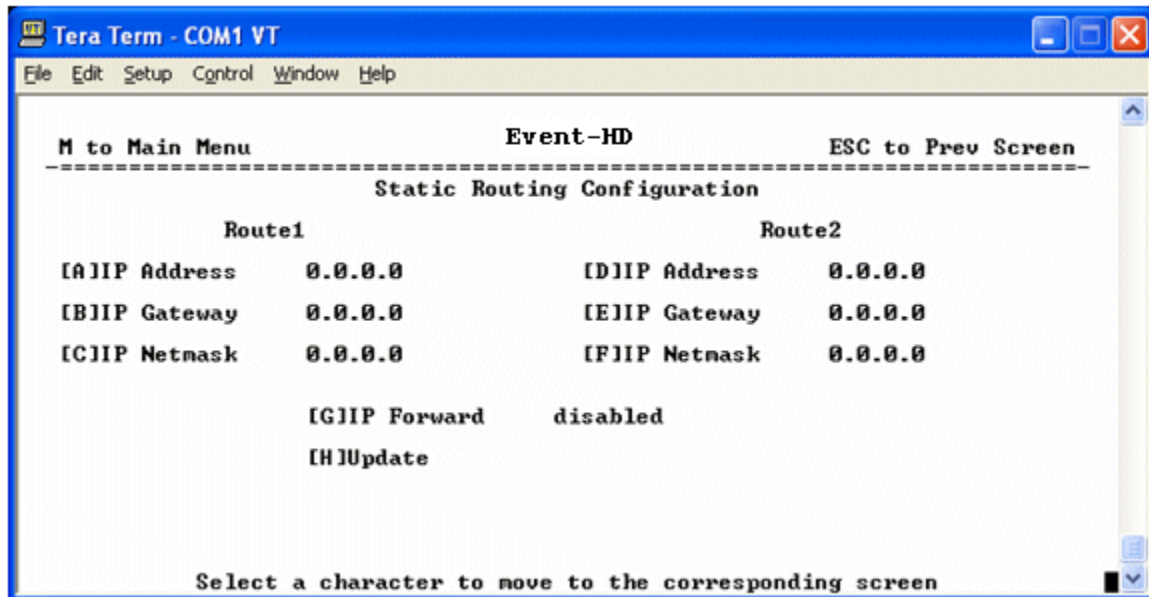
[J] Auto-Negotiation: Enable/Disable auto-negotiation on Port 2.

[O] Update: Enter “O” to update any changed parameters in this screen.

4.4.1.8 Static Routing

This screen is used to define static routes.

Navigation: [M] Main Menu->[B] Administration->[A] Network Configuration->[F] Static Routing



[A] IP Address: IP Address of Route 1.

[B] IP Gateway: IP Gateway address of Route 1.

[C] IP Netmask: Network Mask of Route 1.

[D] IP Address: IP Address of Route 2.

[E] IP Gateway: IP Gateway address of Route 2.

[F] IP Netmask: Network Mask of Route 2.

[G] IP Forward: Enable/Disable IP forwarding

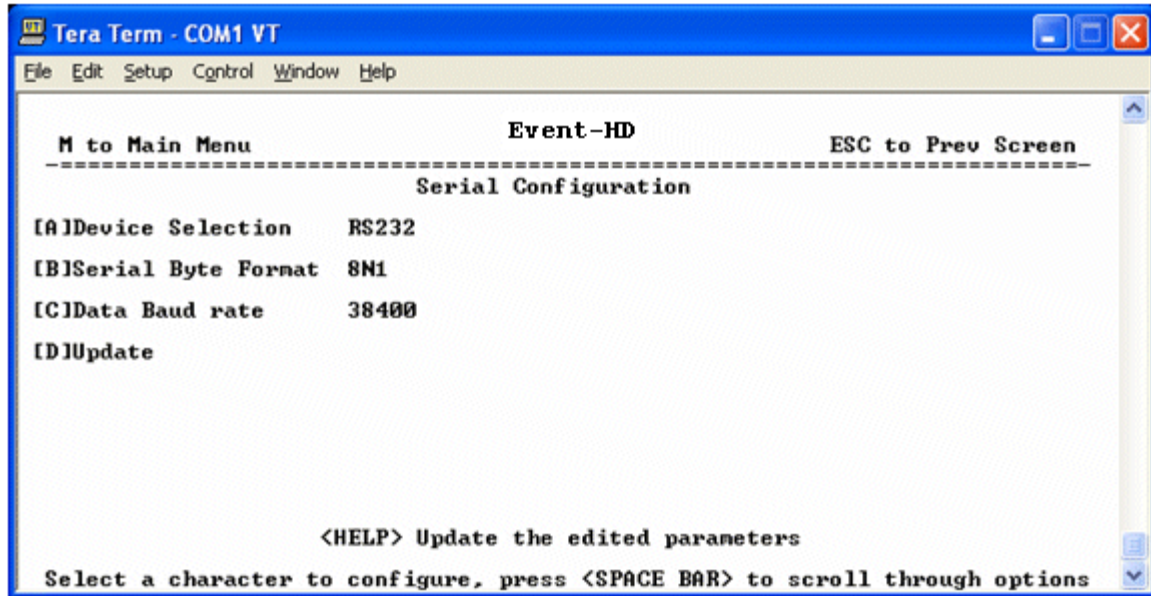
[H] Update: Update any changes in this screen.

4.4.2 Administration -> Serial Configuration

This screen is used to configure the following serial port related parameters.

User Access Level: 3

Navigation: [M] Main Menu->[B] Administration->[B] Serial Configuration



[A] Device Selection: Enter "A" and press the Space Bar to scroll through a list of devices.

[B] Device Selection: Enter "B" and press the Space Bar to scroll through a list of serial byte formats.

[C] Data Baud Rate: Enter "C" and press the Space Bar to scroll through a list of valid data baud rates for the selected device.

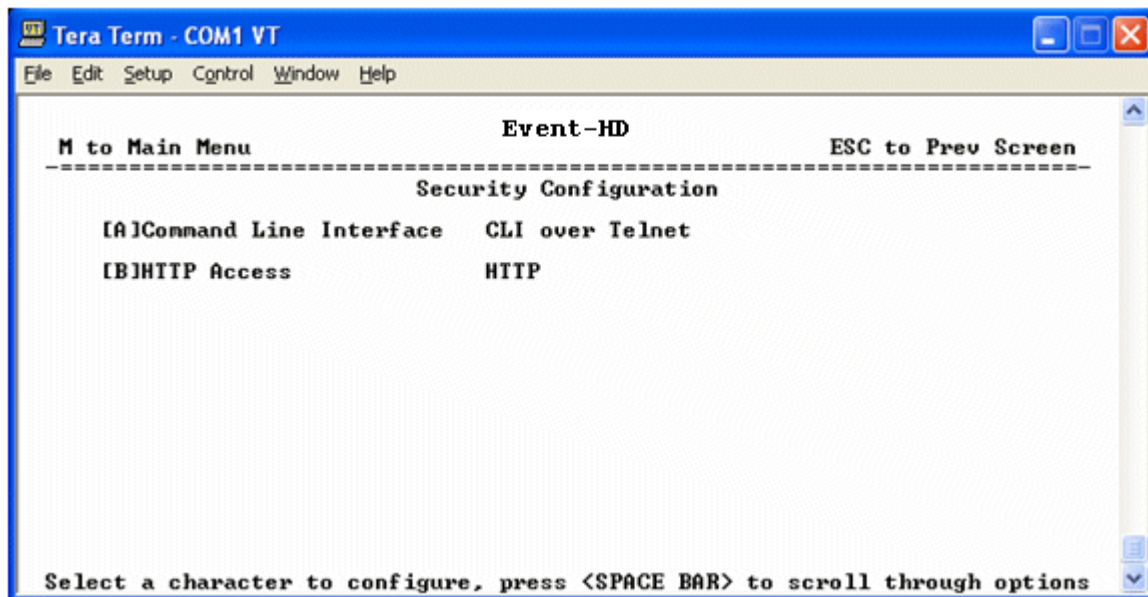
[D] Update: Update any changes in this screen.

4.4.3 Administration -> Security Configuration

This screen can be used to modify the security configuration of the terminal.

User Access Level: 3

Navigation: [M] Main Menu->[B] Administration->[C] Security Configuration

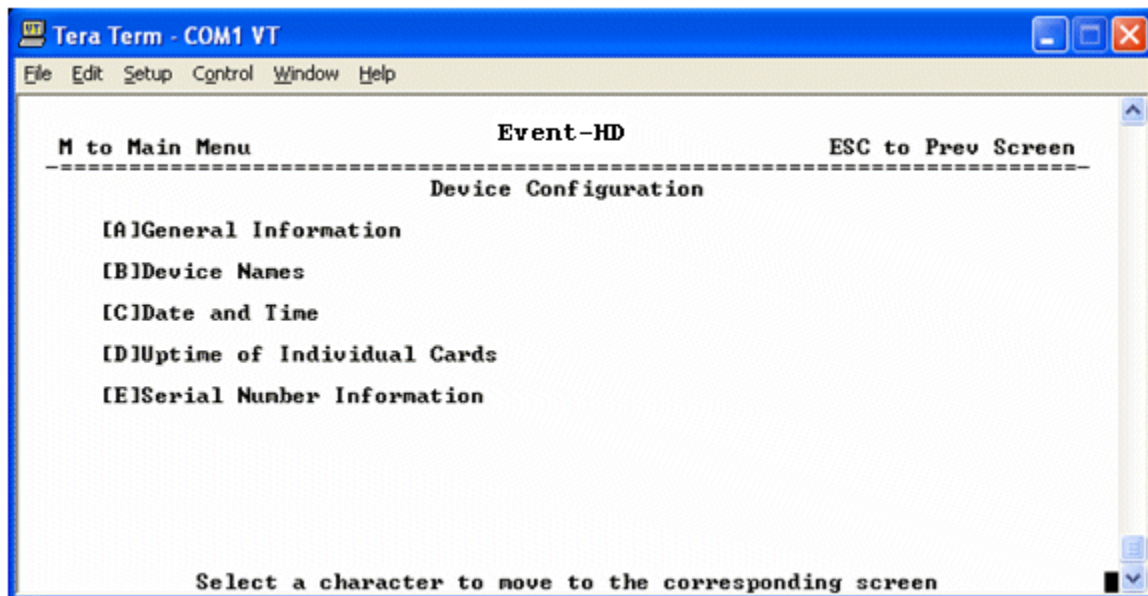


[A] Command Line Interface: Select the type of CLI Access (Telnet/ SSH / Disabled).

[B] HTTP Access: Select the type of HTTP Access (SSL/None/Disabled).

4.4.4 Administration -> Device Configuration

Navigation: [M] Main Menu->[B] Administration->[D] Device Configuration

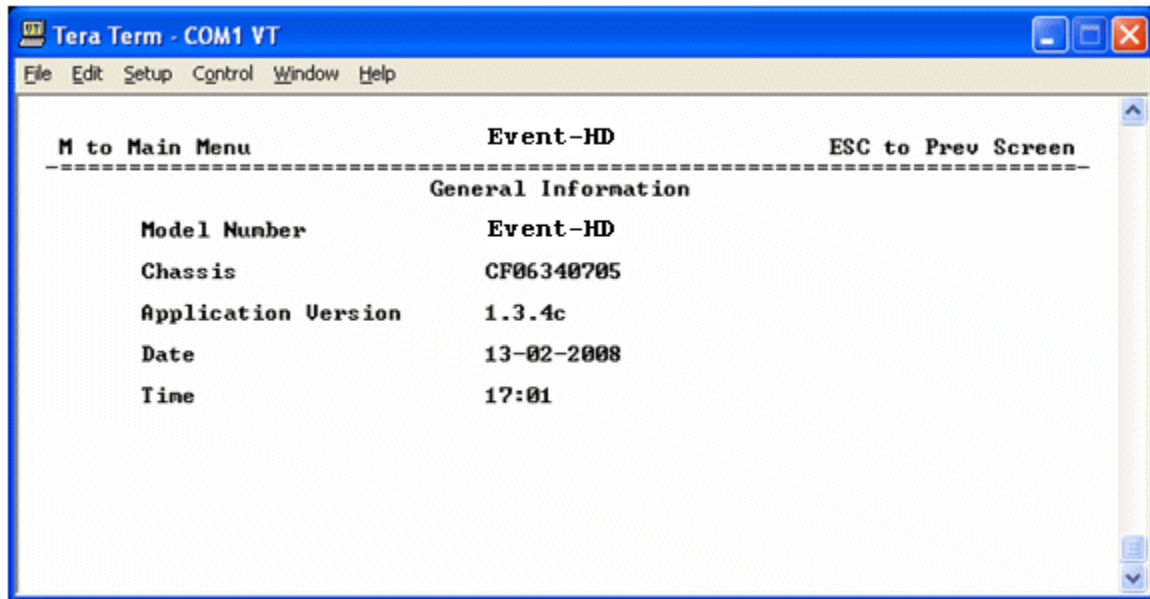


4.4.4.1 General (Device Information)

This screen is a read-only information screen that provides device information.

User Access Level: 1

Navigation: [M] Main Menu->[B] Administration->[D] Device Configuration-> [A] General Information



Model Number: Model number of the terminal.

Chassis: Chassis Serial Number assigned during manufacturing.

Application Version: Active Application Version information.

Date: Current Date.

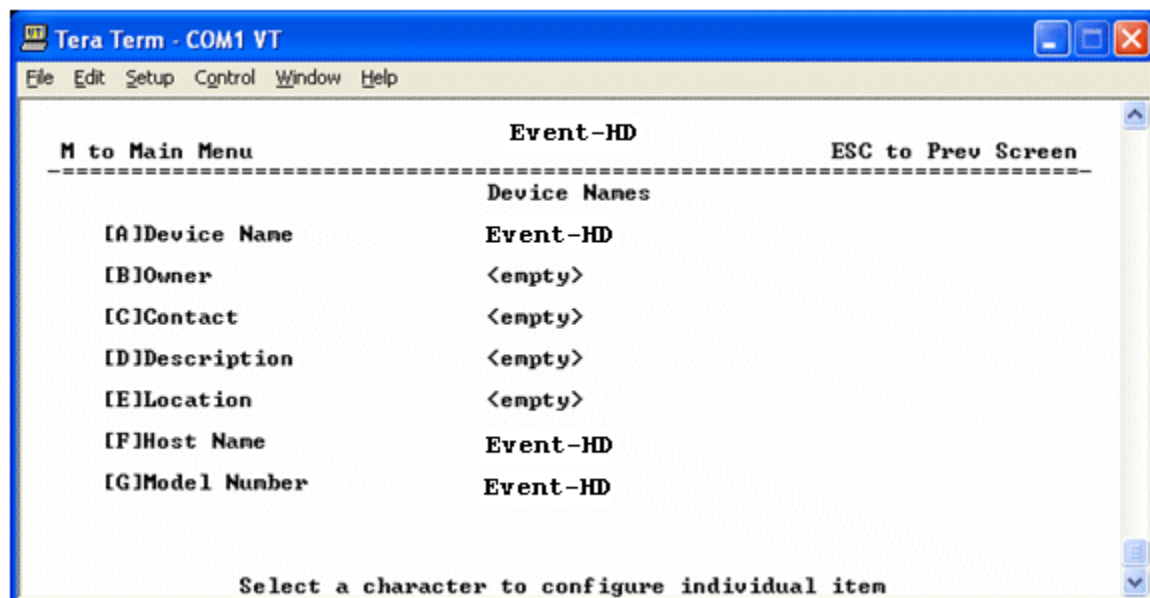
Time: Current Time.

4.4.4.2 Device Names

This screen can be used to modify terminal related information.

User Access Level: 3

Navigation: [M] Main Menu->[B] Administration->[D] Device Configuration-> [B] Device Names



[A] Device Name: Enter the name of the device.

[B] Owner: Enter the name of the device owner.

[C] Contact: Enter the contact information of owner.

[D] Description: Enter the device description.

[E] Location: Enter the device location.

[F] Host Name: Enter the host name of the device. The host name should not contain any spaces.

[G] Model Number: Enter the Event-HD model number.

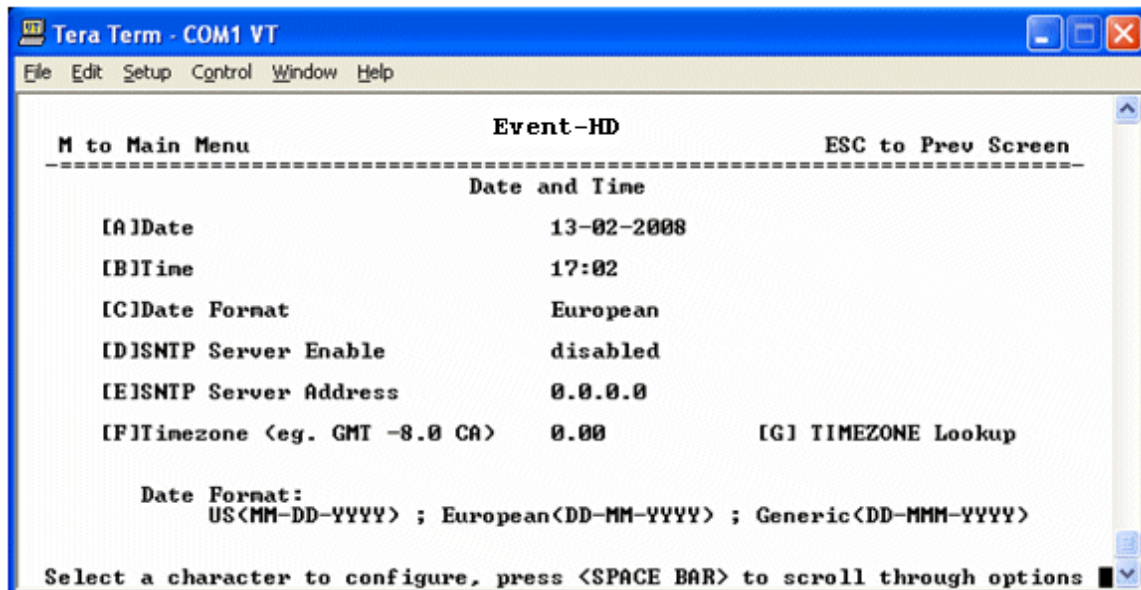
The Device Name and Owner values are displayed at the top of each CLI screen. The Device Name appears first and the Owner appears second. These parameters can be used to give a personalized appearance to the CLI.

4.4.4.3 Date and Time

This screen is used to modify the date and time of the terminal and set related parameters.

User Access Level: 3

Navigation: [M] Main Menu->[B] Administration->[D] Device Configuration-> [C] Date and Time



[A] Date: Set current terminal date.

[B] Time: Set current terminal time.

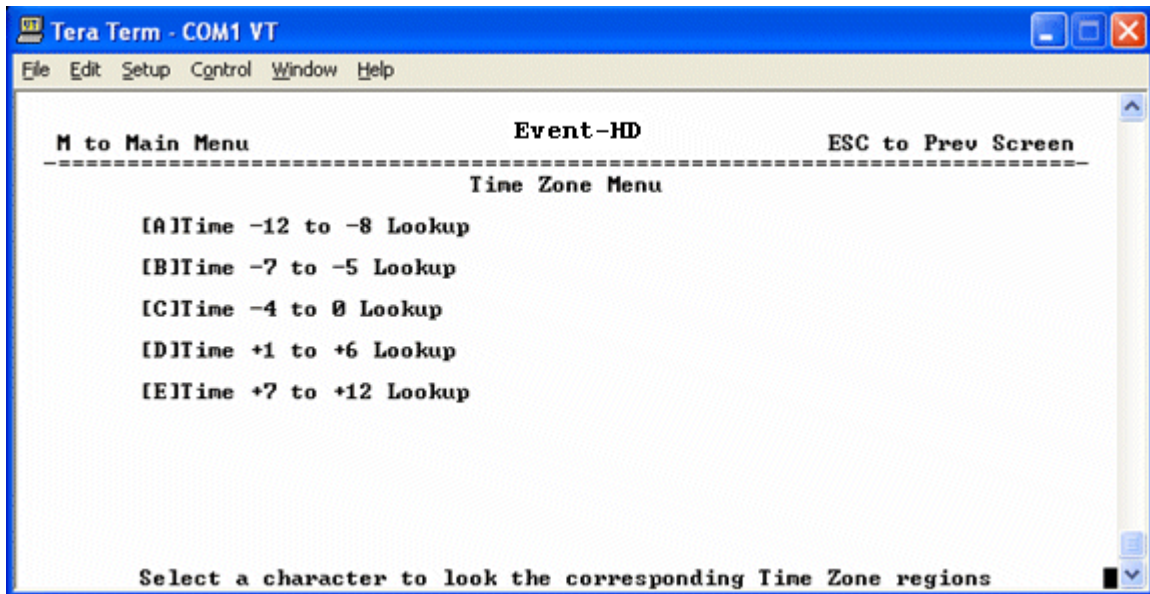
[C] Date Format: Select a date format (US, European, Generic)

[D] SNTP Server Enable: Enable / Disable SNTP Client.

[E] SNTP Server Address: Specify SNTP Server Address.

[F] Timezone: Specify the time difference from GMT.

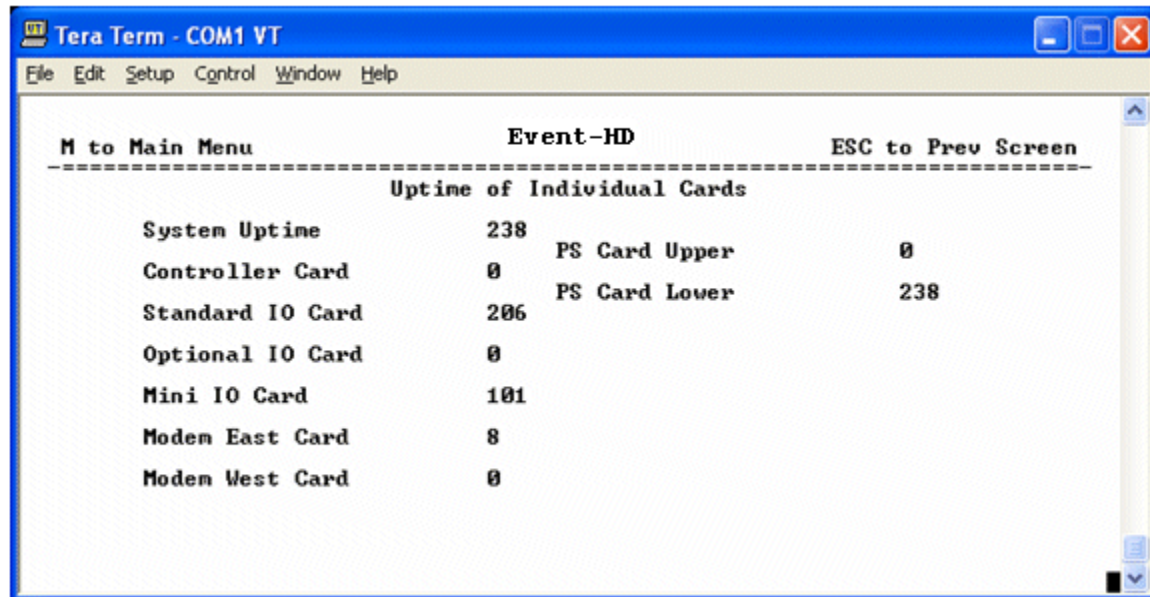
[G] TIMEZONE Lookup: This option shows the Time Zone Menu.



4.4.4.4 Uptime

This screen shows the up-time of individual components in the Event-HD.

Navigation: [M] Main Menu->[B] Administration->[D] Device Configuration-> [D] Uptime of Individual Cards

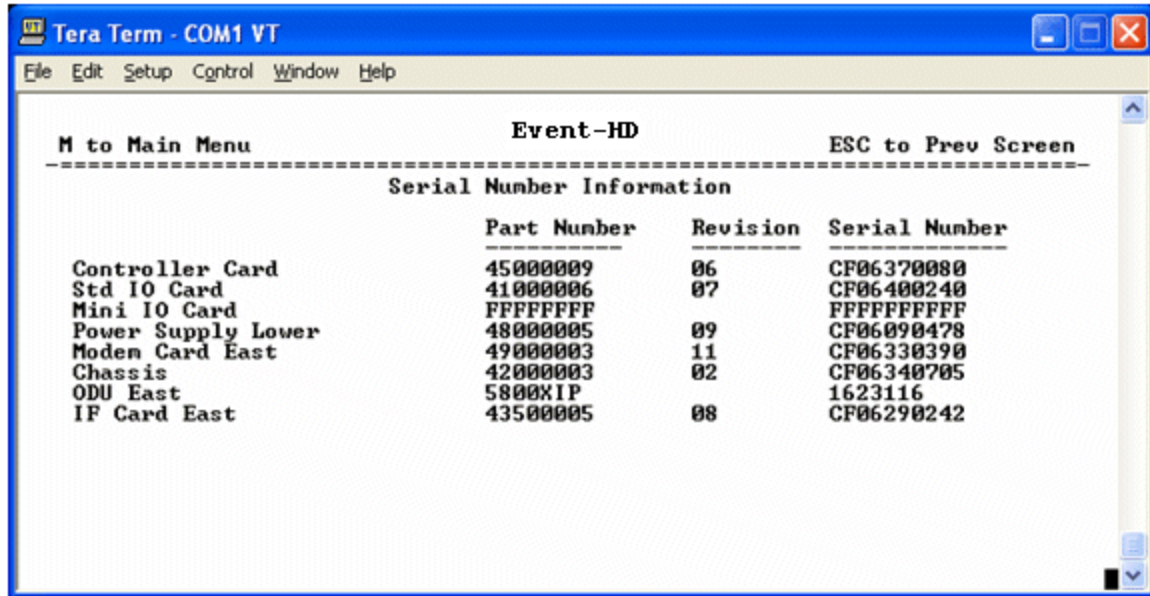


4.4.4.5 Serial Number Information

This screen provides Part number, Revision and serial number information of various modules that may be installed in an Event-HD.

User Access Level: 1

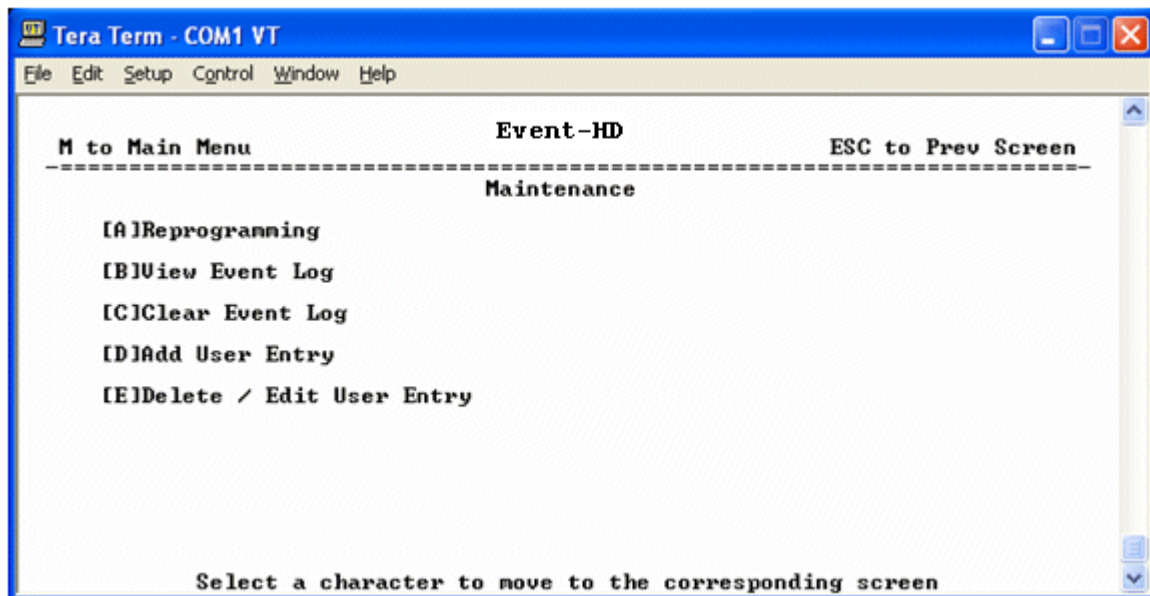
Navigation: [M] Main Menu->[B] Administration->[D] Device Configuration-> [E] Serial Number Information



	Part Number	Revision	Serial Number
Controller Card	45000009	06	CF06370080
Std IO Card	41000006	07	CF06400240
Mini IO Card	FFFFFFFF		FFFFFFFFFFFF
Power Supply Lower	48000005	09	CF06090478
Modem Card East	49000003	11	CF06330390
Chassis	42000003	02	CF06340705
ODU East	5800XIP		1623116
IF Card East	43500005	08	CF06290242

4.4.5 Administration -> Maintenance

Navigation: [M] Main Menu->[B] Administration->[E] Maintenance



[A]Reprogramming
[B]View Event Log
[C]Clear Event Log
[D]Add User Entry
[E>Delete / Edit User Entry

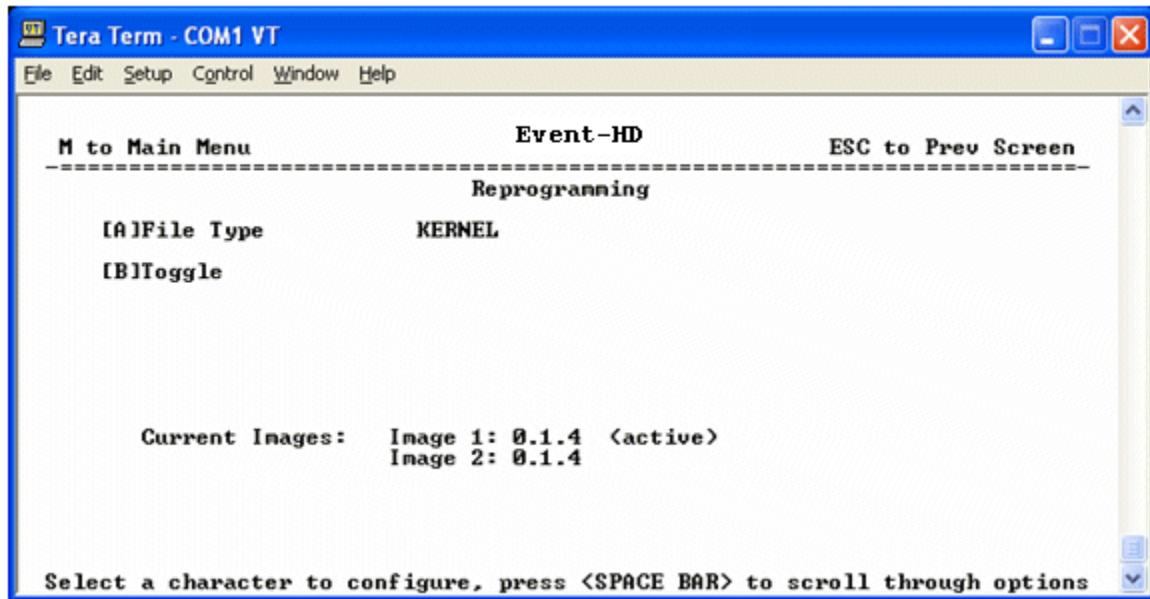
Select a character to move to the corresponding screen

4.4.5.1 Reprogramming

This screen is used to Reprogram / Upgrade the terminal software remotely. This page allows you to upgrade the Kernel, Application, FPGA, ODU, modes, channel, Boot Loader, ODU and Modem firmware Images.

User Access Level: 3

Navigation: [M] Main Menu->[B] Administration->[E] Maintenance->[A] Reprogramming



[A] File Type: Use the Space Bar to scroll through the file names. Press Enter to select a file name. Wait for few seconds to allow the screen refresh.

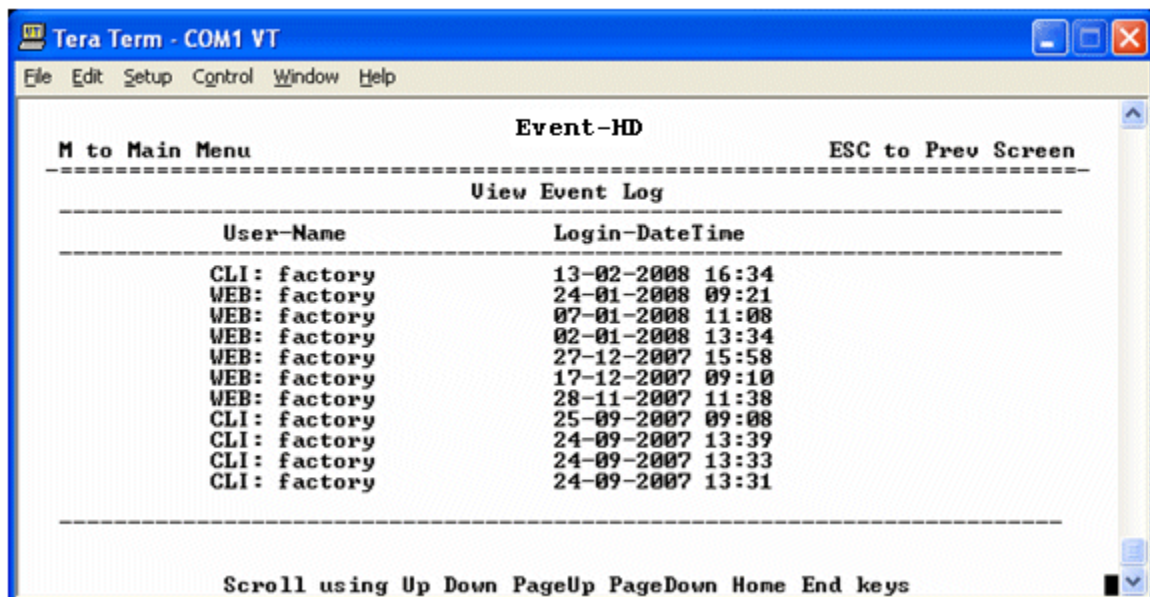
[B] Toggle: To toggle between images, press the hotkey for toggle. The result will be displayed on the screen.

In the event of an error, an appropriate error message will be displayed.

WARNING: A reboot is required after toggle of kernel, applications, FPGA, or ODU

4.4.5.2 View Event Log

Navigation: [M] Main Menu->[B] Administration->[E] Maintenance->[B] View Event Log



4.4.5.3 Clear Event Log

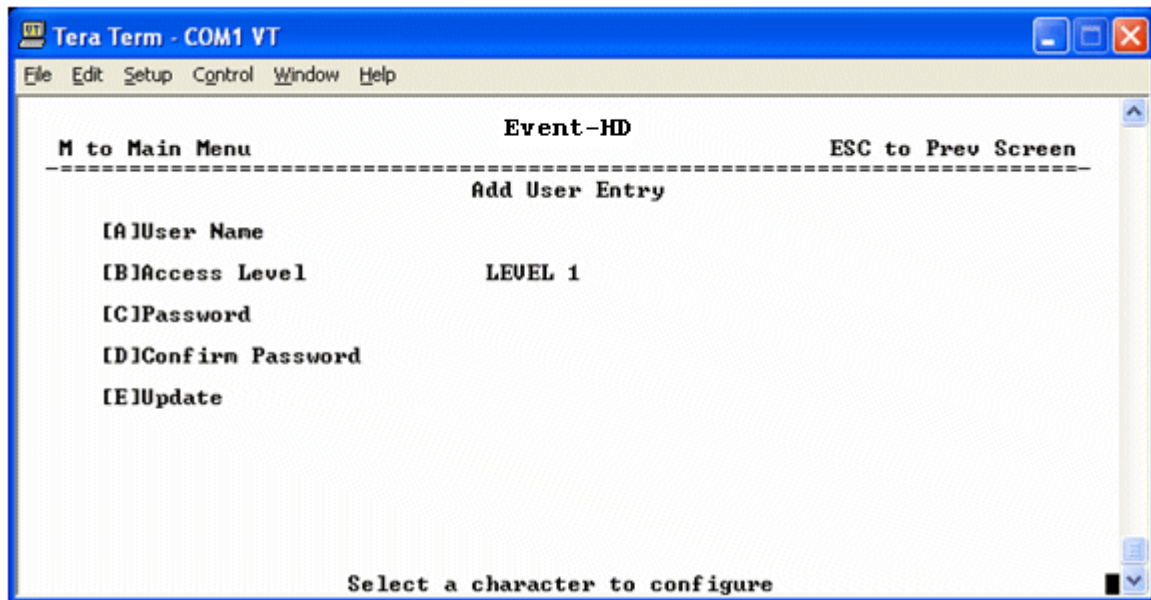
Navigation: [M] Main Menu->[B] Administration->[E] Maintenance->[C] Clear Event Log

4.4.5.4 Add User Entry

This screen can be used by terminal administrators to add users to the terminal.

User Access Level: 3

Navigation: [M] Main Menu->[B] Administration->[E] Maintenance->[D] Add User Entry



[A] User Name: Enter a user name.

[B] Access Level: Select an access level. Administrators cannot add users with an access level greater than their own.

[C] Password: Enter the user's password.

[D] Confirm Password: Re-enter the password to confirm.

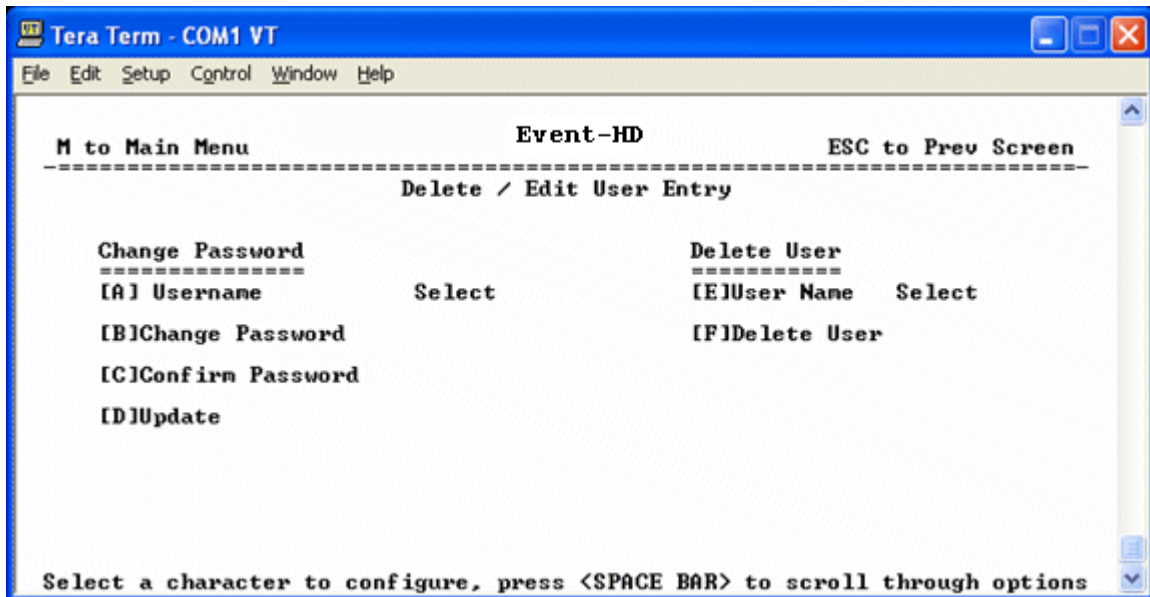
[E] Update: Press the hotkey for Update to add new user.

WARNING: The CLI restricts the maximum number of users to 10. If 10 users exist, an error message will be displayed. Delete an existing user to add new user.

4.4.5.5 Delete/Edit User Entry

This screen can be used by terminal administrators to remove users from the terminal. The page also allows a user to change the password of any user whose access level is less than or equal to his own.

Navigation: [M] Main Menu->[B] Administration->[E] Maintenance->[E] Delete/Edit User Entry



 **NOTE:** A user can change his own password and the passwords of users with an access level that is equal or less than his own level. To change the password for a particular user, the user must be removed from the terminal and added again.

[A] User Name: Select a user name to change the currently assigned password.

[B] Change Password: Enter the new password for the selected user.

[C] Confirm Password: Confirm the new password.

[D] Update: Update the changed password in the selected user profile.

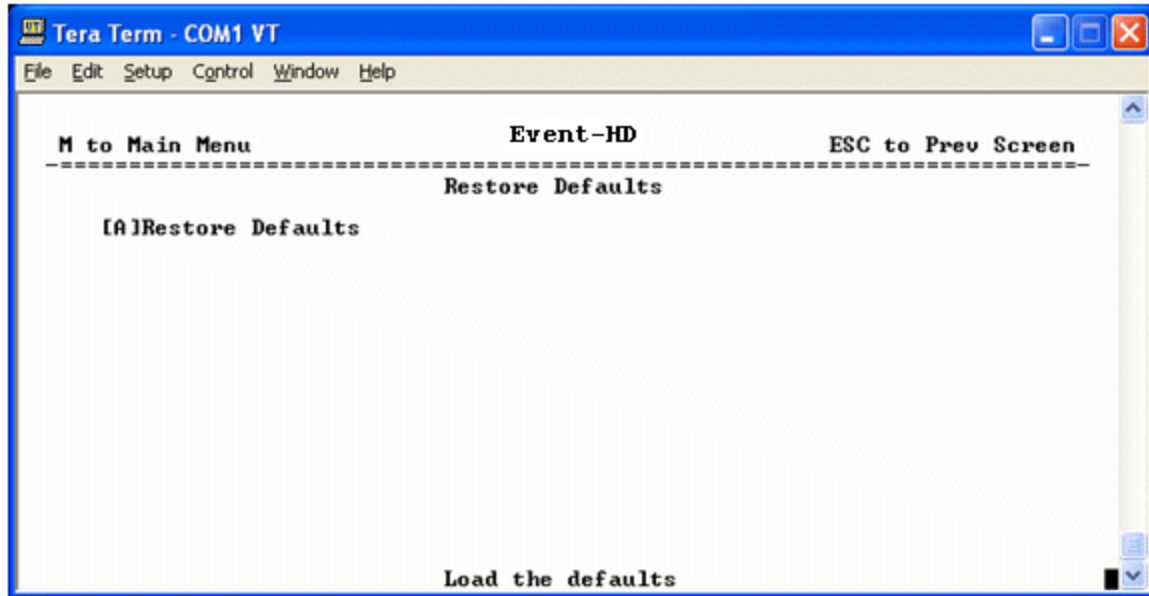
[E] User Name: Select a user name to remove an entry. The default “admin” user cannot be deleted.

[F] Delete User: Delete the selected user.

4.4.6 Administration -> Restore System Defaults

User Access Level: 3

Navigation: [M] Main Menu->[B] Administration->[F] Restore System Defaults



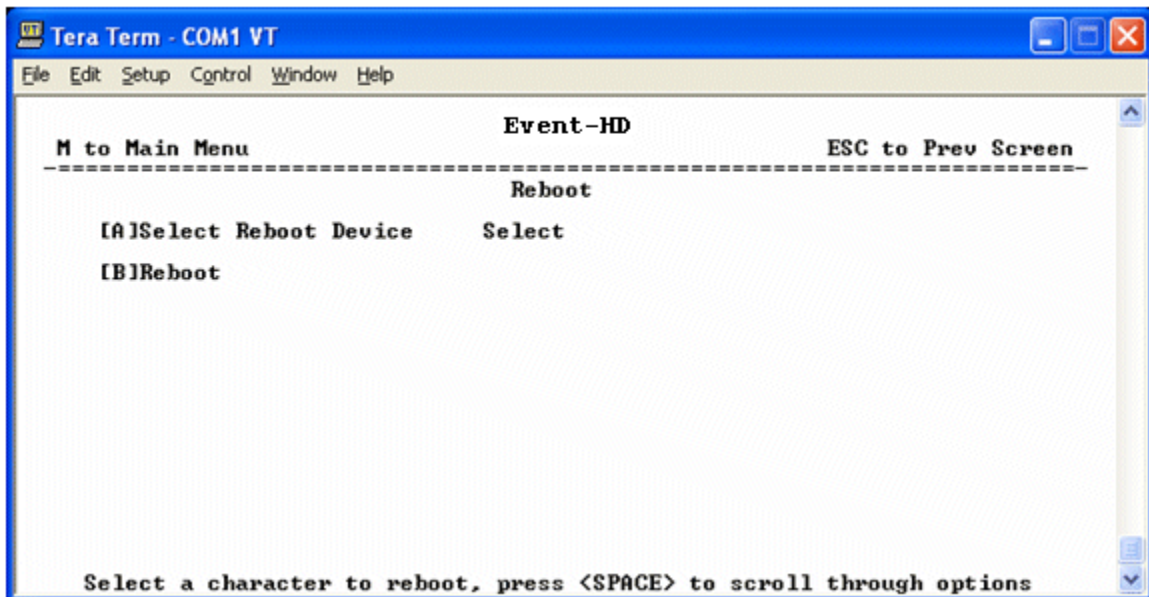
Enter "A" to Restore Defaults. When asked for confirmation, enter "y" to continue or "n" to cancel. A success or failure message will be displayed.

4.4.7 Administration -> Reboot

This screen can be used to reboot the terminal or certain devices within the terminal. It will display a list of devices and the user can select a device depending on the availability and configuration of devices.

User Access Level: 2

Navigation: [M] Main Menu->[B] Administration->[G] Reboot



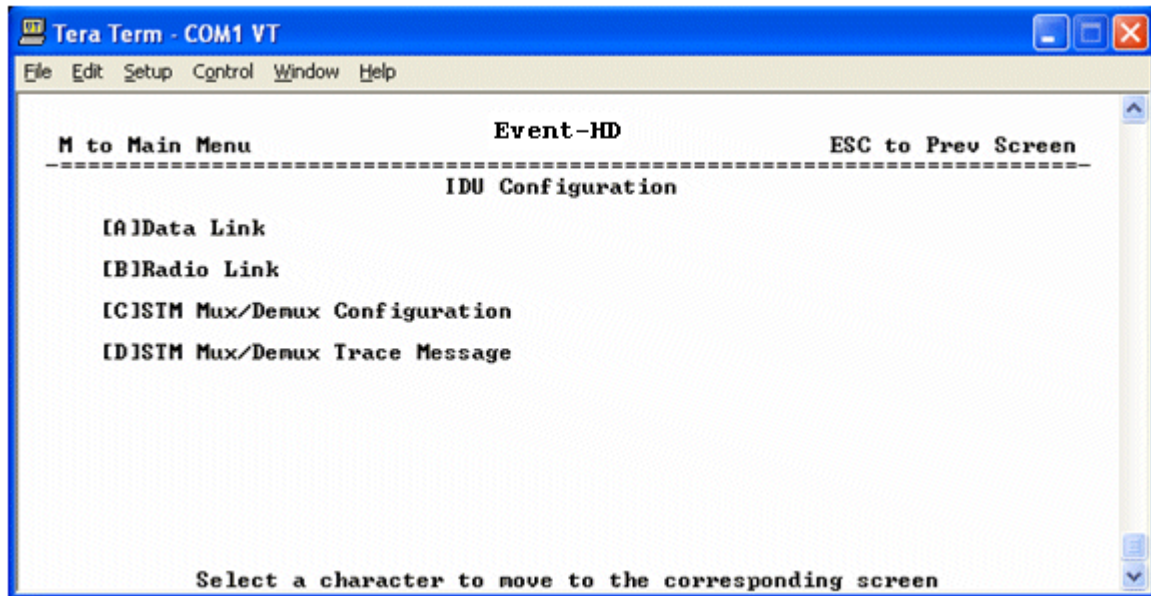
[A] Select Reboot Device: Use the Space Bar to select the Device to reboot. Press the Enter Key.

[B] Reboot: Press the hotkey for Reboot. When asked for confirmation, enter “y” to continue or “n” to cancel. A success or failure message will be displayed.

4.5 IDU Configuration

This menu shows IDU Configuration options.

Navigation: [M] Main Menu->[C] IDU Configuration



[A] Data Link: Select this option to show the Data Link Configuration Menu.

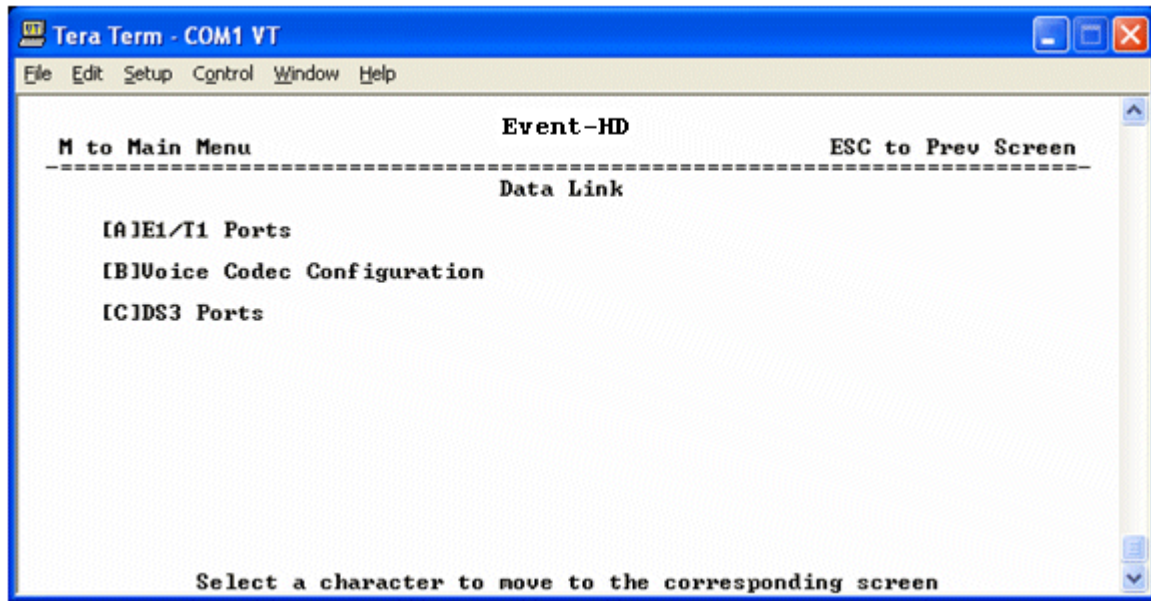
[B] Radio Link: Select this option to show the Radion Link Configuration Menu.

[C] STM Mux/Demux Configuration: Select this option to show the STM Mux/Demux Configuration Menu.

[D] STM Mux/Demux Trace Message: Select this option to show the STM Mux/Demux Trace Message Menu.

4.5.1 IDU->Data Link Configuration

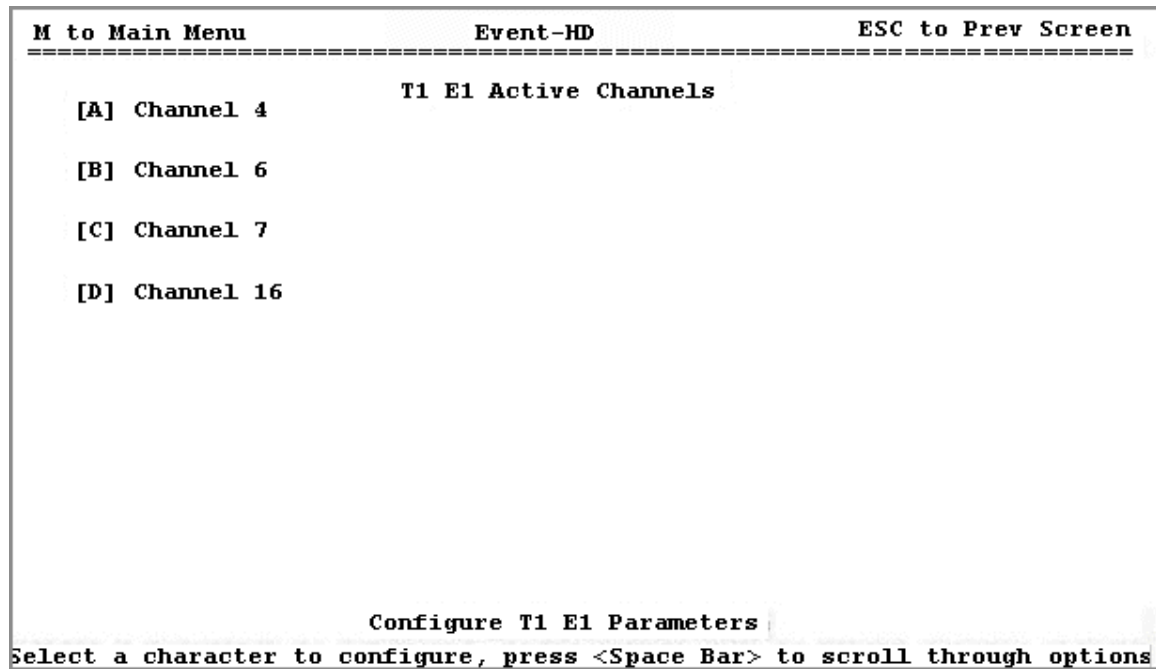
Navigation: [M] Main Menu->[C] IDU Configuration->[A] Data Link



4.5.1.1 E1/T1 Ports

User Access Level: 2

Navigation: [M] Main Menu->[C] IDU Configuration->[A] Data Link->[A] E1/T1 Ports



- » Press the hotkey corresponding to the E1/T1 channel to configure.
- » After you enter the hotkey, the following screen will be displayed.

M to Main Menu		Event-HD		ESC to Prev Screen	

E1/T1 Channel Configuration					
Channel 7					
[A] AIS Detection	G.775	[D] Loopback	Normal		
Buildout	120 Ohm	[E] Encoding	HDB3		
[C] Tx Data	Normal	[F] LOS Action	AIS		
[G] UpDate					
<HELP> Update the edited parameter Configure T1 E1 Parameters and Update the same Select a character to configure, press <SPACE BAR> to scroll through options					

This screen can be used to configure the following E1/T1 channel parameters.

[A] AIS type: Select an AIS type for the selected E1/T1 channel. Depending on the channel type (E1/T1) configuration, the choices displayed will differ.

Build out: This field shows the build out value for the selected E1/T1 channels.

[C] TX Data: Select TX data for the selected E1/T1 channel.

[D] Loopback: Select Loop back for the selected E1/T1 channel.

[E] Encoding: Select encoding for the selected E1/T1 channel.

[F] LOS Action: Select LOS Action for the selected E1/T1 channel. "Auto transmit all ones" will be selectable only if TX Data is "All ones".

[G] Update: Update any changes in this screen.

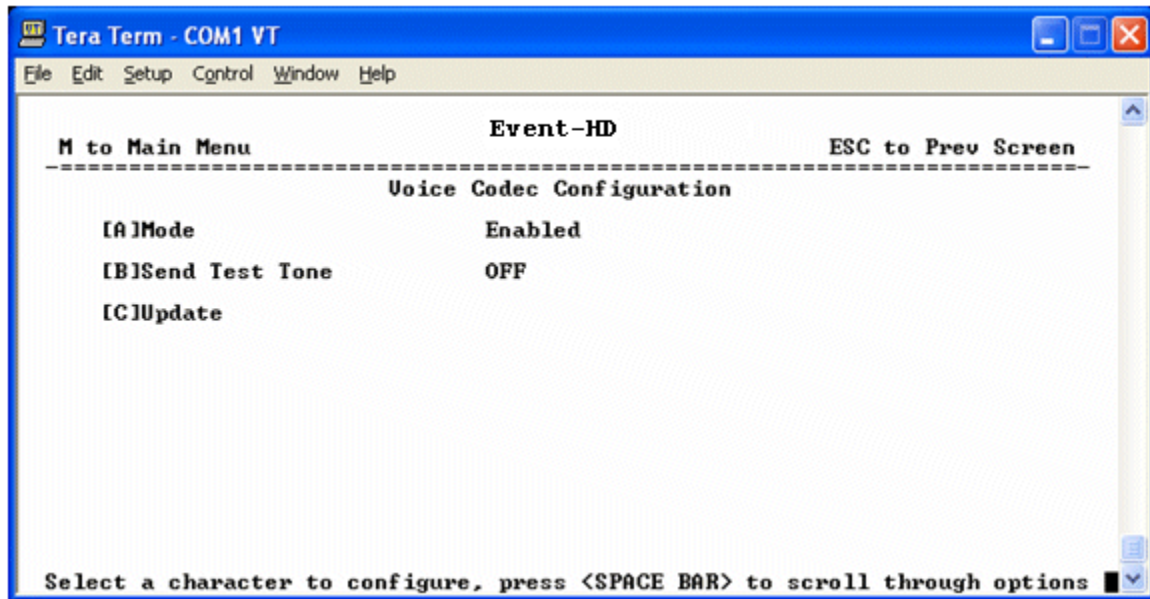
WARNING: To configure E1/T1 related parameters, the Standard I/O card should be configured and present. Otherwise an error message will be displayed.

4.5.1.2 Data Link->Voice Codec

This screen can be used to configure voice codec channel parameters.

User Access Level: 3

Navigation: [M] Main Menu->[C] IDU Configuration->[A] Data Link->[B] Voice Codec



[A] Mode: Use the Space Bar to select the voice codec mode.

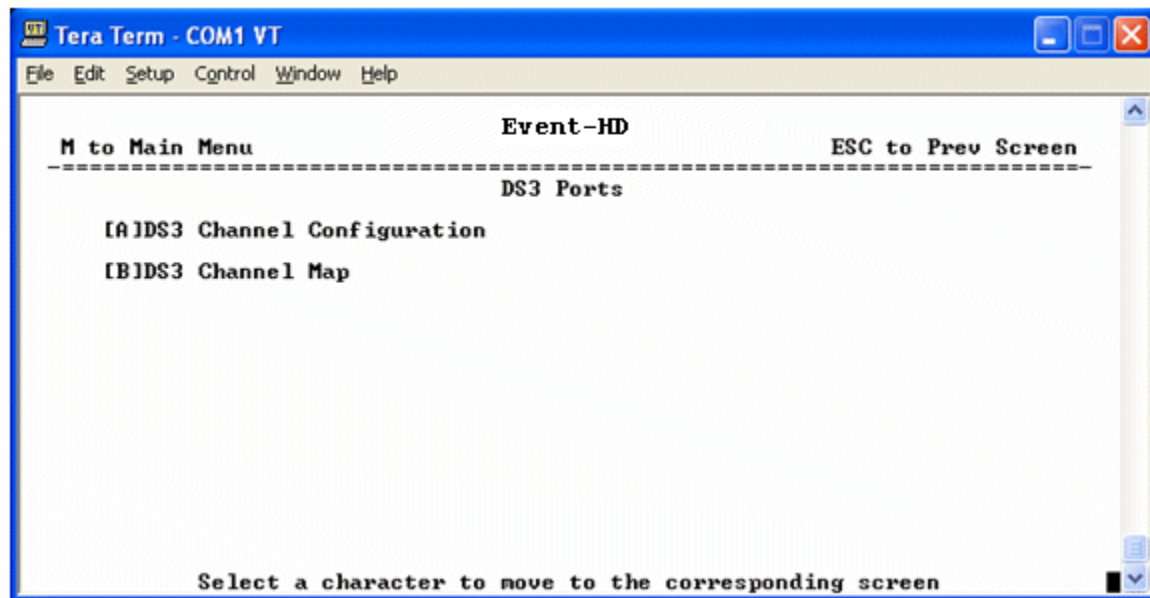
[B] Send Test Tone: Use the Space Bar to select On (send a test tone) or Off (don't send a test tone) to the Voice Codec.

[C] Update: Enter "C" to update Mode and Sent Test Tone parameters.

WARNING: To configure Voice codec related parameters, the Standard I/O card should be configured and present. Otherwise an error message will be displayed.

4.5.1.3 Data Link->DS3 Ports

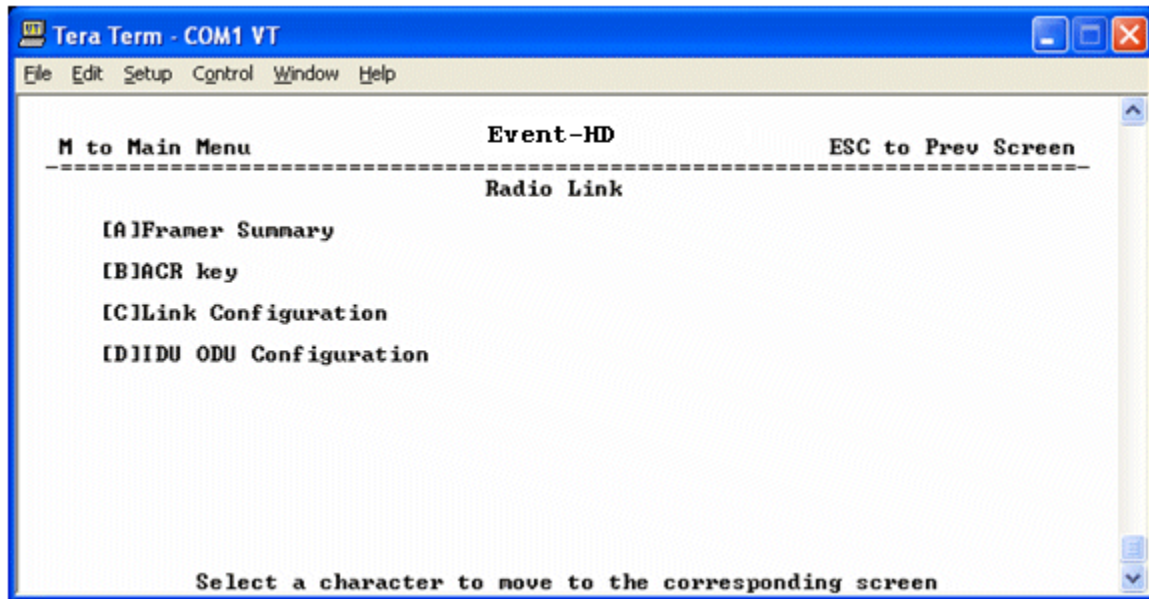
Navigation: [M] Main Menu->[C] IDU Configuration->[A] Data Link->[C] DS3 Ports



The screens in this section are for internal factory use only. Do not use unless instructed to do so by Moseley technical support.

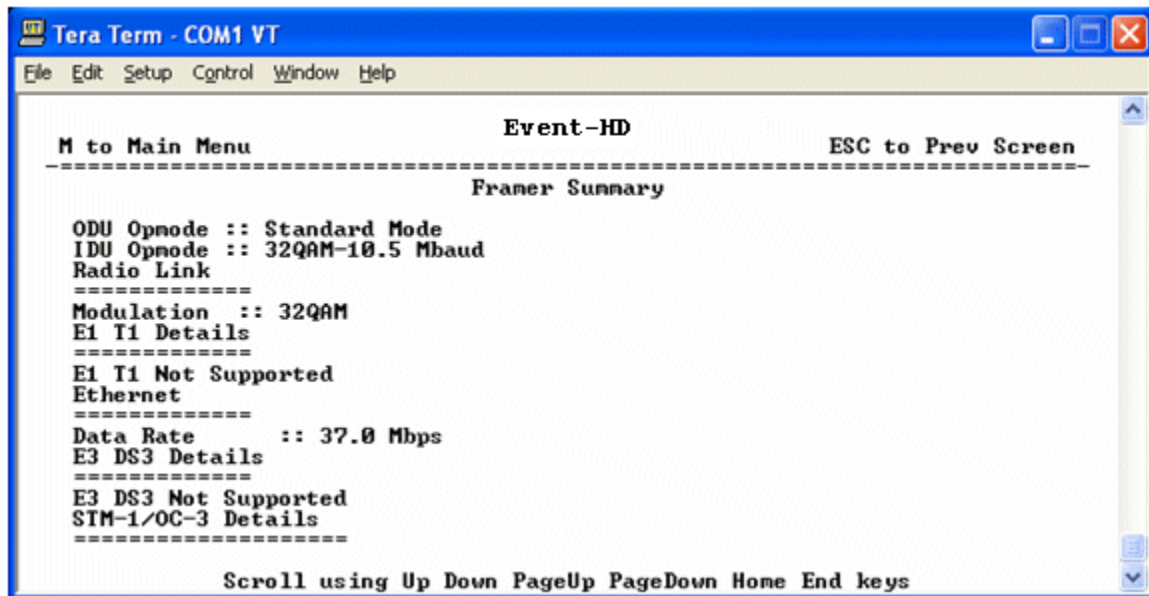
4.5.2 IDU->Radio Link Configuration

Navigation: [M] Main Menu->[C] IDU Configuration->[B] Radio Link



4.5.2.1 Radio Link->Framer Summary

Navigation: [M] Main Menu->[C] IDU Configuration->[B] Radio Link->[A] Framer Summary

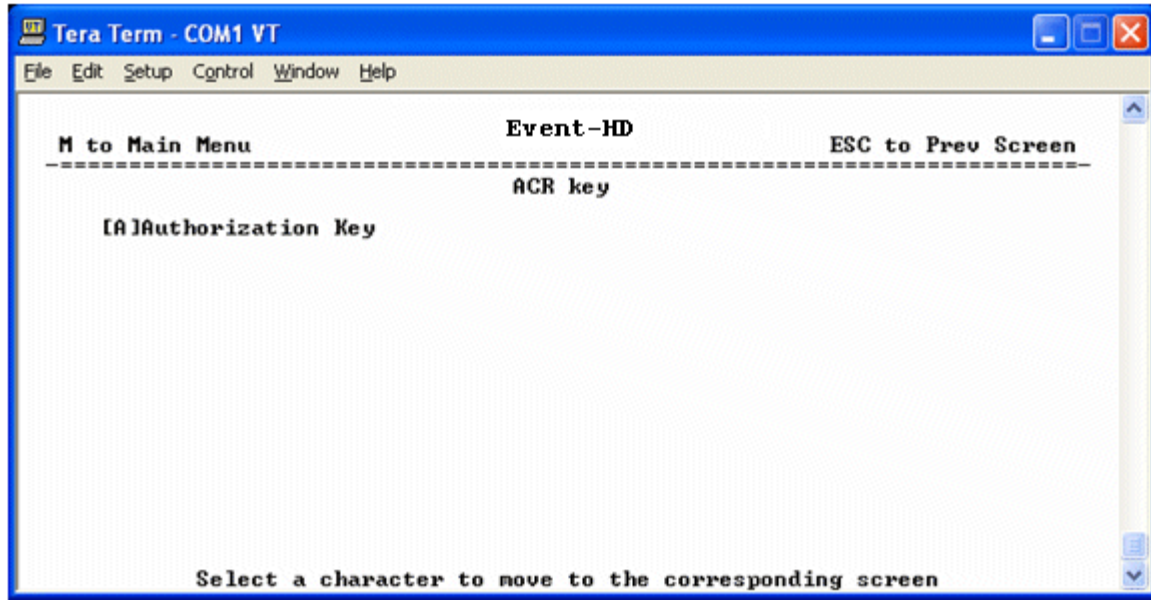


4.5.2.2 Radio Link->ACR Key

This screen is used to enter an authorization key.

User Access Level: 3

Navigation: [M] Main Menu->[C] IDU Configuration->[B] Radio Link->[B] ACR Key

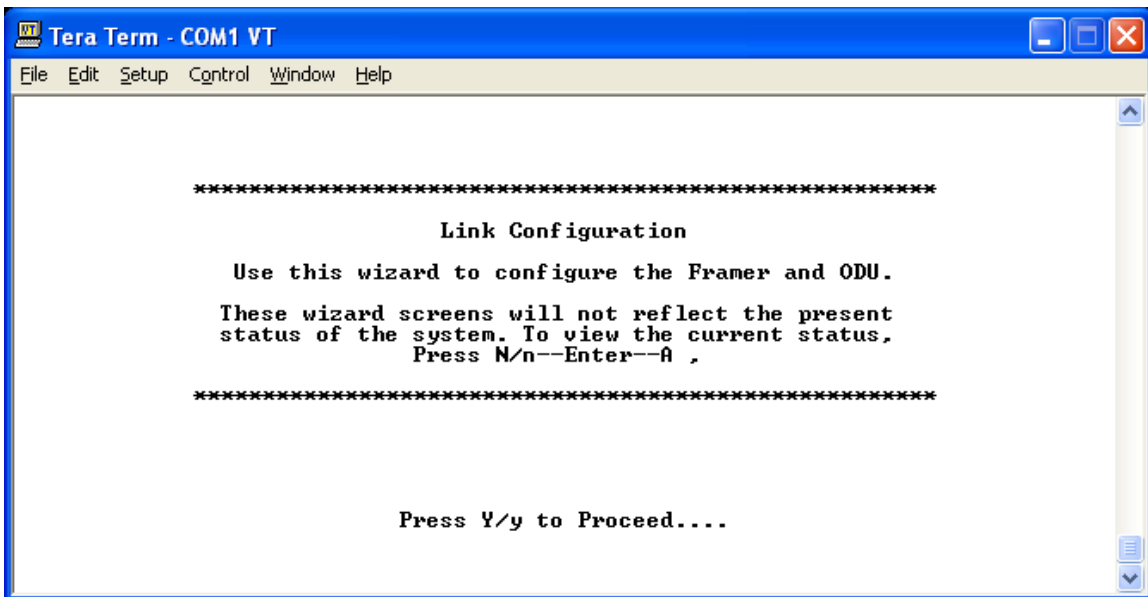


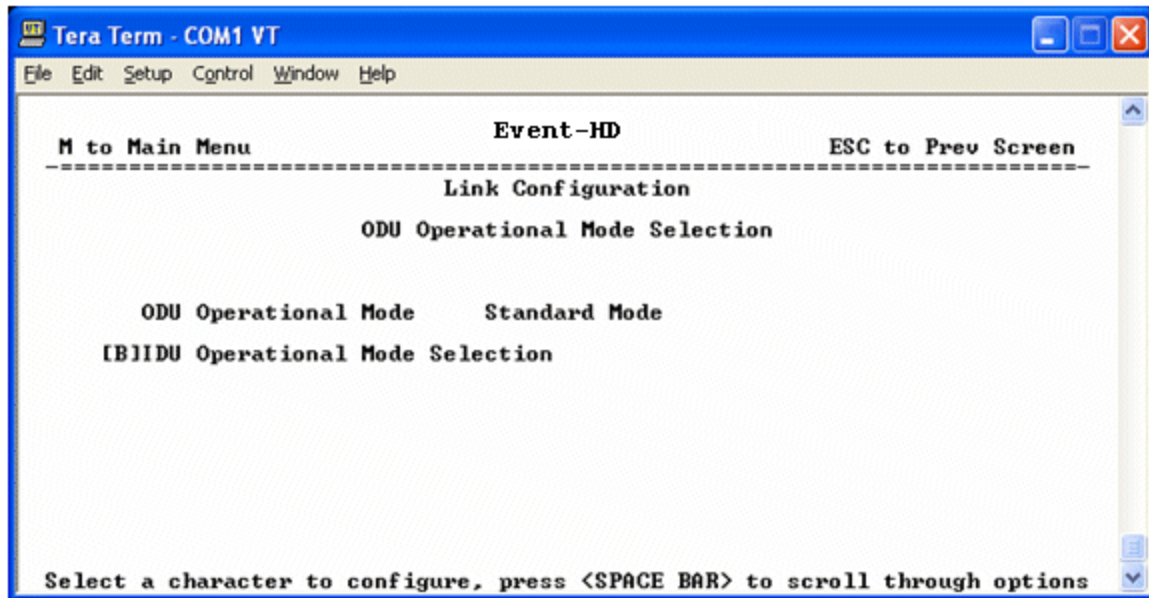
[A] Authorization Key: Enter an ACR phrase and press the Enter key. If the entered authorization key is valid, "Valid ACR Key" is displayed. Otherwise, "Invalid ACR Key" is displayed.

4.5.2.3 Radio Link->Link Configuration

User Access Level: 2

Navigation: [M] Main Menu->[C] IDU Configuration->[B] Radio Link->[C] Link Configuration

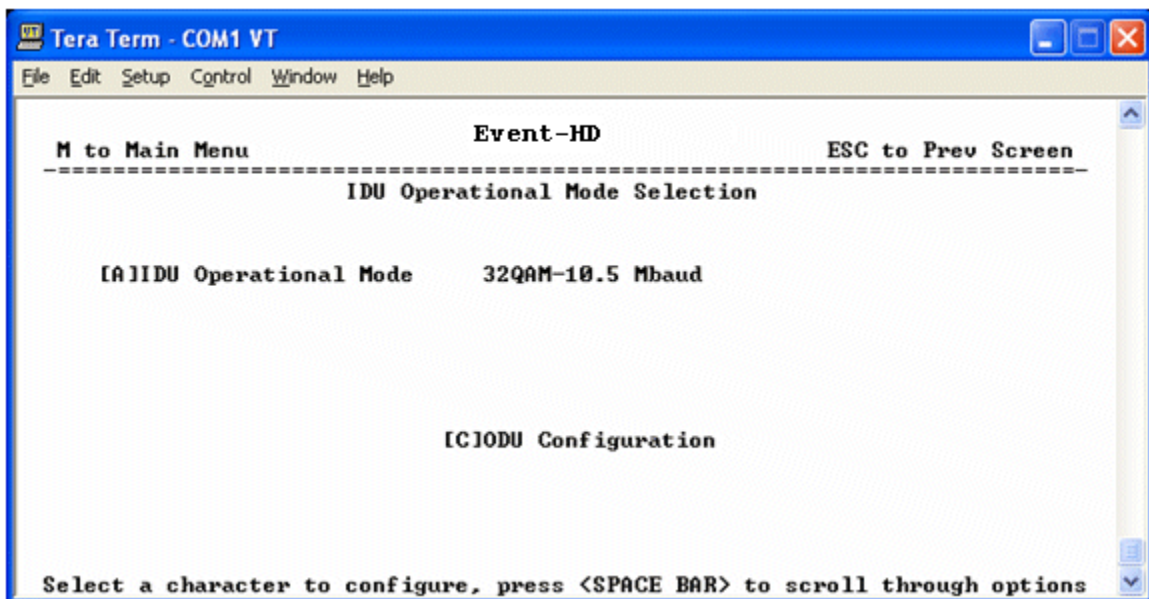


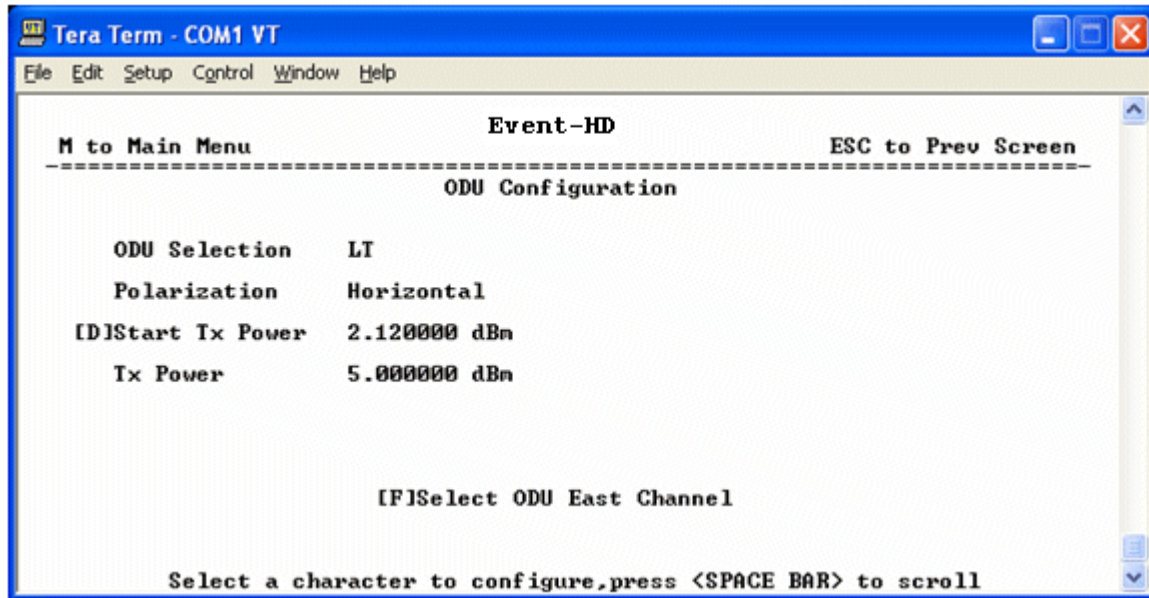


WARNING: To configure the Framers and ODU related parameters, a standard I/O card and modem should be configured and present. Otherwise an error message will be displayed.

 **NOTE:** If the selected parameters in the current screen are not supported by the system, an error message will be displayed on the next page. Go back to the previous screen by pressing the Esc key and select a suitable value for that parameter.

- » Select ODU Operational Mode using the Space Bar and press the Enter key. Then press the hotkey to switch to the Framer IDU operation mode Selection Screen.
- » Select IDU Operational Mode using the Space Bar and press the Enter key. In the case of East-West mode, two independent IDU op-modes can be selected.

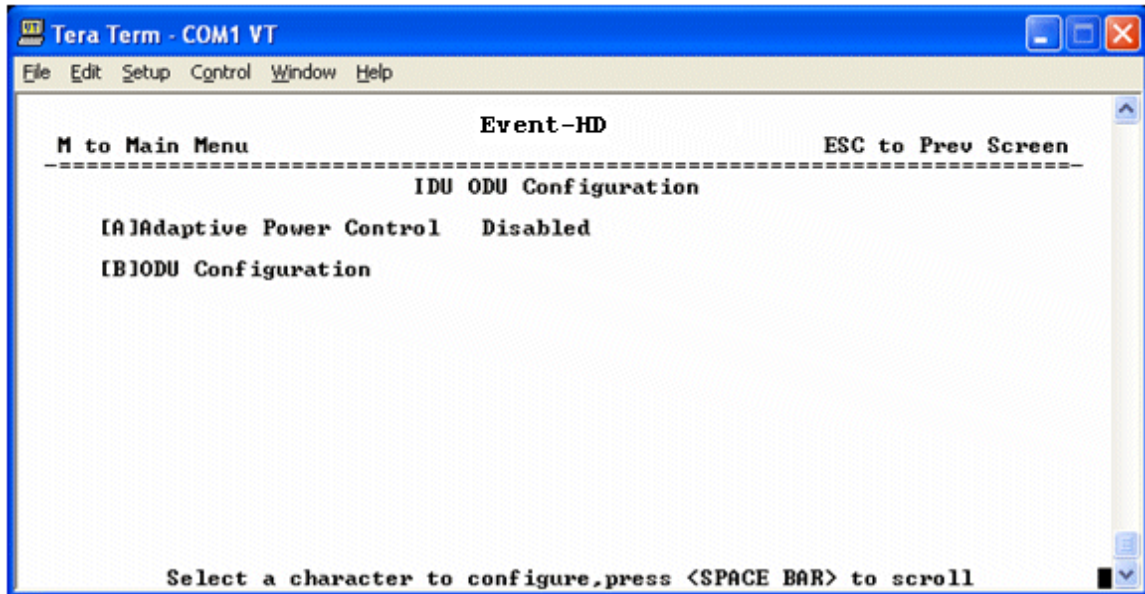




- » Select the ODU type, Polarization and Alignment Mode using the Space Bar and press the Enter key. Enter the Starting TX Power. Then, press the hotkey to switch to ODU East Channel Selection Screen
- » Select ODU East Channel Number using the Space Bar and press the Enter key. Then, press the hotkey to switch to the Reconfigure Framer Screen
- » If the ODU Opmode is East-West, then the user can select the ODU West channel number by switching to the ODU West Channel Selection Screen.
- » The selected parameters will be displayed in the summary page. Verify all values. To update, press the hotkey for "Update IDU Config Params". To reconfigure, press the hotkey for "Radio Wizard: ODU opmode Selection".

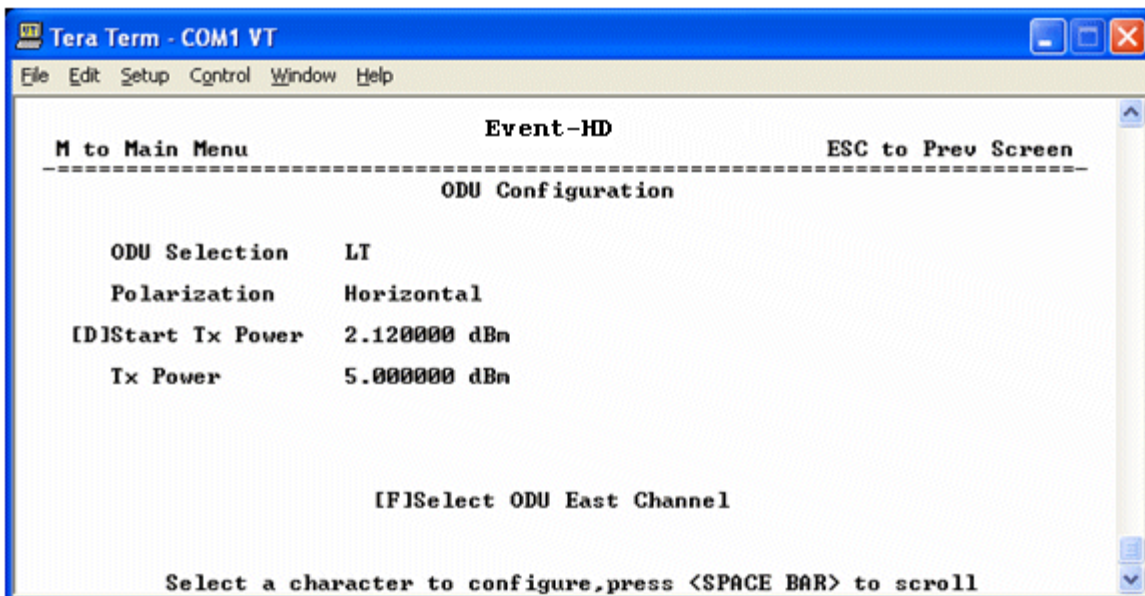
4.5.2.4 Radio Link->IDU ODU Configuraiton

Navigation: [M] Main Menu->[C] IDU Configuration->[B] Radio Link->[D] IDU ODU Configuration



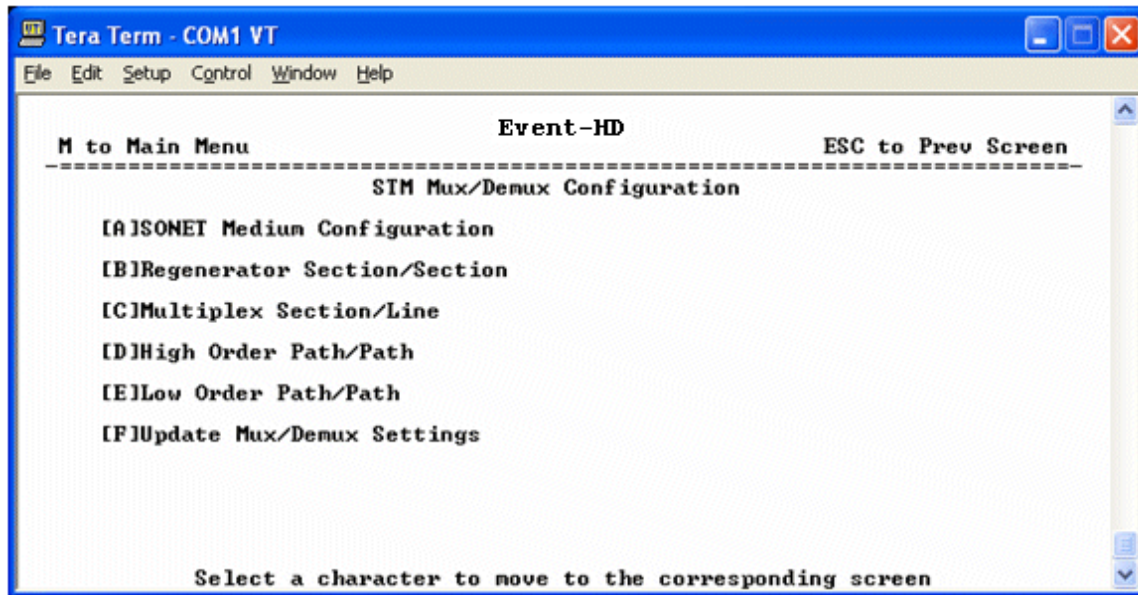
[A] Adaptive Power Control: Use the space bar to select Disabled or Enabled.

[B] ODU Configuration: This selection shows the ODU Configuration screen.



4.5.3 IDU->STM Mux/Demux Configuration

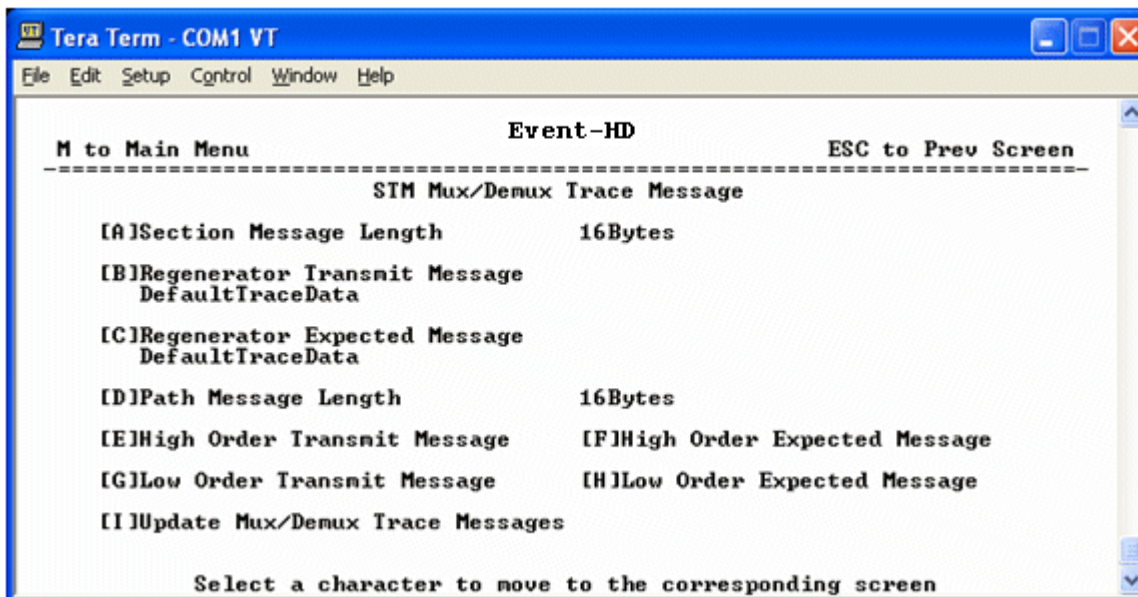
Navigation: [M] Main Menu->[C] IDU Configuration->[C] STM Mux/Demux Configuration



The screens in this section are for internal factory use only. Do not use unless instructed to do so by Moseley technical support.

4.5.4 IDU->STM Mux/Demux Trace Message

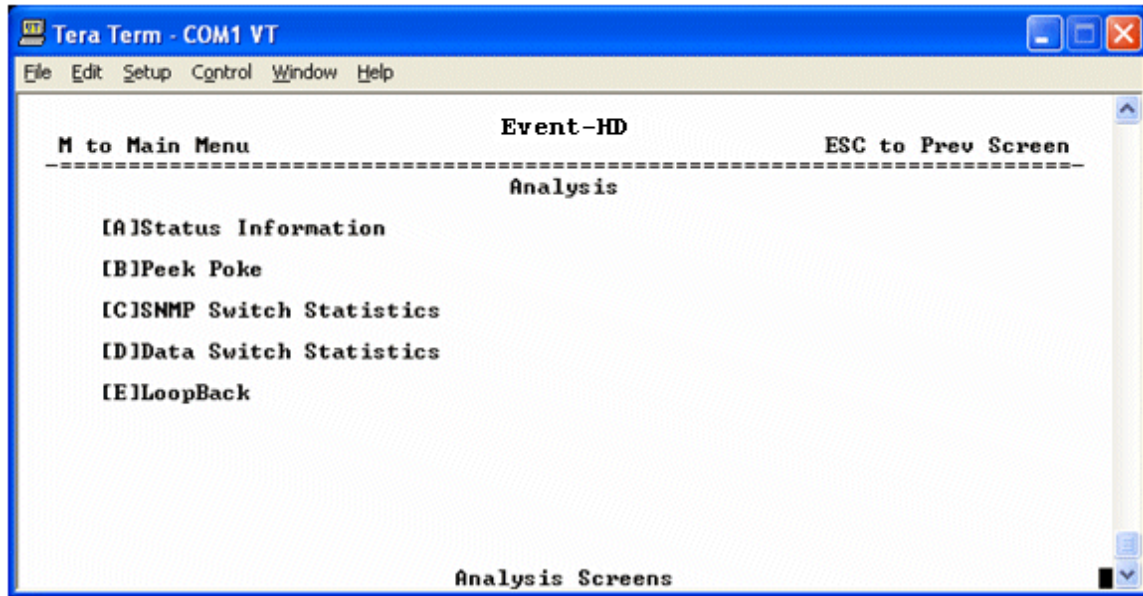
Navigation: [M] Main Menu->[C] IDU Configuration->[D] STM Mux/Demux Trace Message



The screens in this section are for internal factory use only. Do not use unless instructed to do so by Moseley technical support.

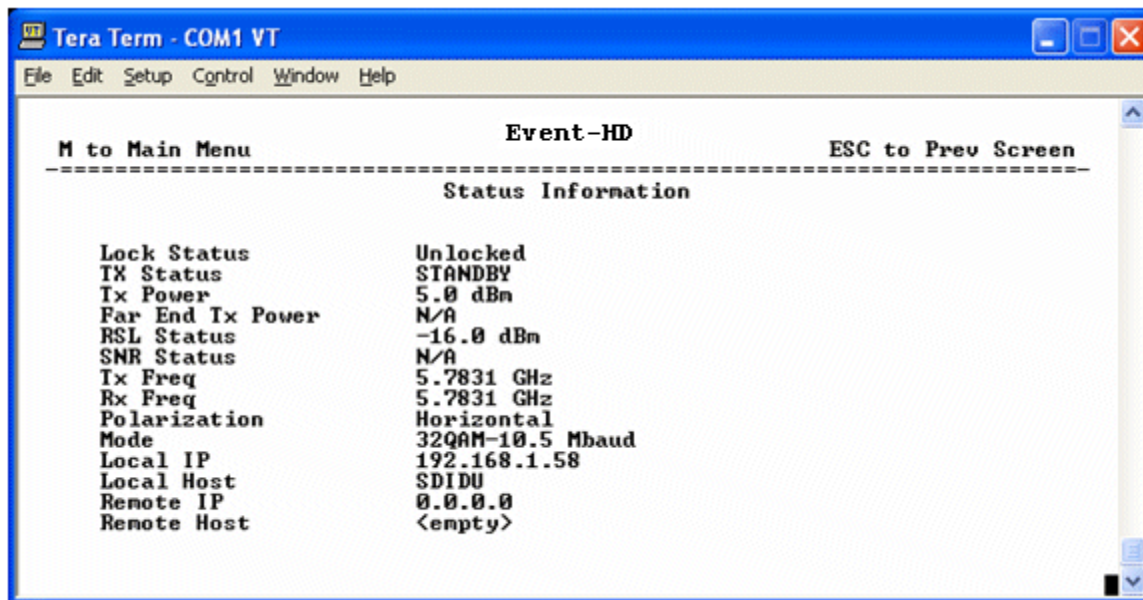
4.6 Analysis

Navigation: [M] Main Menu->[D] Analysis



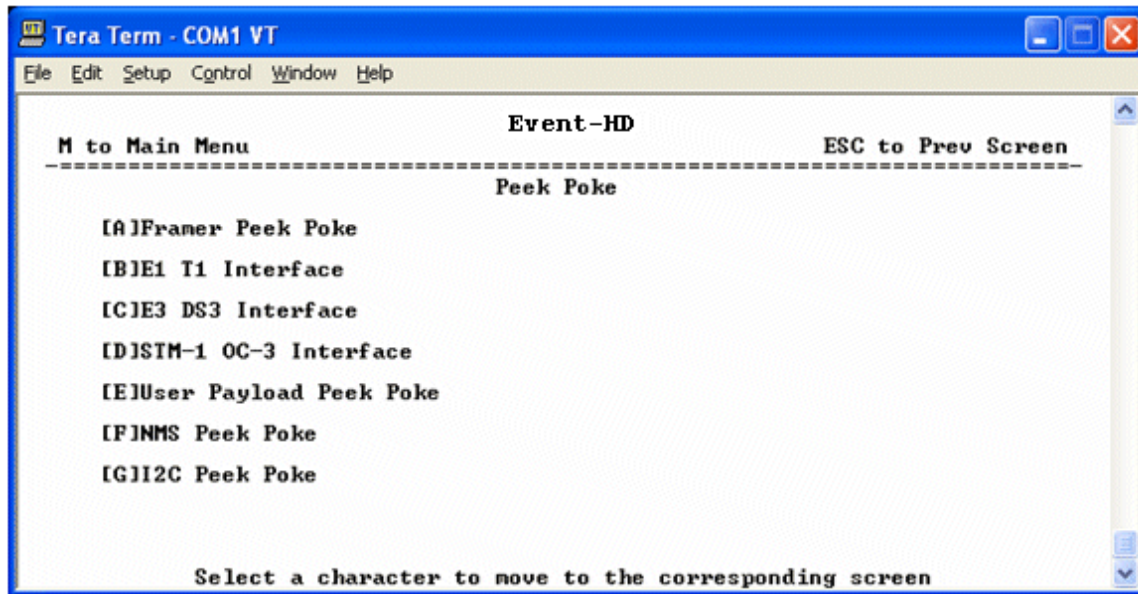
4.6.1 Analysis->Status Information

Navigation: [M] Main Menu->[D] Analysis->[A] Status Information



4.6.2 Analysis->Peek Poke

Navigation: [M] Main Menu->[D] Analysis->[B] Peek Poke



The screens in this section are for internal factory use only. Do not use unless instructed to do so by Moseley technical support.

4.6.3 Analysis->SNMP Switch Statistics

User Access Level: 1

Navigation: [M] Main Menu->[D] Analysis->[C] SNMP Switch Statistics

Statistics	Port 1	Port 2	CPU	Link(e)	Link(w)
Rx Bytes	64141224	0	96996755	0	0
Rx Bytes/sec	741	0	1121	0	0
Tx Bytes	89016083	2660160	64141319	32708	3037777
Tx Bytes/sec	1029	30	741	0	35
Rx Frames	701959	0	863675	0	0
Rx Frames/sec	8	0	9	0	0
Tx Frames	738977	41565	701960	435	46081
Tx Frames/sec	8	0	8	0	0
Errors	100	0	2	0	0
Errors/sec	0	0	0	0	0
Collisions	411	0	0	0	0
Collisions/sec	0	0	0	0	0

Rx Bytes: Number of bytes received on the NMS Switch port.

Rx Bytes/sec: Number of bytes received per second on the NMS Switch port.

Tx Bytes: Number of bytes transmitted on the NMS Switch port.

Tx Bytes/sec: Number of bytes transmitted per second on the NMS Switch port.

Rx Frames: Number of frames received on the NMS Switch port.

Rx Frames/sec: Number of frames received per second on the NMS Switch port.

Tx Frames: Number of frames transmitted on the NMS Switch port.

Tx Frames/sec: Number of frames transmitted per second on the NMS Switch port.

Errors: Number of errors on the NMS Switch port.

Errors/sec: Number of errors per second on the NMS Switch port.

Collisions: Number of collisions on the NMS Switch port.

Collisions/sec: Number of collisions per second on the NMS Switch port.

4.6.4 Analysis->Data Switch Statistics

User Access Level: 1

Navigation: [M] Main Menu->[D] Analysis->[D] Data Switch Statistics

Statistics	Port 1	Port 2	CPU	Link(e)	Link(w)
Rx Bytes	0	0	0	0	0
Rx Bytes/sec	0	0	0	0	0
Tx Bytes	0	0	0	0	0
Tx Bytes/sec	0	0	0	0	0
Rx Frames	0	0	0	0	0
Rx Frames/sec	0	0	0	0	0
Tx Frames	0	0	0	0	0
Tx Frames/sec	0	0	0	0	0
Errors	0	0	0	0	0
Errors/sec	0	0	0	0	0
Collisions	0	0	0	0	0
Collisions/sec	0	0	0	0	0

Rx Bytes: Number of bytes received on the Data Switch port.

Rx Bytes/sec: Number of bytes received per second on the Data Switch port.

Tx Bytes: Number of bytes transmitted on the Data Switch port.

Tx Bytes/sec: Number of bytes transmitted per second on the Data Switch port.

Rx Frames: Number of frames received on the Data Switch port.

Rx Frames/sec: Number of frames received per second on the Data Switch port.

Tx Frames: Number of frames transmitted on the Data Switch port.

Tx Frames/sec: Number of frames transmitted per second on the Data Switch port.

Errors: Number of errors on the Data Switch port.

Errors/sec: Number of errors per second on the Data Switch port.

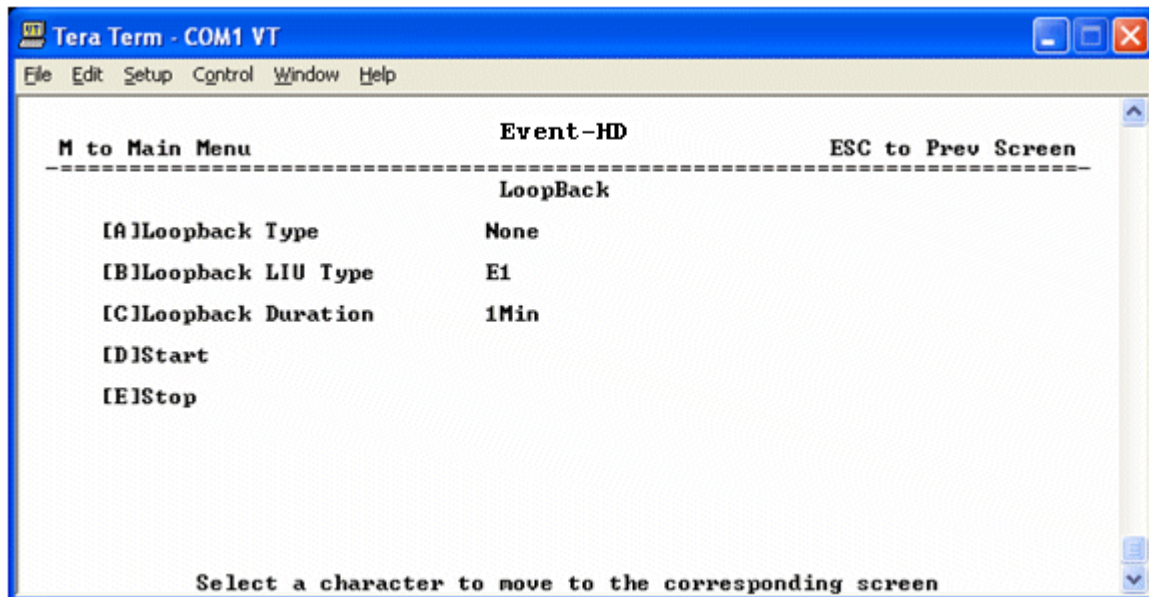
Collisions: Number of collisions on the Data Switch port.

Collisions/sec: Number of collisions per second on the Data Switch port.

4.6.5 Analysis->Loopback

User Access Level: 2

Navigation: [M] Main Menu->[D] Analysis->[D] Loopback



[A] Loopback Type: Select the type of loopback (Local LIU, Local Modem, Local ODU or Remote LIU) by pressing appropriate hotkey and the space bar.

[B] Loopback LIU Type: If Local or Remote LIU is selected then select the LIU type.

[C] Loopback Duration: Select the duration of the loopback by pressing the space bar.

[D] Start: To start loopback, press the hotkey for Start.

[E] Stop: If loopback is running, press the hotkey for stop to terminate the loopback.



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5. SNMP Interface

This section describes how to use an SNMP Agent to GET/SET Event-HD parameters.

5.1 Overview

The SNMP agent interface can be used to configure the terminal using Simple Network Management Protocol (SNMP) commands.

5.1.1 MIBs

A Managed Information Base (MIB) file describes a type of device in a network as a data structure. The Event-HD SNMP agent supports the following MIBs.

- » `ccm_reg.mib`: This MIB file contains the registration for Moseley enterprise OID and sub trees for Moseley products.
- » `ccm_SDIDU.mib`: This is the main MIB file for the Event-HD product.
- » `ccm_SDIDU_v1Traps.mib`: Event-HD product version 1 trap MIB file
- » `ccm_SDIDU_v2Traps.mib`: Event-HD product version 2 trap MIB file

The SNMP agent interface uses these MIB files to configure the system.

5.1.2 SNMP Agent Parameters

If the agent is configured in “v3 only” or “v1-v2-v3” mode, an SNMPv3 “admin” user can configure SNMP users. There are 4 possible levels of users (See Section 2.2).

The SNMP agent does not support level-based access if the agent is configured as “v1 only” or “v2 only” mode. In the case of v1 and v2 modes of operation, Level 1 access is given to the read operation and Level4 access is given for the write operation. Thus, in v1 and v2 modes of operation, the user has full access to system configurations if a valid write community string is used.

 **NOTE:** WEB and CLI interfaces can be used to configure the SNMP parameters below. A change in any of these parameters reconfigures the agent.

5.1.3 SNMP Mode

The SNMP agent can be configured to operate in any of the following modes:

- » `disable`
- » `v1 only`
- » `v2 only`
- » `v3 only`
- » `v1-v2-v3`

If the agent is configured to run as v1 only, v2 only or v3 only, the user can access the agent only using SNMP v1, v2 or v3 respectively. If the agent is configured to operate in the v1-v2-v3 mode, the user can access the agent using SNMP v1, v2 or v3. The SNMP agent is disabled by selecting the disable mode.

 **NOTE:** SNMP v1 and v2 provide a weak security by using the community strings. You can configure the SNMP agent to operate in v3 only mode, which uses authentication as well as encryption for secure transaction.

5.1.4 SNMP Traps

A trap is an SNMP message issued by an SNMP agent that reports an event. The Trap Version parameter configures the SNMP trap version. The SNMP agent uses the specified version to send the traps to configured trap managers.

Auth Trap Enable: If enabled, SNMP agent generates Authentication failure trap on authentication failure in any request.

Read Community: A community string is an SNMP security password. The Read Community string is used in read operation of SNMP v1 or v2, and allows the SNMP manager to issue Get and GetNext messages.

Write Community: The Write Community string is used in write operation of SNMP v1 or v2, and allows the SNMP Manager to issue Set messages.

Trap Community: The Trap Community string allows the SNMP agent to issue Trap messages.

SNMP Auth Password: The SNMP Auth Password is used in only SNMP v3 mode of operation and is the authorization password for the “admin” user.

SNMP Priv Password: The SNMP Priv Password is used in only SNMP v3 mode of operation and is the privacy password for the “admin” user.

Trap Manager: Trap Manager configures the trap manager’s IP addresses. A maximum of four Trap managers can be configured. The SNMP agent sends the traps to all the configured trap managers.

5.2 Network Configuration

5.2.1 General Network Configuration

General network parameters are defined in the ccmSDIDUSysCfgNetworkGen section of the MIB.

User Access Level: 3

Parameter	Object	Access	Object Type/Values
IP Address	ccmSDIDUIPAddress	read-write	IP Address
IP Netmask	ccmSDIDUIPNetmask	read-write	IP Address
IP Gateway	ccmSDIDUIPGateway	read-write	IP Address
Ethernet Address	ccmSDIDUEthernetAddress	read-only	
DHCP Client	ccmSDIDUDHCPClient	read-write	1=disable,2=enable

Enabling (2) ccmSDIDUDHCPClient forces the unit to obtain an IP address from any DHCP server available on the LAN. Set ccmSDIDUIPSettingsReconfigure (1) to update IP Configuration. This will inform Network Manager App to get the updated IP parameters and reconfigure.

5.2.2 SNMP Configuration

SNMP Configuration parameters are defined in the ccmSDIDUSysCfgNetworkSNMP section of the MIB.

User Access Level: 3

Parameter	Object	Access	Object Type/Values
SNMP Mode	ccmSDIDUSNMPMode	read-write	disabled(1), v1only(2), v2only(3), v3only(4), v1v2v3(5)
Trap Version	ccmSDIDUSNMPTrapVersion	read-write	v1Traps(1), v2Traps(2)
Auth Trap Enable	ccmSDIDUSNMPAuthTrap	read-write	disable(1), enable (2)
Read Community	ccmSDIDUSNMPReadCommunity	read-write	DisplayString (SIZE (0..20))
Write Community	ccmSDIDUSNMPWriteCommunity	read-write	DisplayString (SIZE (0..20))
Trap Community	ccmSDIDUSNMPTrapCommunity	read-write	DisplayString (SIZE (0..20))

Use the ccmSDIDUSNMPTrapManagerIP object in the ccmSDIDUSNMPTrapManagerTable to specify up to 4 trap manager IP addresses.

5.2.3 Syslog Configuration

Syslog parameters are defined in the ccmSDIDUSysCfgNetworkSysLog section of the MIB.

User Access Level: 3

Parameter	Object	Access	Object Type/Values
Syslog IP	ccmSDIDUSysLogServerIP	read-write	IP Address
Syslog Facility	ccmSDIDUSysLogFacility	read-write	level0(1), level1(2), level2(3), level3(4), level4(5), level5(6), level6(7), level7(8)

5.2.4 E-mail Configuration

E-Mail parameters are defined in the ccmSDIDUSysCfgNetworkEmail section MIB.

User Access Level: 3

Parameter	Object	Access	Object Type/Values
SMTP Enable	ccmSDIDUEmail	read-write	disable(1), enable(2)
SMTP Server IP	ccmSDIDUEmailSMTPServerIP	read-write	IP Address
SMTP Port	ccmSDIDUEmailSMTPPort	read-write	integer32
Username	ccmSDIDUEmailUsername	read-write	DisplayString (SIZE (0..40))
Password	ccmSDIDUEmailPswd	read-write	DisplayString (SIZE (0..40))
E-mail #1	ccmSDIDUEmailRecipient1	read-write	DisplayString (SIZE (0..40))
E-mail #2	ccmSDIDUEmailRecipient2	read-write	DisplayString (SIZE (0..40))
E-mail #3	ccmSDIDUEmailRecipient3	read-write	DisplayString (SIZE (0..40))

Set (1) ccmSDIDUEmailReconfigure to update Email Configuration. This will inform Mailer App to get the updated SMTP parameters and reconfigure.

 **NOTE:** User name and password should be left blank if the SMTP server does not require authentication. Enable the SMTP Enable parameter to send e-mail to the specified addresses upon occurrence of selected alarms.

5.2.5 STP Data Configuration

STP data parameters are defined in the ccmSDIDUSysCfgNetworkSTPData section MIB.

User Access Level: 3

Parameter	Object	Access	Object Type/Values
STP Status	ccmSDIDUEthernetPayloadStatus	read-write	enable(1), disable(2)
Bridge Priority	ccmSDIDUEthernetPayloadBridgePriority	read-write	normal(1), backup(2), root(3)

5.2.6 STP NMS Configuration

STP data parameters are defined in the ccmSDIDUSysCfgNetworkSTPNMS section MIB.

User Access Level: 3

Parameter	Object	Access	Object Type/Values
STP Status	ccmSDIDUEthernetNMSStatus	read-write	enable(1), disable(2)
Bridge Priority	ccmSDIDUEthernetNMSBridgePriority	read-write	normal(1), backup(2), root(3)

5.3 Serial Configuration

Serial parameters are defined in the ccmSDIDUSysCfgSerial section MIB.

User Access Level: 3

Parameter	Object	Access	Object Type/Values
Data Baud Rate	ccmSDIDUSerialBaud	read-write	baud1200(1), baud2400(2), baud4800(3), baud9600(4), baud19200(5), baud38400(6), baud57200(7), baud115200(8)

5.4 Security Configuration

Security parameters are defined in the ccmSDIDUSysCfgSecurity section MIB.

User Access Level: 3

Parameter	Object	Access	Object Type/Values
HTTP Access	ccmSDIDUHTTPOAccess	read-write	http(1), https(2), disable(3)
Command Line Interface	ccmSDIDUCLIAccessMode	read-write	telnet(1), ssh(2), disabled(3)

5.5 Device Names

Devices names are defined in the ccmSDIDUSysCfgDevInfoNames section MIB.

User Access Level: 3

Parameter	Object	Access	Object Type/Values
Owner	ccmSDIDUDeviceOwner	read-write	DisplayString (SIZE (0..40))
Host Name	ccmSDIDUDeviceHostName	read-write	DisplayString (SIZE (0..40))
Device Name	ccmSDIDUDeviceName	read-write	DisplayString (SIZE (0..40))
Contact	ccmSDIDUDeviceContact	read-write	DisplayString (SIZE (0..40))
Description	ccmSDIDUDeviceDescription	read-write	DisplayString (SIZE (0..40))
Location	ccmSDIDUDeviceLocation	read-write	DisplayString (SIZE (0..40))

5.5.1 Set Date/Time

Date/time parameters are defined in the ccmSDIDUSysCfgDevInfoDateTime section MIB.

User Access Level: 3

Parameter	Object	Access	Object Type/Values
Date	ccmSDIDUDeviceDate	read-write	DisplayString (SIZE (0..11))
Time	ccmSDIDUDeviceTime	read-write	DisplayString (SIZE (0..8))
Date Format	ccmSDIDUDeviceDateFormat	read-write	usFormat(1) -- mm/dd/yyyy, europeFormat(2) -- dd/mm/yyyy, generic(3) -- dd-MON-yyyy
SNTP Server Enable	ccmSDIDUSNTPServer	read-write	disabled (1), enabled (2)
SNTP Server Address	ccmSDIDUSNTPServerIP	read-write	IP Address
Timezone	ccmSDIDUDeviceTimeZone	read-write	DisplayString (SIZE (0..8))

5.5.2 Serial Number Information

Serial number parameters are defined in the ccmSDIDUSysCfgDevInfoCards section MIB.

User Access Level: 1

Parameter	Object
Controller Card Serial Number	ccmSDIDUControllerSerialNumber
Controller Card Revision	ccmSDIDUControllerRevision
Controller Card Part Number	ccmSDIDUControllerPartNumber
Standard I/O Serial Number	ccmSDIDUStdIOSerialNumber
Standard I/O Revision	ccmSDIDUStdIORevision
Standard I/O Part Number	ccmSDIDUStdIOPartNumber
Optional I/O Serial Number	ccmSDIDUOptIOSerialNumber
Optional I/O Revision	ccmSDIDUOptIORevision
Optional I/O Part Number	ccmSDIDUOptIOPartNumber
Mini I/O Serial Number	ccmSDIDUMiniIOSerialNumber
Mini I/O Revision	ccmSDIDUMiniIORevision
Mini I/O Part Number	ccmSDIDUMiniIOPartNumber
Power Supply Upper Serial Number	ccmSDIDUPwrSupplyUpperSerialNumber

Parameter	Object
Power Supply Upper Revision	ccmSDIDUPwrSupplyUpperRevision
Power Supply Upper Part Number	ccmSDIDUPwrSupplyUpperPartNumber
Power Supply Lower Serial Number	ccmSDIDUPwrSupplyLowerSerialNumber
Power Supply Lower Revision	ccmSDIDUPwrSupplyLowerRevision
Power Supply Lower Part Number	ccmSDIDUPwrSupplyLowerPartNumber
Modem East Serial Number	ccmSDIDUModemEastSerialNumber
Modem East Revision	ccmSDIDUModemEastRevision
Modem East Part Number	ccmSDIDUModemEastPartNumber
Modem West Serial Number	ccmSDIDUModemWestSerialNumber
Modem West Revision	ccmSDIDUModemWestRevision
Modem West Part Number	ccmSDIDUModemWestPartNumber
Backplane Serial Number	ccmSDIDUBackplaneSerialNumber
Backplane Revision	ccmSDIDUBackplaneRevision
Backplane Part Number	ccmSDIDUBackplanePartNumber
ODU East Serial Number	ccmSDIDUODUEastSerialNumber
ODU East Revision	ccmSDIDUODUEastRevision
ODU East Part Number	ccmSDIDUODUEastPartNumber
ODU West Serial Number	ccmSDIDUODUWestSerialNumber
ODU West Revision	ccmSDIDUODUWestRevision
ODU West Part Number	ccmSDIDUODUWestPartNumber
IF Card East Serial Number	ccmSDIDUIFEastSerialNumber
IF Card East Revision	ccmSDIDUIFEastRevision
IF Card East Part Number	ccmSDIDUIFEastPartNumber
IF Card West Serial Number	ccmSDIDUIFWestSerialNumber
IF Card West Revision	ccmSDIDUIFWestRevision
IF Card West Part Number	ccmSDIDUIFWestPartNumber

5.6 Maintenance

5.6.1 Reprogramming CPU

Use objects in the ccmSDIDUSysCfgMaintenanceRpg section of the MIB.

Parameter	Object	Access	Object Type/Values
File Type	ccmSDIDURpgFiletype	read-write	kernel(1), application(2), fpga(3), odu(4), modes(5), channel(6), oduEastFirmware(7), oduWestFirmware(8), bootloader(9), modemEastFirmware(10), modemWestFirmware(11)
Active Image	ccmSDIDURpgActiveImage	read-write	image1Active(1), image2Active(2)
Toggle	ccmSDIDURpgToggle	read-write	toggleImage(1)

WARNING: A reboot is required after toggle of kernel, applications, FPGA, or ODU

5.6.2 Add/Delete/Edit User

User information is defined in the ccmSDIDUSysCfgMaintenanceUserMgmt section of the MIB.

User Access Level: 3

Parameter	Object	Access	Object Type/Values
User Name	ccmSDIDUUserID	read-write	DisplayString (SIZE (1..40))
Group/Level	ccmSDIDUUserLevel	read-write	level1(1), level2(2), level3(3), level4(4)
Password	ccmSDIDUUserAuthPassword	read-write	DisplayString (SIZE (8..40))
Action	ccmSDIDUUserAction	read-write	add(1), delete(2), edit(3)

5.6.3 View Event Log

User Access Level: 3

The event log is in the ccmSDIDUSysCfgMaintenanceEventLog section of the MIB. To clear the event log, go to the MIB section ccmSDIDUSysCfgMaintenanceEventLog, and SET the MIB ccmSDIDUClearEventLog.

5.7 Restore System Defaults

User Access Level: 3

Select a parameter from the ccmSDIDUSysCfgCmd section of the MIB. Use an SNMP SET command to set the value of the ccmSDIDURestoreDefaults MIB object.

5.8 Reboot

Select a parameter from the ccmSDIDUSysCfgCmd section of the MIB. Use an SNMP SET command to set the value of the ccmSDIDUReboot MIB object

5.9 Link Configuration

5.9.1 Authorization

The authorization key is defined in the ccmSDIDULinkCfgAuthorization section of the MIB.

User Access Level: 3

Parameter	Object	Access	Object Type/Values
Auth Key	ccmSDIDURadioLinkAuthKey	read-write	DisplayString (SIZE (1...255))

5.10 Data Link Configuration

5.10.1 E1/T1 Channel Map

User Access Level: 2

Select a parameter from the ccmSDIDULinkCfgDataE1T1Ports section of the MIB. Use ccmSDIDUDataE1T1EastChMapFrontPanelTable, ccmSDIDUDataE1T1EastChMapPassThruTable, ccmSDIDUDataE1T1WestChMapFrontPanelTable and ccmSDIDUDataE1T1WestChMapPassThruTable MIB sections to select the channel mapping. Use ccmSDIDUE1T1ChMapReconfigure MIB variable to update the selected channel map.

5.10.2 E1/T1 Ports

E1/T1 port parameters are defined in the ccmSDIDULinkCfgDataE1T1Ports section of the MIB.

User Access Level: 2

Parameter	Object	Access	Object Type/Values
Encoding	ccmSDIDUE1T1Encoding	read-write	b8zs (1), ami (2), hdb3 (3)
Tx Data	ccmSDIDUE1T1TxData	read-write	normal (1), allones (2)
Loopback	ccmSDIDUE1T1Loopback	read-write	normal (1), far (2), near (3)
LOS Action	ccmSDIDUE1T1LOSAction	read-write	ais (1), none (2)
AIS Type	ccmSDIDUE1T1AISType	read-write	t1-231 (1), i-431(2), g-775 (3), i-431-etsi(4)
Build Out	ccmSDIDUE1T1Buildout	read-write	t1-0-133 (1), t1-133-266 (2), t1-266-399 (3), t1-399-533 (4), t1-533-655 (5), e1-120ohm (6)

WARNING: To configure E1/T1 related parameters, the Standard I/O card should be configured and present. Otherwise an error message will be displayed.

5.10.3 Voice Codec

Voice Codec parameters are defined in the ccmSDIDULinkCfgDataVoiceCodec section of the MIB.

User Access Level: 3

Parameter	Object	Access	Object Type/Values
Mode	ccmSDIDUVoiceCodecMode	read-write	disable (1), enable (2)
Send Test Tone	ccmSDIDUVoiceCodecTestTone	read-write	off (1), on (2)
Enable/Disable Loopback	ccmSDIDUVoiceCodecLoopback	read-write	disable (1), enable (2)

WARNING: To configure Voice codec related parameters, the Standard I/O card should be configured and present. Otherwise an error message will be displayed.

5.10.4 STM1/OC3 Channel Map

User Access Level: 2

- ▶ Use the ccmSDIDUSTM1OC3EastPort command to determine the active channel in the East port.
- ▶ Use the ccmSDIDUSTM1OC3WestPort command to determine the active channel in the West port.
- ▶ To set the channel maps for each modem, use the same OID names as above and enter one of the following options as an integer.
 - 1=optIO1
 - 2=optIO2
 - 3=miniIO
 - 4=disable
 - 5=passthrough

5.10.5 STM1/OC3 Ports

User Access Level: 2

- ▶ Select a parameter from the MIB section ccmSDIDULinkCfgDataSTM1OC3Ports
- ▶ Use an SNMP GET command to get the current value of the required parameter
- ▶ Use an SNMP SET command to set the value of the required parameter
- ▶ The SNMP agent will return the actual value upon successful set or get operation. Upon failure, the SNMP agent will return an error if the value set is out of range, or the agent is not able to get or set the value, or the user does not have access rights to the selected parameter

5.11 Radio Link Configuration

5.11.1 APC Configuration

APC parameters are defined in the ccmSDIDULinkCfgRadioLinkAPC section of the MIB.

User Access Level: 3

Parameter	Object	Access	Object Type/Values
Radio Link APC	ccmSDIDURadioLinkAPC	read-write	disable (1), enable (2)
Radio Link RSL Low Threshold	ccmSDIDURadioLinkAPCRSLLowThreshold	read-write	DisplayString(SIZE(1..20))
Radio Link RSL High Threshold	ccmSDIDURadioLinkAPCRSLHighThreshold	read-write	DisplayString(SIZE(1..20))
Radio Link RSL Maximum Threshold	ccmSDIDURadioLinkAPCRSLMaxThreshold	read-write	DisplayString(SIZE(1..20))
Radio Link CER Threshold	ccmSDIDURadioLinkAPCCERThreshold	read-write	DisplayString(SIZE(1..20))
Radio Link TX Power Maximum	ccmSDIDURadioLinkAPCTxPowerMax	read-write	DisplayString(SIZE(1..20))
Radio Link TX Power Minimum	ccmSDIDURadioLinkAPCTxPowerMin	read-write	DisplayString(SIZE(1..20))
Radio Link Update	ccmSDIDURadioLinkAPCUpdateFarEnd	read-	disabled (1), enabled (2)

Parameter	Object	Access	Object Type/Values
Far End Thresholds		write	
West Radio Link APC	ccmSDIDURadioLinkAPCWest	read-write	disable (1), enable (2)
West Radio Link RSL Low Threshold	ccmSDIDURadioLinkAPCRSLLowThresholdWest	read-write	DisplayString(SIZE(1..20))
West Radio Link RSL High Threshold	ccmSDIDURadioLinkAPCRSLHighThresholdWest	read-write	DisplayString(SIZE(1..20))
West Radio Link RSL Max Threshold	ccmSDIDURadioLinkAPCRSLMaxThresholdWest	read-write	DisplayString(SIZE(1..20))
West Radio Link CER Threshold	ccmSDIDURadioLinkAPCCERThresholdWest	read-write	DisplayString(SIZE(1..20))
West Radio Link TX Power Minimum	ccmSDIDURadioLinkAPCTxPowerMinWest	read-write	DisplayString(SIZE(1..20))
West Radio Link TX Power Maximum	ccmSDIDURadioLinkAPCTxPowerMaxWest	read-write	DisplayString(SIZE(1..20))
West Radio Link Update Far End Thresholds	ccmSDIDURadioLinkAPCUpdateFarEndWest	read-write	DisplayString(SIZE(1..20))
Coupler Nominal Power Side	ccmSDIDURadioLinkAPCCouplerNominalPwrSide	read-write	east(1), west(2)
Coupler Loss in Non-Diversit Mode	ccmSDIDURadioLinkAPCCouplerLoss	read-write	DisplayString(SIZE(1..20))
APC Reconfigure	ccmSDIDURadioLinkAPCThreshReconfigure	read-write	reconfigure (1)
East Radio Link Step Size	ccmSDIDURadioLinkAPCStepSizeEast	read-write	integer32
West Radio Link Step Size	ccmSDIDURadioLinkAPCStepSizeWest	read-write	Integer32

5.11.2 Protection Configuration

Protection parameters are defined in the ccmSDIDULinkCfgRadioLinkProtection section of the MIB.

User Access Level: 3

Parameter	Object	Access	Object Type/Values
RSL Minimum Threshold	ccmSDIDURadioLinkProtRSLMinThreshold	read-write	DisplayString(SIZE(1..20))
SNR Minimum Threshold	ccmSDIDURadioLinkProtSNRMinThreshold	read-write	DisplayString(SIZE(1..20))
Power Down ODU After Switch	ccmSDIDURadioLinkProtODUProtMode	read-write	disabled (1), enabled (2)

5.11.3 ODU Tx Mute Configuration

User Access Level: 3

The TX Mute parameter is defined in the ccmSDIDULinkCfgRadioLinkProtection section of the MIB. Set ccmSDIDURadioLinkProtTxMuteCfg to mute(1) or remainsSame(2).

5.11.4 Link Configuration Wizard

User Access Level: 2

WARNING: To configure the Framer and ODU related parameters, a standard I/O card and modem should be configured and present. Otherwise an error message will be displayed.

- » Select a parameter from the MIB section `ccmSDIDULinkCfgRadioLink`
- » Use an SNMP GET command to get the current value of the required parameter
- » Use an SNMP SET command to set the value of the required parameter
- » The SNMP agent will return the actual value upon successful set or get operation. Upon failure, the SNMP agent will return an error if the value set is out of range, or the agent is not able to get or set the value, or the user does not have access rights to the selected parameter

Wizard-style configuration in SNMP is achieved by setting the `ccmSDIDULinkCfgMode` MIB object. If this MIB object is enabled, the entire Link configuration will be updated into the temporary wizard section. After the full configuration, the `ccmSDIDURadioLinkReconfigure` object must be set to reflect the changes. A detailed procedure for link configuration through SNMP is listed below

- » SET the ODU Operational mode by setting the `ccmSDIDULinkCfgODUOpMode` MIB object.
- » GET the IDU list of operational modes by reading the `ccmSDIDULinkUtilIDUEastOpmodeList` object. This object will give the list of possible operational modes. Select a number corresponding to the required operational mode.
- » SET the IDU operational mode by setting the number selected above in to the `ccmSDIDULinkEastOpModeIndex` object.
- » GET the `ccmSDIDULinkUtilEastODUChList` MIB variables value
- » SET the channel number from this object in to the `ccmSDIDURadioEastODUCfgChFreq` object.
- » Update the configurations using `ccmSDIDURadioLinkReconfigure`
- » The selected configuration row index can be viewed by reading the `ccmSDIDULinkUtilEastChRowIndex` object.

5.11.5 ODU Power

User Access Level: 2

Start Tx Power: The value of this field is derived from the `ccmSDIDURadioEastODUStartTxPwr` object in the SNMP MIB.

Current Tx Power: This value is derived from the `ccmSDIDURadioEastODUCurrentTxPwr` object in the SNMP MIB.

5.11.6 ODU Channel Wizard

User Access Level: 2

WARNING: To configure ODU related parameters, a modem should be configured and present. Otherwise an error message will be displayed.

- » Select a parameter from the MIB section `ccmSDIDULinkCfgRadioLinkEastODUCfg`

- » Use an SNMP GET command to get the current value of the required parameter
- » Use an SNMP SET command to set the value of the required parameter
- » The SNMP agent will return the actual value upon successful set or get operation. Upon failure, the SNMP agent will return an error if the value set is out of range, or the agent is not able to get or set the value, or the user does not have access rights to the selected parameter

Details of the ODU configuration are given below

- » GET the ccmSDIDULinkUtilODUTypeCapability object
- » SET the ODU type into the ccmSDIDURadioEastODUCfgType object from values supplied by the ccmSDIDULinkUtilODUTypeCapability object
- » GET the ccmSDIDULinkUtilEastODUChList object
- » SET the channel frequency into the ccmSDIDURadioEastODUCfgChFreq object from values supplied by the ccmSDIDULinkUtilEastODUChList object.
- » Update the ODU configuration by setting the ccmSDIDURadioEastODUCfgChFreqReconfigure object

5.11.7 ODU Configuration

User Access Level: 3

- » SET the ccmSDIDURadioWestODUStateConfig or ccmSDIDURadioEastODUStateConfig object to disable (1) or enable (2).
- » SET the ccmSDIDURadioWestODUMuteConfig or ccmSDIDURadioEastODUStateConfig object to unmute (1) or mute (2).
- » SET the ccmSDIDULinkUtilODUSpiralSearch object to disable (1) or enable (2) to enable/disable the spiral search.
- » SET the ccmSDIDULinkUtilSpiralSearchWindow object to specify the search window value. An integer value in the range 10..1000 specifies the search window value in kHz.

5.12 Alarms

5.12.1 Alarm Threshold

User Access Level: 2

- » Select a parameter from the MIB section ccmSDIDUAnalysisAlarmThreshold
- » Use an SNMP GET command to get the current value of the required parameter
- » Use an SNMP SET command to set the value of the required parameter
- » The SNMP agent will return the actual value upon successful set or get operation. Upon failure, the SNMP agent will return an error if the value set is out of range, or the agent is not able to get or set the value, or the user does not have access rights to the selected parameter.

5.12.2 Alarm Configuration

User Access Level: 2

- » Select a parameter from the ccmSDIDUAnalysisAlarm section of MIB section under ccmSDIDUAnalysis group

- » Use an SNMP GET command to get the current value of the required parameter
- » Use an SNMP SET command to set the value of the required parameter
- » The SNMP agent will return the actual value upon successful set or get operation. Upon failure, the SNMP agent will return an error if the value set is out of range, or the agent is not able to get or set the value, or the user does not have access rights to the selected parameter.

UseccmSDIDUAlarmMask and ccmSDIDUAlarmEmailMask objects to access alarm and E-mail masks respectively. Alarm masks will be in the following format

1=U:2=U:3=U:4=U:5=U:6=U:7=U:8=U:9=U:10=U:11=U:

use "M" to mask the alarm and "U" to unmask the alarm.

5.12.3 Alarm History

User Access Level: 2

The current alarm state can be obtained from the SNMP manager by reading the ccmSDIDUAlarmStatus object from the ccmSDIDUAnalysis section. Status will be returned as string. Example:

1=I:2=I:3=I:4=I:5=A:6=I:7=I:8=I:9=I:10=I:11=I:

where "I" indicates that the alarm is inactive and "A" indicates the alarmed state.

5.12.4 Active Alarms

User Access Level: 2

Active alarms are derived from the ccmSDIDUAlarmStatus object in the SNMP MIB.

 **NOTE:** The last 100 alarms are stored in non-volatile memory and will be available after a power cycle.

5.13 Graphs

User Access Level: 1

Graph data can be obtained by reading the ccmSDIDUAnalysisPerfData object from the ccmSDIDUAnalysis section of the mib.

5.14 Modem Temperature

- » Select a parameter (ccmSDIDUModemEastTemperature or ccmSDIDUModemWestTemperature) from the ccmSDIDUAnalysisModemConfig section of the MIB.
- » Use an SNMP GET command to get the current value of the required parameter
- » The SNMP agent will return the actual value upon successful set or get operation. Upon failure, the SNMP agent will return an error the agent is not able to get or set the value, or the user does not have access rights to the selected parameter.

5.15 Statistics

5.15.1 Data Switch

User Access Level: 1

- » Select a parameter from the ccmSDIDUAnalysisUPLSwitch section of the MIB.
- » Use an SNMP GET command to get the current value of the required parameter
- » The SNMP agent will return the actual value on successful get operation. Upon failure, the SNMP agent will return an error if agent is not able to get the value or the user does not have access rights to the selected parameter.

5.15.2 NMS Switch

User Access Level: 1

- » Select a parameter from the ccmSDIDUAnalysisNMSSwitch section of the MIB.
- » Use an SNMP GET command to get the current value of the required parameter
- » The SNMP agent will return the actual value on successful get operation. Upon failure, the SNMP agent will return an error if agent is not able to get the value or the user does not have access rights to the selected parameter.

5.16 ODU Trace

User Access Level: Level 4

 **NOTE:** The ODU Trace Screen is only available for some ODU types.

- » Select a parameter from the ccmSDIDUAnalysisOduTrace section of the MIB.
- » Use an SNMP GET command to get the current value of the required parameter.
- » Use an SNMP SET command to set the value of the required parameter.
- » The SNMP agent will return the actual value upon successful set or get operation. Upon failure, the SNMP agent will return an error if the value set is out of range, or the agent is not able to get or set the value, or the user does not have access rights to the selected parameter.

MIB object ccmSDIDUODUResponse can be read repeatedly to get the ODU trace.

5.17 Modem Trace

User Access Level: Level 4

- » Select a parameter from the ccmSDIDUAnalysisModemTrace section of the MIB.
- » Use an SNMP GET command to get the current value of the required parameter.
- » Use an SNMP SET command to set the value of the required parameter.
- » The SNMP agent will return the actual value upon successful set or get operation. Upon failure, the SNMP agent will return an error if the value set is out of range, or the agent is not able to get or set the value, or the user does not have access rights to the selected parameter.

MIB object ccmSDIDUModemResponse can be read repeatedly to get the MODEM trace.

5.18 CW Mode

User Access Level: 2

- » Select a parameter from the ccmSDIDUAnalysisModemConfig section of the MIB.
- » Use an SNMP GET command to get the current value of the required parameter.

- » Use an SNMP SET command to set the value of the required parameter.
- » The SNMP agent will return the actual value upon successful set or get operation. Upon failure, the SNMP agent will return an error if the value set is out of range, or the agent is not able to get or set the value, or the user does not have access rights to the selected parameter.

5.19 Loopback

User Access Level: 2

- 1)** Select a parameter from the ccmSDIDUAnalysisLoopback section of the MIB.
- 2)** Use an SNMP GET command to get the current value of the required parameter
- 3)** Use an SNMP SET command to set the value of the required parameter
- 4)** The SNMP agent will return the actual value upon successful set or get operation. Upon failure, the SNMP agent will return an error if the value set is out of range, or the agent is not able to get or set the value, or the user does not have access rights to the selected parameter.



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6. FTP Upload Procedures

6.1 FTP Upload Procedures

Use an FTP client and connect to the Event-HD via IP address.

6.2 Windows FTP Client

- 1) Enter the command "ftp <Event-HD IP address>".
- 2) Enter the administrator username and password when prompted.
- 3) Set the mode to binary by entering "bin".
- 4) To upload the file, enter the command "put <filename>".
- 5) Exit.

6.3 Graphical FTP Client (i.e., Filezilla)

- 1) Use the following parameters to connect:
 - Host: <Event-HD IP address>
 - Username: Administrator username
 - Password: Administrator password
- 2) Set FTP client to binary mode.
- 3) Set timeout detection to 999 seconds.
- 4) Make sure the "use multiple connections to transfer files" option is not used.
- 5) Drag and drop/copy the file from the PC to the Event-HD.
- 6) Exit the FTP client.



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7. Troubleshooting

7.1 Cannot Access Event-HD using IP (Web / Telnet / SSH)

- » Verify the IP Address or Host name of the Event-HD
- » Determine if the terminal is up by pinging the Event-HD
- » Check your PC's Network Configuration
- » Check Cables

7.2 Web Page Resolution is Improper

- » The pages are best viewed at resolutions of 1024x768 or greater
- » The pages are best viewed using Microsoft Internet Explorer Version 5.5 and above.

7.3 Unable to Establish a Secure Connection

- » Ensure that the HTTP Access in the Security Configuration of the system is set to HTTP (SSL)
- » Check if "Use SSL 2.0" and "Use SSL 3.0" options are selected in the Security Options of the browser

7.4 Unable to Access Different Network Services

- » Telnet
 - Verify possibilities mentioned in Section 7.1.
 - Telnet may be disabled.
- » SSH
 - Verify possibilities mentioned in Section 7.1
 - SSH may be disabled.
- » Serial
 - Verify the serial cable and proper connection.
 - Serial port may be disabled.
- » WEB
 - Verify possibilities mentioned in Section 7.1
 - HTTP / Secure-HTTP access may be disabled.

 **NOTE:** By default, a user can logon through Telnet, Web HTTP support, SNMP Manager, or Serial Connection. In the Web Interface, these interfaces can be configured in the Security Configuration Screen by setting HTTP access to HTTP With SSL, HTTP Without SSL, or Disabled. In the Command Line Interface, these interfaces can be set to Telnet, SSH, or Disabled. In the Web Interface Serial Configuration, the Device Selection can be set to: Modem with IP, Modem Without IP, or RS232.

7.5 Hardware Reset to Factory Defaults

The Event-HD can be reset to factory defaults during power up. A power on reset affects the IP address and the user logins/passwords. To perform a power on reset:

- 1)** Power on the Event-HD
- 2)** During bootup, the Event-HD will flash the controller-card LED alternating red/green for five seconds.
- 3)** Make sure the call button is not active at the start of this five second period.
- 4)** While the LED is flashing, press the call button. Release the call button within one second after the LED stops flashing.

8. References & Links

8.1 *Install Mozilla Firefox*

- » Visit <http://www.mozilla.com/firefox/>
- » Click “Download Firefox” to download the installation package.
- » Run the downloaded executable and follow installation instructions.

8.2 *Install Internet Explorer*

- » Visit <http://www.microsoft.com/windows/ie/>
- » Click “Downloads” and select an appropriate version to download.
- » Run the downloaded executable and follow installation instructions.

8.3 *Install Java*

- » Visit <http://www.java.com/>
- » Click “Download Now” to download the installation package.
- » Run the downloaded executable and follow installation instructions.

8.4 *Install PuTTY*

- » Visit <http://www.puttyssh.org/>
- » Click “Download ”
- » Click on the appropriate version for your platform to download the installation package.
- » Run the downloaded executable and follow installation instructions.



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Appendix A. Front Panel

This section describes the installation and operation of the optional Front Panel. The Front Panel is a user interface to the Event HD that consists of an LCD display and buttons that can be used to access status, configuration and alarms.



The Front Panel also includes LED indicators, a USB connector, an Ethernet connector, and a reset switch.

A.1 HARDWARE INSTALLATION

The Front Panel hardware is a U-shaped device with a printed circuit board, LCD display, etc. mounted on the inside of the enclosure. The length of the Front Panel enclosure is 8-1/2 inches. This allows you to attach two Front Panels to an IDU. The LCD/Buttons are centered in the enclosure. The Front Panel hardware can be mounted to an IDU in 2 ways.

- ▶▶ The Front Panel can sit on top of the area where the physical ports are located (2 RU in height)
- ▶▶ The Front Panel can be mounted to the side where the ports are attached to the IDU at the same 1 RU height.

Use a standard Ethernet cable to attach the Front Panel Ethernet Port to either one of the IDU NMS ports. Additional details are TBD.

A.2 GENERAL OPERATING PROCEDURES

The Front Panel LCD, buttons and LEDs are shown in the following illustration.



LCD: The LCD is a 4-line by 20-character display. It shows menus, status, configuration, and active alarms data from the IDU. The LCD will automatically go into screen-saver mode (dim) after 5 minutes of no button activity. Any button activity will restore the LCD display to its previous state.

LCD Cursors: A blinking block cursor (█), indicates an item is in View Mode (cannot be changed). A blinking underscore character (_) indicates the currently selected item is in Edit Mode (can be changed).

LEDs: The LEDs on the left side of the LCD indicate device status information. See Front Panel LEDs later in this document for details.

Buttons: The buttons on the right side of the LCD are used to navigate through the various menus and screens and to select configuration items.

- » **Up/Down Arrow Buttons (▲/▼):** In a menu display, these buttons scroll to each menu item. In an Edit field, these buttons scroll through the selectable choices. The selectable choices can be a predefined set of options (e.g., enable/disable, mute/unmute, etc.) that are allowed in a particular field or digits (0...9) that choose a value.
- » **Left/Right Arrow Buttons (◀/▶):** In a list of items, these buttons move to the next or previous field on the line. They can also be used to navigate through a menu list. At the start or end of a line, Left/Right Arrows move to the next menu item group. In an edit field with multiple columns, the Left/Right Arrows move to next column of the field.
- » **Enter (✓):** In an Edit field, the Enter button changes the mode from View Mode to Edit Mode. In Edit Mode, the Enter button selects and saves the currently selected configuration item. The keypad will be disabled for 3-5 seconds while changes are being saved and sent to the IDU.
- » **Exit (✕):** In a menu, the Exit button will return the LCD to the previous submenu of a selected branch. In an edit field, the Exit button will cancel any changes to the field.

 **IMPORTANT NOTE:** To enable communications between the Front Panel and the IDU, you must configure SNMP Community parameters and Front Panel/IDU IP addresses. To configure SNMP Community parameters, select SDIDU->SNMP in the web interface and set: Read Community= Public, Write Community=Private, and Trap Community=Public. To configure Front Panel and IDU addresses, select Configuration in the Front Panel Main Menu. Select Administration in the Configuration Menu. Select Network Settings in the Administration menu. See Configuration->Administration->Network Settings for details.

A.3 FRONT PANELS MENUS & SCREENS

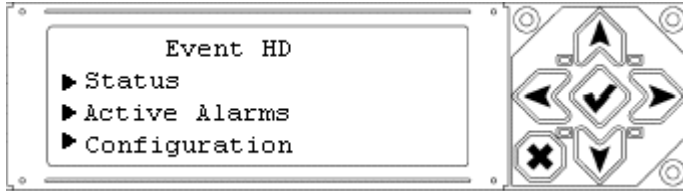
The following illustration shows the structure of the Front Panel menus and screens. Fields shown in bold can be changed. All other fields are display only.

Event HD		
> Status		
> Active Alarms		
> Configuration		
Status		
> Transmit		
> Receive		
> Versions		
Transmit	Receive	Versions
RF Pwr (dBm) :+13	Rx Freq:N/A	FP:1.0.0
Tx Freq(GHz) :5.7832	> Modem	> IDU/ODU
	> Errors	
	Modem	IDU/ODU
	RSL (dBm) :-16.0	> Software/FPGA
	SNR (dB) :0.00	> Configuration
	Lock :unlocked	> Firmware
	Errors	Software/FPGA
	Last Err sec:0	Kernel:0.1.4
	Err sec 24h :244799	Appl :1.3.4c
		FPGA :27-Uni48
ACTIVE ALARMS		Configuration
modemUnlockLower		ODU :M1-1.3.4e
snrLowLower		Modes:M1-1
ethernetPayloadDisc		Chan :CN-1
oduFaultLower		
Configuration		Firmware
> ODU Control		ODU :4.2.3
> ODU Channel		Boot :1.1.27
> Administration		Modem:S-2.0.0
ODU Control	ODU Channel	Administration
Start Pwr (dBm) :+13	> Link	Uptime 4day 21h12m
RF Mute :mute	> Loopback	>Link/Radio Type
ODU DC Pwr :enable		>Network Settings
	Link	Link/Radio Type
	Freq(GHz) :5.7832	Type :Transceiver
	Link:16QAM-10.5Mbaud	
	Data Rate (Mbps) :42.0	
	Loopback	>Indoor Unit IP
	Type :None	192.168. 0. 58/24
	LIU :E1	>Front Panel IP
	Duration:Clear	192.168.0.220/24
		Indoor Unit IP
		IP :192.168. 0. 58
		Mask(bits):24
		GW :192.168. 0.254
		Front Panel IP
		IP :192.168. 0. 220
		Mask(bits):24
		GW :192.168. 0.254

Figure A-1. Front Panel Menu Structure

A.3.1 Event HD Main Menu

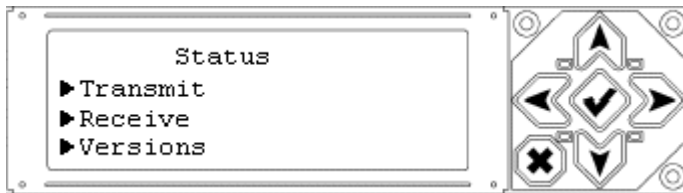
When the Front Panel is installed and power is supplied to the IDU, the Front Panel will show the Main Menu. This menu is also displayed when you use the Exit (✕) button to return to this menu from any other sub-level menu.



- » Press the Up/Down Arrow Buttons (▲/▼) to position the cursor next to each menu item.
- » Press the Enter (✓) button to show the Status, Active Alarms, or Configuration menu.

A.3.2 Status Menu

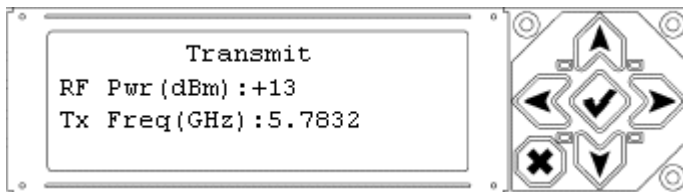
When you select the Status option in the Event HD Main Menu, the Front Panel shows this Status Menu.



- » Press the Up/Down Arrow Buttons (▲/▼) to position the cursor next to each menu item.
- » Press the Enter (✓) button to show the Transmit, Receive, or Versions menu.
- » Press the Exit (✕) button to return to the Event HD Main Menu.

A.3.2.1 Status -> Transmit

When you select the Transmit option in the Status Menu, the Front Panel shows this Transmit Menu.



RF Pwr (dBm): This field shows the current ODU transmitter output power. It can be a value in the range: -99 to +99. This value is derived from the ccmSDIDURadioEastODUCurrentTxPwr object in the SNMP MIB. In the web interface, this value is shown in the Current Power field at SDIDU->Radio Link->ODU Power.

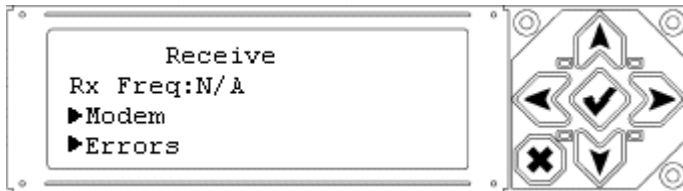
Tx Freq (GHz): This field shows the ODU channel frequency. If the ODU type is LT, this value is calculated by adding Line Spacing to the current Transmit Frequency. If the ODU type is HT, this value is calculated by subtracting Line Spacing from the current Transmit Frequency. This value is derived from the

ccmSDIDURadioEastODUCfgChFreq object in the SNMP MIB. In the web interface, this value is shown in the Frequency/Channel Number field at SDIDU->Radio Link->ODU Channel Selection.

Press the Exit (✕) button to return to the Status Menu.

A.3.2.2 Status -> Receive

When you select the Receive option in the Status Menu, the Front Panel shows this Receive Menu.

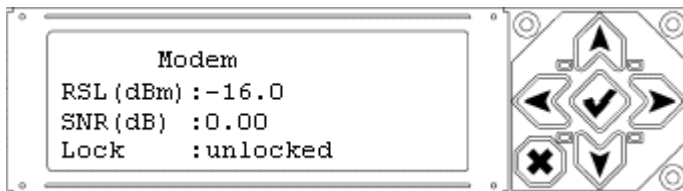


Rx Freq: This field shows the receive frequency of the ODU. If the ODU type is LT, this value is calculated by adding Line Spacing to the current Transmit Frequency. If the ODU type is HT, this value is calculated by subtracting Line Spacing from the current Transmit Frequency. N/A indicates line spacing is zero (no channel line spacing indicates the ODU is running in one direction). This value is derived from the ccmSDIDURadioEastODUCfgChFreq object in the SNMP MIB. It is not shown in the web interface.

- » Press the Up/Down Arrow Buttons (▲/▼) to position the cursor next to the Modem or Errors menu item.
- » Press the Enter (✓) button to show the Modem or Errors menu.
- » Press the Exit (✕) button to return to the Status Menu.

A.3.2.3 Status -> Receive-> Modem

When you select the Modem option in the Status/Receive Menu, the Front Panel shows this Modem Menu.



RSL (dBm): This field shows the East link Received Signal Level. This value is derived from the ccmSDIDUPerfDataEastRsl object in the SNMP MIB. In the web interface, this value is shown in the RSL field in the View Status Panel page.

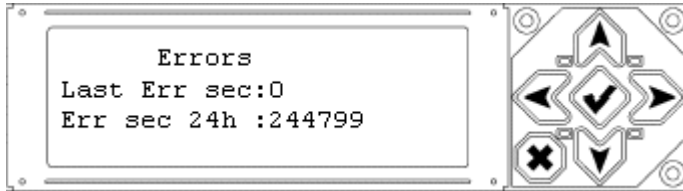
SNR (dB): This field shows the East link Signal-to-Noise Ratio. This value is derived from the ccmSDIDUPerfDataEastEbNo object in the SNMP MIB. In the web interface, this value is shown in the SNR field in the View Status Panel page.

Lock: This field shows the East Link lock status. It can be locked, unlocked, or N/A. This value is derived from the ccmSDIDUPerfDataEastLock object in the SNMP MIB. In the web interface, this value is shown in the Modem field in the View Status Panel page.

Press the Exit (✕) button to return to the Status/Receive Menu.

A.3.2.4 Status -> Receive-> Errors

When you select the Errors option in the Status/Receive Menu, the Front Panel shows this Errors Menu.



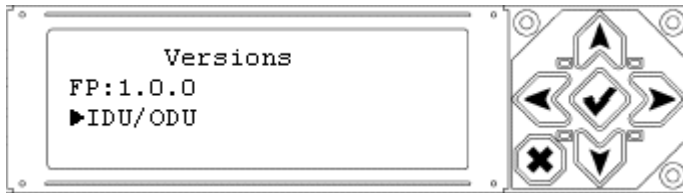
Last Err sec: This field shows the East Modem Error Seconds since it was last read. This value is derived from the ccmSDIDUPerfDataEastErrSec object in the SNMP MIB. It is not shown in the web interface.

Err sec 24h: This field shows East Modem Error Seconds for the most recent past 24 hours. This value is derived from the ccmSDIDUPerfDataEastErrSec24h object in the SNMP MIB. It is not shown in the web interface.

Press the Exit (✕) button to return to the Status/Receive Menu.

A.3.2.5 Status -> Versions

When you select the Versions option in the Status Menu, the Front Panel shows this Versions Menu.

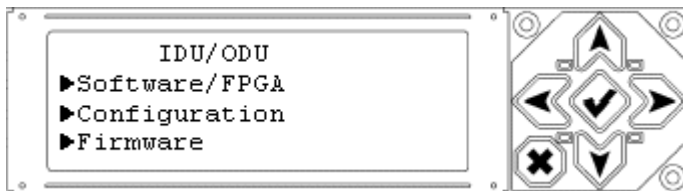


FP: This field shows the version number from the Front Panel software. This value is not represented in the SNMP MIB or shown in the web interface.

IDU/ODU: Press the Down Arrow Button (▼) to position the cursor next to this menu item. Press the Enter (✓) button to show the IDU/ODU Versions Menu.

A.3.2.6 Status -> Versions -> IDU/ODU

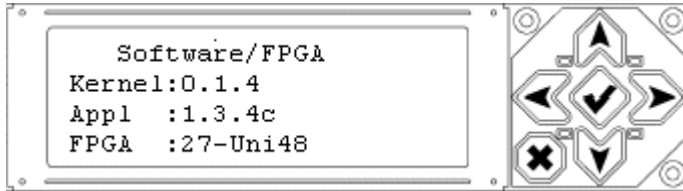
When you select the IDU/ODU option in the Status/Versions Menu, the Front Panel shows this IDU/ODU Menu.



- » Press the Up/Down Arrow Buttons (▲/▼) to position the cursor next to each menu item.
- » Press the Enter (✓) button to show the Software/FPGA, Configuration, or Firmware versions screen.
- » Press the Exit (✕) button to return to the Status/Versions Menu.

A.3.2.7 Status -> Versions -> IDU/ODU -> Software FPGA

When you select the Software/FPGA option in the IDU/ODU Versions Menu, the Front Panel shows this Software/FPGA Menu.



This screen shows the currently active versions of Kernel, Application, and FPGA firmware. Press the Exit (✕) button to return to the IDU/ODU Versions Menu.

Kernel: This field shows the currently active version of Kernel firmware.

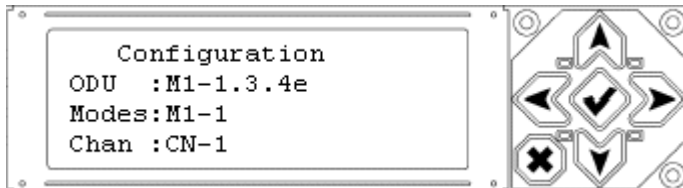
Appl: This field shows the currently active version of Application firmware.

FPGA: This field shows the currently active version of FPGA (Field Programmable Gate Array) firmware.

All version numbers in this and the following screens are derived from the ccmSDIDURpgFileType, ccmSDIDURpgActiveImage, and ccmSDIDURpgImage1Ver or ccmSDIDURpgImage2Ver objects in the MIB. The Front Panel will use the ccmSDIDURpgImage1Ver or ccmSDIDURpgImage2Ver value depending on the value (1 or 2) of ccmSDIDURpgActiveImage. All version numbers can be viewed in the web interface in the Reprogramming page at SDIDU->Administration->Maintenance->Reprogramming.

A.3.2.8 Status -> Versions -> IDU/ODU -> Configuration

When you select the Configuration option in the IDU/ODU Menu, the Front Panel shows this Configuration Menu.



This screen shows the currently active versions of ODU, Modes, and Channel Configuration firmware. Press the Exit (✕) button to return to the IDU/ODU Versions Menu.

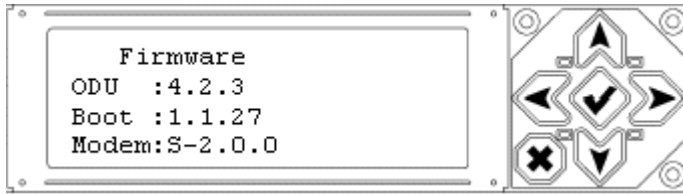
ODU: This field shows the currently active version of ODU Configuration.

Modes: This field shows the currently active version of ODU Modes Configuration.

Chan: This field shows the currently active version of ODU Channel Configuration.

A.3.2.9 Status -> Versions -> IDU/ODU -> Firmware

When you select the Firmware option in the IDU/ODU Menu, the Front Panel shows this Firmware Menu.



This screen shows the currently active versions of ODU, Boot and Modem firmware. Press the Exit (✕) button to return to the IDU/ODU Menu.

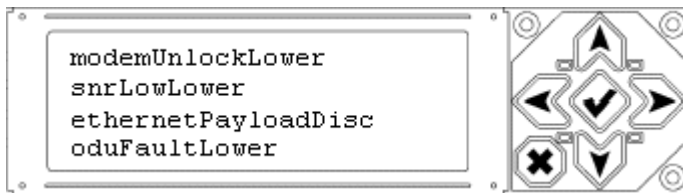
ODU: This field shows the currently active version of ODU firmware.

Boot: This field shows the currently active version of Boot firmware.

Modem: This field shows the currently active version of Modem firmware.

A.3.3 Active Alarms

When you select the Active Alarms option in the Event HD Main Menu, the Front Panel shows active alarms from the IDU. Example:



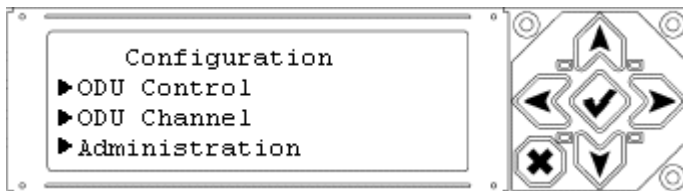
This screen will show all of the active alarms that are received from the IDU. See Appendix B for a description of the alarm messages that may appear in this screen. Note that the ALARMS LED on the Front Panel will stay lit RED as long as alarms are being received from the IDU.

- » Press the Up/Down Arrow Buttons (▲/▼) to scroll through the list of alarms.
- » Press the Exit (✕) button to return to the Event HD Main Menu.

Active alarms are derived from the ccmSDIDUAlarmStatus object in the SNMP MIB. In the web interface, active alarms are shown at SDIDU->Analysis->Alarms->Active.

A.3.4 Configuration Menu

When you select the Configuration option in the Event HD Main Menu, the Front Panel shows this Configuration Menu.



- » Press the Up/Down Arrow Buttons (▲/▼) to position the cursor next to each menu item.
- » Press the Enter (✓) button to show the ODU Control, ODU Channel or Administration menu.
- » Press the Exit (✕) button to return to the Event HD Main Menu.

A.3.4.1 Configuration -> ODU Control

When you select the ODU Control option in the Configuration Menu, the Front Panel shows this ODU Control Menu.



The parameters in this screen can be used to specify ODU Start Power, RF Mute, and ODU DC Power. To change any of these fields, press the Up/Down Arrow Buttons (▲/▼) to position the cursor next to each field. Press the Enter (✓) button to change the cursor from View Mode (●) to Edit Mode (—).

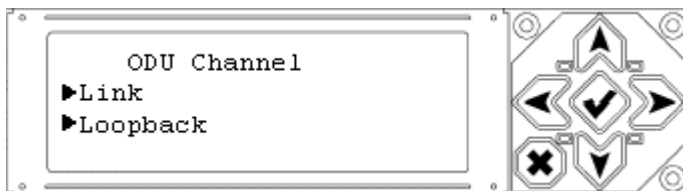
Start Pwr (dBm): This field shows the current ODU Start Transmit Power. It can be set to a value in the range: -99 to +99. If the Edit Mode cursor is shown, you can use the Up/Down Arrow Buttons (▲/▼) to increment/decrement each digit. Use the Left/Right Arrow Buttons (◀/▶) to move the cursor over each digit. Press the Enter (✓) button to save the information and send it to the IDU. The value that is shown in this field is derived from the ccmSDIDURadioEastODUStartTxPwr object in the SNMP MIB. In the web interface, the Start Pwr value is shown in the Start Tx Power field at SDIDU->Link Configuration->Radio Link->ODU Power.

RF Mute: This field shows the current mute status of the East ODU. If the Edit Mode cursor is shown, you can use the Up/Down Arrow Buttons (▲/▼) to choose “mute” or “unmute”. Press the Enter (✓) button to save the information and send it to the IDU. The value that is shown in this field is derived from the ccmSDIDURadioEastODUMuteCfg object in the SNMP MIB. In the web interface, the RF Mute selection is shown in the Mute/Unmute field at SDIDU->Link Configuration->Radio Link->ODU Configuration.

ODU DC Pwr: This field shows the current state of the East ODU DC Power. If the Edit Mode cursor is shown, you can use the Up/Down Arrow Buttons (▲/▼) to choose “enable” or “disable”. Press the Enter (✓) button to save the information and send it to the IDU. The value that is shown in this field is derived from the ccmSDIDURadioEastODUStateCfg object in the SNMP MIB. In the web interface, the ODU DC Pwr value is shown in the Current Tx Power field at SDIDU->Link Configuration->Radio Link->ODU Configuration.

A.3.4.2 Configuration -> ODU Channel

When you select the ODU Channel option in the Configuration Menu, the Front Panel shows this ODU Channel Menu.

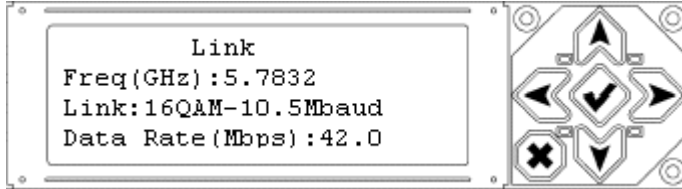


- ▶ Press the Up/Down Arrow Buttons (▲/▼) to position the cursor next to each menu item.
- ▶ Press the Enter (✓) button to show the Link or Loopback menu.

► Press the Exit (✕) button to return to the Configuration Menu.

A.3.4.3 Configuration -> ODU Channel -> Link

When you select the Link option in the ODU Channel Menu, the Front Panel shows this Link Menu.



The parameters in this screen can be used to specify the ODU Frequency (Freq), IDU Operating Mode and Baud Rate (Link). To change these fields, press the Up/Down Arrow Buttons (▲/▼) to position the cursor next to each field. Press the Enter (✓) button to change the cursor from View Mode (⦿) to Edit Mode (—).

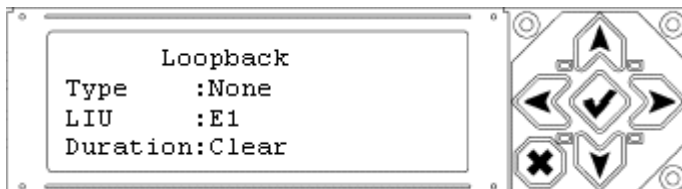
Freq (GHz): This field shows the ODU Frequency. If the Edit Mode cursor is shown, press the Up/Down Arrow Buttons (▲/▼) to increment/decrement each digit. Use the Left/Right Arrow Buttons (◀/▶) to move the cursor over each digit. Press the Enter (✓) button to save the information and send it to the IDU. The minimum/maximum and Line Spacing (for Rx Freq) are preset values. The value that is shown in this field is derived from the ccmSDIDURadioEastODUCfgChFreq object in the SNMP MIB. In the web interface, this value is shown in the Frequency/Channel Number field at SDIDU->Radio Link->ODU Channel Selection.

Link: This field shows the IDU Operating Mode and Baud Rate. If the Edit Mode cursor is shown, press the Up/Down Arrow Buttons (▲/▼) to choose one of the following: QPSK-10.5 Mbaud, 16QAM-10.5 Mbaud, 32QAM-10.5 Mbaud, QPSK-14.5 Mbaud, 16QAM-14.5 Mbaud, or 32QAM-14.5 Mbaud. Press the Enter (✓) button to save the information and send it to the IDU. The value shown in this field is derived from the ccmSDIDULinkUtilIDUEastOpmodeList and ccmSDIDULinkEastOpModeIndex objects in the SNMP MIB. In the web interface, this value is shown in the Mode field in the View Status Panel page.

Data Rate: This field is display-only and shows the link data rate or bandwidth (in Megabits-per-second). The rate is calculated by multiplying the Baud Rate times the IDU Operating Mode (where: QPSK=2, 16QAM=4, 32QAM=5, 64QAM=6, 128QAM=8). This value is not represented in the SNMP MIB or shown in the web interface.

A.3.4.4 Configuration -> ODU Channel -> Loopback

When you select the Loopback option in the ODU Channel Menu, the Front Panel shows this Loopback Menu.



The parameters in this screen can be used to specify a loopback type, LIU (Line Interface Unit), and Duration. To change any of these fields, press the Up/Down

Arrow Buttons (▲/▼) to position the cursor next to each field. Press the Enter (✓) button to change the cursor from View Mode (⦿) to Edit Mode (—).

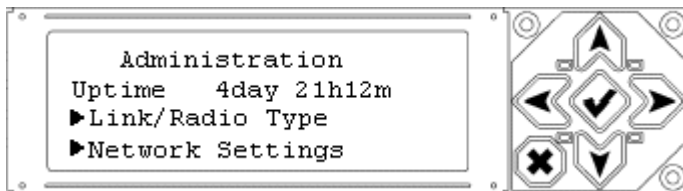
Type: This field sets the loopback type. If the Edit Mode cursor is shown, press the Up/Down Arrow Buttons (▲/▼) to choose one of the following: None, Local LIU, Local Modem, Local ODU, or Remote LIU. Press the Enter (✓) button to save the information and send it to the IDU. The value shown in this field is derived from the ccmSDIDUAnalysisLoopbackType object in the SNMP MIB. In the web interface, this value is shown in the Loopback Type field at SDIDU->Analysis->Statistics->Loopback.

LIU: When Type is set to Local or Remote LIU, this field sets type loopback type. If the Edit Mode cursor is shown, press the Up/Down Arrow Buttons (▲/▼) to choose one of the following: E1, STM (Synchronous Transport Module), or Both. Press the Enter (✓) button to save the information and send it to the IDU. The value shown in this field is derived from the ccmSDIDUAnalysisLoopbackLIUType object in the SNMP MIB. In the web interface, this value is shown in the Loopback LIU Type field at SDIDU->Analysis->Statistics->Loopback.

Duration: This field sets the loopback duration. If the Edit Mode cursor is shown, press the Up/Down Arrow Buttons (▲/▼) to choose one of the following: Clear, 1 Min, 2 Min, 5 Min, 10 Min, 15 Min, 30 Min, 60 Min, or Indefinite. Press the Enter (✓) button to save the information and send it to the IDU. The value shown in this field is derived from the ccmSDIDUAnalysisLoopbackDuration object in the SNMP MIB. In the web interface, this value is shown in the Loopback Duration field at SDIDU->Analysis->Statistics->Loopback.

A.3.4.5 Configuration -> Administration

When you select the Administration option in the Configuration Menu, the Front Panel shows this Administration Menu.

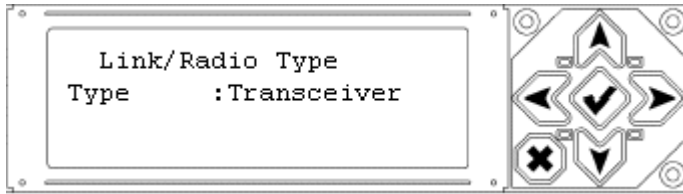


Uptime: This field shows the number of days, hours, and minutes the system has been continually operational since the last reset. The value shown in this field is derived from the SysUpTime object in the SNMP MIB. In the web interface, this value is shown at SDIDU->Home.

- ▶ Press the Up/Down Arrow Buttons (▲/▼) to position the cursor next to the Link/Radio Type or Network Settings menu item.
- ▶ Press the Enter (✓) button to show the Link/Radio Type or Network Settings menu.
- ▶ Press the Exit (✕) button to return to the Configuration Menu.

A.3.4.6 Configuration -> Administration -> Link/Radio Type

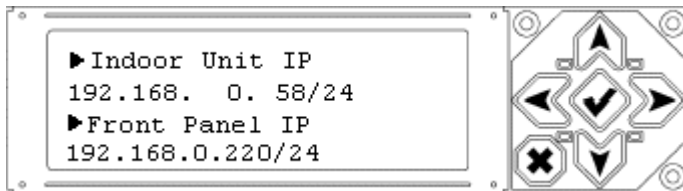
When you select the Link/Radio type option in the Administration Menu, the Front Panel shows this Link/Radio Type Menu.



Type: This field shows the link/radio type: Transceiver (full duplex), Transmitter (Tx only), or Receiver (Rx only). This configuration is set by Moseley during the final testing process before the unit is shipped. Do not change this parameter unless you are instructed to do so by Moseley Technical Support. The Front Panel LEDs indicate this configuration (See A.4 Front Panel LEDs for details). Press the Exit (✕) button to return to the Administration Menu.

A.3.4.7 Configuration -> Administration -> Network Settings

The Network Settings option in the Administration menu shows the IP address and network mask of the Indoor Unit and Front Panel:



This screen shows Indoor Unit and Front Panel IP addressing information. Press the Up/Down Arrow Buttons (▲/▼) to position the cursor next to each field in this screen. Press the Exit (✕) button to return to the Administration Menu.

Indoor Unit IP: When the cursor is positioned next to this field, press the Enter button to show the Indoor Unit IP address screen.

xxx.xxx.xxx.xxx/xx: This field shows the Indoor Unit's IP address and number of bits in the network mask. When the cursor is positioned next to this field, you can press the Enter button to change to edit mode and modify the IP address and network mask bits. The IP address consists of four 3-digit fields. Press the Up/Down Arrow Buttons (▲/▼) to increment/decrement each digit. Use the Left/Right Arrow Buttons (◀/▶) to move the cursor over each digit. When you advance the cursor to the network mask bits (after the "/"), use the Up/Down Arrow Buttons (▲/▼) to select a value in the range 8-30. Press the Enter (✓) button to save the information and send it to the IDU. Press the Exit (✕) button to exit this field without saving any changes.

NOTE: If an invalid mask has been configured via the web interface or CLI, the Front Panel will display "Inv" in this field (e.g., 192.168.0.58/Inv). To correct this invalid entry, select a value in the range 8-30 (bits) to change the mask to match the subnet where the Indoor Unit resides.

Front Panel IP: When the cursor is positioned next to this field, press the Enter button to show the Front Panel IP address screen.

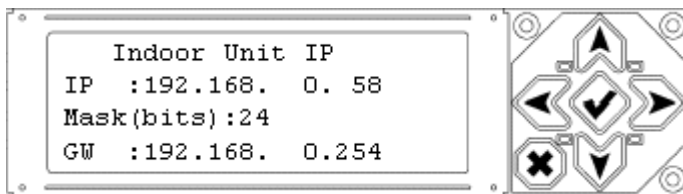
xxx.xxx.xxx.xxx/xx: This field shows the Front Panel's IP address and number of bits in the network mask. When the cursor is positioned next to this field, you can press the Enter button to change to edit mode and modify the IP address and network mask bits. The IP address consists of four 3-digit fields. Press the Up/Down Arrow Buttons (▲/▼) to increment/decrement each digit. Use the Left/Right Arrow

Buttons (◀/▶) to move the cursor over each digit. When you advance the cursor to the network mask bits (after the "/"), use the Up/Down Arrow Buttons (▲/▼) to select a value in the range 8-30. Press the Enter (✓) button to save the information and send it to the IDU. Press the Exit (✕) button to exit this field without saving any changes.

 **NOTE:** The Front Panel and Indoor Unit must be in the same sub-network. Any changes in Front Panel or Indoor Unit IP addressing information will cause the Front Panel to reset in order to load the new settings into the IP stack. The LEDs in the Front Panel will reset and the LCD returns to the Main Menu.

A.3.4.8 Configuration -> Administration -> Indoor Unit IP

When you select the Indoor Unit IP option in the Network Settings Menu, the Front Panel shows this Indoor Unit IP Menu.



This screen is used to define the Indoor Unit's IP address, Mask (number of bits), and Gateway (GW). To change any of these fields, press the Up/Down Arrow Buttons (▲/▼) to position the cursor next to each field. Press the Enter (✓) button to change the cursor from View Mode (⊙) to Edit Mode (—).

IP: This field specifies the Indoor Unit IP address (12 digits). Press the Up/Down Arrow Buttons (▲/▼) to increment/decrement each digit. Use the Left/Right Arrow Buttons (◀/▶) to move the cursor over each digit. Press the Enter (✓) button to save the information and send it to the IDU. The value shown in this field is derived from the ccmSDIDUIPAddress object in the SNMP MIB. In the web interface, this value is shown in the IP Address field at SDIDU->Network Configuration->General.

Mask: This field specifies the number of bits in the Network Mask. Press the Up/Down Arrow Buttons (▲/▼) to select a value in the range 8-30. Press the Enter (✓) button to save the information and send it to the IDU. The value shown in this field is derived from the ccmSDIDUIPNetmask object in the SNMP MIB. In the web interface, this value is shown in the IP Netmask field at SDIDU->Network Configuration->General.

 **NOTE:** If an invalid mask has been configured via the web interface or CLI, the Front Panel will display "Inv" in this field. To correct this invalid entry, select a value in the range 8-30 (bits) to change the mask to match the subnet where the Indoor Unit resides.

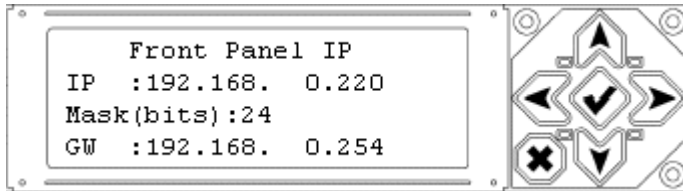
GW: This field specifies the Indoor Unit Network Gateway (12 digits). Press the Up/Down Arrow Buttons (▲/▼) to increment/decrement each digit. Use the Left/Right Arrow Buttons (◀/▶) to move the cursor over each digit. Press the Enter (✓) button to save the information and send it to the IDU. The value shown in this field is derived from the ccmSDIDUIPGateway object in the SNMP MIB. In the web interface, this value is shown in the IP Gateway field at SDIDU->Network Configuration->General.

 **NOTE:** The Front Panel and Indoor Unit must be in the same sub-network. Any changes in Front Panel or Indoor Unit IP addressing information will cause the Front Panel to reset in order to load the new settings into the IP stack. The LEDs in the Front Panel will reset and the LCD returns to the Main Menu.

Press the Exit (✕) button to return to the Network Settings Menu

A.3.4.9 Configuration -> Administration -> Front Panel IP

When you select the Front Panel IP option in the Network Settings Menu, the Front Panel shows this Front Panel IP Menu.



This screen is used to define the Front Panel's IP address, Mask (number of bits), and Gateway (GW). To change any of these fields, press the Up/Down Arrow Buttons (▲/▼) to position the cursor next to each field. Press the Enter (✓) button to change the cursor from View Mode (⊙) to Edit Mode (—).

IP: This field specifies the Front Panel IP address (12 digits). Press the Up/Down Arrow Buttons (▲/▼) to increment/decrement each digit. Use the Left/Right Arrow Buttons (◀/▶) to move the cursor over each digit. Press the Enter (✓) button to save the information in Front Panel Flash.

Mask: This field specifies the number of bits in the Front Panel Network Mask. Press the Up/Down Arrow Buttons (▲/▼) to select a value in the range 8-30. Press the Enter (✓) button to save the information in Front Panel Flash.

GW: This field specifies the Front Panel Network Gateway (12 digits). Press the Up/Down Arrow Buttons (▲/▼) to increment/decrement each digit. Use the Left/Right Arrow Buttons (◀/▶) to move the cursor over each digit. Press the Enter (✓) button to save the information in Front Panel Flash.

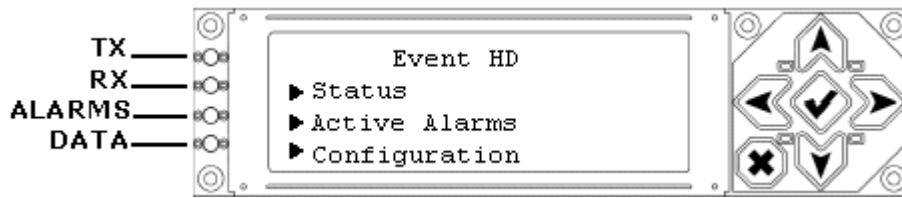
These parameters are not represented in the SNMP MIB or shown in the web interface. They are stored internally in the Front Panel's non-volatile memory

 **NOTE:** The Front Panel and Indoor Unit must be in the same sub-network. Any changes in Front Panel or Indoor Unit IP addressing information will cause the Front Panel to reset in order to load the new settings into the IP stack. The LEDs in the Front Panel will reset and the LCD returns to the Main Menu.

Press the Exit (✕) button to return to the Network Settings Menu

A.4 FRONT PANEL LEDS

The four LEDs on the left side of the LCD display provide Front Panel (FP), Alarms, Lock, and ODU status information.



TX: If the Link/Radio Type (see Configuration -> Administration -> Link/Radio Type) is Transmitter (Tx Only) or Transceiver (full duplex), this LED can be one of the following: GREEN=Active, YELLOW=Mute, RED=No ODU link, or OFF.

RX: If the Link/Radio Type (see Configuration -> Administration -> Link/Radio Type) is Receiver (Rx Only) or Transceiver (full duplex), this LED can be one of the following: GREEN=Locked, RED=Unlocked, or OFF.

ALARMS: This LED reflects the IDU alarms status. It will stay lit (RED) while active alarms exist. If this LED is not lit, it means there are no active alarms.

DATA: This LED reflects the status of the Front Panel Keep-Alive timer. It will blink (GREEN) every 500 milliseconds during normal operation. If a 20 second period elapses with no communication from the IDU, this LED will blink RED every 500 milliseconds.

A.5 FRONT PANEL CONNECTORS/SWITCHES

In addition to the LEDs, LCD, and buttons, the following connectors and switches are available on the Front Panel:

Reset: Activates hard system reset. Use a sharp-pointed object to press the indented Reset switch and activate a hard system reset.

Ethernet Connector: This connector is used to attach the Front Panel to either of the NMS ports on the IDU.

Mini USB Port: This port can be used to connect the Front Panel to a PC using a standard straight cable. Depending on the configuration of your PC, you will need a cable that has a normal USB connector or 9/25 pin serial connector on one end and a mini-USB connector on the other end to attach to this Mini USB Port. The functionality of this port is controlled by the Debug/Firmware switch.

Debug/Firmware Switch: This switch controls the operation of the Mini USB Port. When this switch is in the Debug position, this port outputs debug information to your PC. Example:

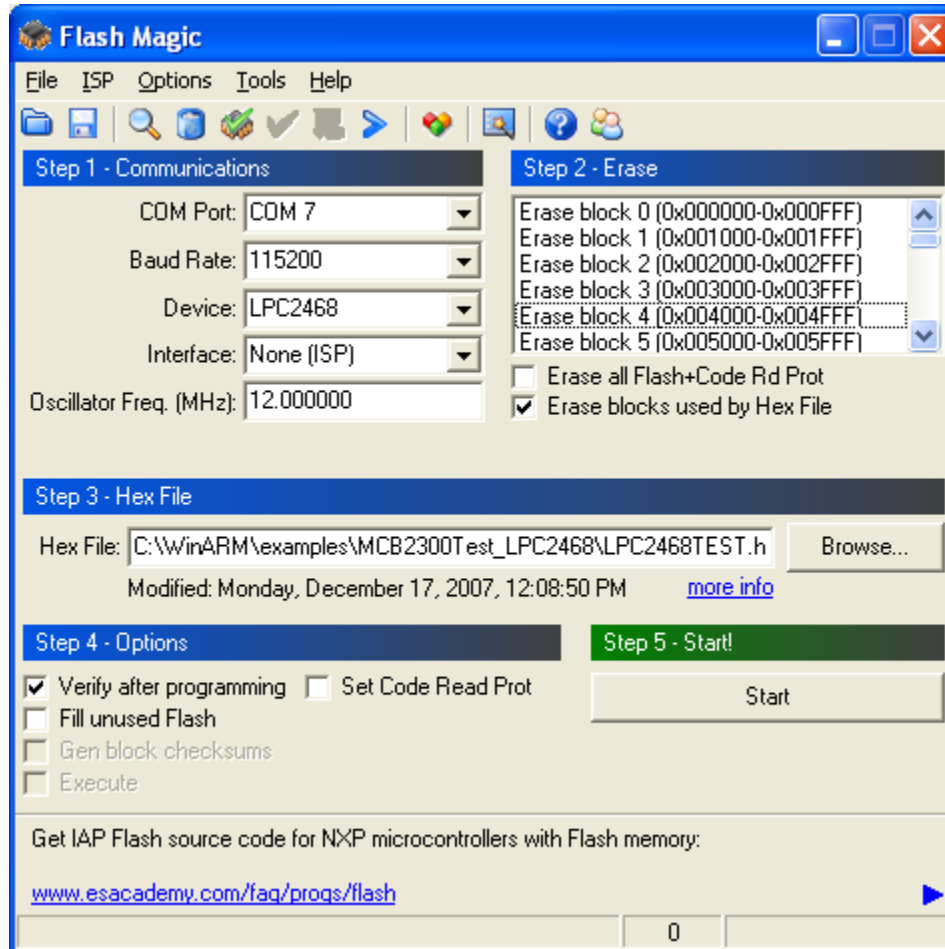
```
SNMP Pkt Recv  main.c 470
SNMP Pkt Recv  main.c 483
SNMP Pkt Recv  main.c 622
KEY ENTER Front_Panel.c 444
```

When the Debug/Firmware Switch is in the Firmware position, this port can be used to upgrade the Front Panel firmware. See Software Upgrades below.

A.6 SOFTWARE UPGRADES

The Flash Magic application can be used to upgrade Front Panel firmware. Flash Magic is a Windows application, it is available at <http://www.flashmagictool.com/>. Complete the following steps:

- 1) Set the switch on the Front Panel to enable firmware upgrades.
- 2) Attach a straight cable between your PC's serial port and the Front Panel mini-USB connector.
- 3) Launch the Flash Magic application from your Windows Start menu.



- 4) Set the communications parameters to communicate with the Front Panel:

Comm Port: COM 7

Baud Rate: 115200

Device: LPC2468

- 5) Click the Browse button next to the Hex File field and choose a Front Panel firmware file (e.g., LPC2468FP.HEX)
- 6) Click the Start button to send the firmware file to the front panel. Flash Magic will show Progress Information and Programmed Count but no indication of successful complete.
- 7) When the firmware file has been successfully downloaded to the Front Panel, remove the serial cable, reset the switch on the Front Panel for normal operation and use a sharp-pointed object to press the indented Reset switch on the Front Panel.

Appendix B. Alarms

Web Interface Alarm String	Optional Front Panel Alarm String	Description
BERT/LB/CW Test Mode	bertCwTestMode	This alarm will be set when the user enables either BERT, Loopback, or CW mode, and cleared when all BERT, Loopback and CW modes are disabled. Affected Component: StdIO LED to RED: N/A Alarm Code: 69 Severity: Info
Controller Card Fault	CardFault	The CPU has detected a fault in the controller card. (Controller card LED flashes red rather than orange). Fault detection via software. Affected Component: Controller LED to RED: Controller Alarm Code: 22 Severity: Critical
East ATPC Tx at Max Power	eastAtpcTxAtMaxPwr	The IDU is unable to increase the Tx Power as requested by link partner due to maximum power being reached. Maximum power is specified in the configuration table. Affected Component: ODU LED to RED: N/A Alarm Code: 76 Severity: Info
Encryption Failure	encryptionFailure	Data is not being decrypted properly due to encryption key mismatch between link partners. Fault detection via software detection of unreadable ROH messages from link partner. Affected Component: IDU LED to RED: N/A Alarm Code: 83 Severity: Critical
Encryption OneWay	encryptionOneway	Only one IDU has data encryption enabled. Fault detection via software messages to/from link partner. Affected Component: IDU LED to RED: N/A Alarm Code: 84 Severity: Major
Ethernet Payload Disconnect	ethernetPayloadDisc	There is no cable detected at either Ethernet payload on Standard I/O card (only if Ethernet mode enabled). Fault detection via polling of Ethernet PHY. Polling interval 5 sec. Affected Component: StdIO LED to RED: Standard I/O Alarm Code: 42 Severity: Critical
External Alarm 1	externalAlarm1	The external Alarm 1 input has been activated. Fault detection via polling GPIO. Polling interval 1 sec. Affected Component: External LED to RED: N/A Alarm Code: 91 Severity: Info
External Alarm 2	externalAlarm2	The external Alarm 2 input has been activated. Fault detection via polling GPIO. Polling interval 1 sec. Affected Component: External LED to RED: N/A Alarm Code: 92 Severity: Info

Web Interface Alarm String	Optional Front Panel Alarm String	Description
External Alarm 3	externalAlarm3	The external Alarm 3 input has been activated. Fault detection via polling GPIO. Polling interval 1 sec. Affected Component: External LED to RED: N/A Alarm Code: 93 Severity: Info
External Alarm 4	externalAlarm4	The external Alarm 4 input has been activated. Fault detection via polling GPIO. Polling interval 1 sec. Affected Component: External LED to RED: N/A Alarm Code: 94 Severity: Info
Fan Failure	FanFailure	The Fan rotational speed is too low. (Controller card LED flashed red rather than orange). Fault detection via polling fan controller status. Polling interval 10 sec. Affected Component: Controller LED to RED: Controller Alarm Code: 21 Severity: Major
FPGA Programming Failure		When the FPGA programming fails, this alarm will be set. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Critical
Framer Initialization Timeout	framerInitTimeout	There is an initialization wait for Framer to turn ON the Framer Receiver side after turning ON the Modem/ODU. Fault detection via polling. Poll only after timeout to detect. Affected Component: StdIO LED to RED: Standard I/O Alarm Code: 43 Severity: Critical
Link Fault	linkFault	Failed to receive link heartbeat from link partner via Radio Overhead (ROH) channel. Fault detection via timeout counter, which is reset via reception of link heartbeat message. Affected Component: IDU LED to RED: N/A Alarm Code: 81 Severity: Critical
Low Battery Voltage	LowBatteryVoltage	The CPU has detected a low-battery voltage condition. (Controller card LED flashes red rather than orange). Fault detection via software polling RTC via controller FPGA. Affected Component: Controller LED to RED: Controller Alarm Code: 23 Severity: Info
Mini I/O Card Installed	miniIOCardInstalled	The Mini I/O card has been installed into the IDU (only if Mini I/O card is noted enabled for use). Fault detection via card-detect logic. Alarm is raised then lowered. Affected Component: MiniIO LED to RED: Standard I/O Alarm Code: 47 Severity: Info

Web Interface Alarm String	Optional Front Panel Alarm String	Description
Mini I/O Card Removed	miniIOCardRemoved	The Mini I/O card has been removed from the IDU (only if Mini I/O card has been enabled for use). Fault detection via card-detect logic. Affected Component: MiniIO LED to RED: Standard I/O Alarm Code: 46 Severity: Critical
Modem Card Installed Lower	modemInstallLower	The specified Modem card has been installed into the IDU (only if the specified Modem card is not enabled for use). Fault detection via card-detect logic. Alarm is raised then lowered. Affected Component: Modem LED to RED: Modem Lower Alarm Code: 14 Severity: Info
Modem Card Installed Upper	modemInstallUpper	The specified Modem card has been installed into the IDU (only if the specified Modem card is not enabled for use). Fault detection via card-detect logic. Alarm is raised then lowered. Affected Component: Modem LED to RED: N/A Alarm Code: 19 Severity: Info
Modem Card Removed Lower	modemRemoveLower	The specified Modem card has been removed from the IDU (only if the specified Modem card has been enabled for use). Fault detection via card-detect logic. Affected Component: Modem LED to RED: N/A Alarm Code: 13 Severity: Major
Modem Card Removed Upper	modemRemoveUpper	The specified Modem card has been removed from the IDU (only if the specified Modem card has been enabled for use). Fault detection via card-detect logic. Affected Component: Modem LED to RED: N/A Alarm Code: 18 Severity: Major
Modem Comm Failure Lower	modemCommFailLower	The Controller Card is unable to communicate with the specified Modem card. Affected Component: Modem LED to RED: Modem Lower Alarm Code: 12 Severity: Critical
Modem Comm Failure Upper	modemCommFailUpper	The Controller Card is unable to communicate with the specified Modem card. Affected Component: Modem LED to RED: Modem Lower Alarm Code: 17 Severity: Critical

Web Interface Alarm String	Optional Front Panel Alarm String	Description
Modem Fault Lower	modemFaultLower	The specified Modem card has indicated a fault. Fault detection is via reading Modem Hardware Status from MODEM during start-up and polling GPIO for MODEM fault indication. Polling interval 5 sec. Affected Component: Modem LED to RED: N/A Alarm Code: 11 Severity: Critical
Modem Fault Upper	modemFaultUpper	The specified Modem card has indicated a fault. Fault detection is via reading Modem Hardware Status from MODEM during start-up and polling GPIO for MODEM fault indication. Polling interval 5 sec. Affected Component: Modem LED to RED: N/A Alarm Code: 16 Severity: Critical
Modem Unlock Lower	modemUnlockLower	The demodulation functional components of the modem have lost lock to the incoming signal. The data received through the RF link is not valid. Fault detection via modem status polling. Polling interval: 1 sec. Affected Component: Modem LED to RED: N/A Alarm Code: N/A Severity: Critical
Modem Unlock Upper	modemUnlockUpper	The demodulation functional components of the modem have lost lock to the incoming signal. The data received through the RF link is not valid. Fault detection via modem status polling. Polling interval 1 sec. Affected Component: Modem LED to RED: N/A Alarm Code: N/A Severity: Critical
N/A	alarmInfoUnavailable	This alarm indicates the Front Panel is not able to get alarm information from the IDU
NTP Update	ntpUpdate	When the system time is updated via NTP raise then lower this alarm. The previous system time and new system time should be noted in the alarm log, SNMP trap, and syslog messages. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Info
ODU Comm Failure Lower	oduCommFailureLower	The IDU is unable to communicate with the ODU. This could be a problem with the ODU or a problem with the cable connecting the ODU to the IDU. Affected Component: ODU LED to RED: N/A Alarm Code: 72 Severity: Critical
ODU Comm Failure Upper	oduCommFailureUpper	The IDU is unable to communicate with the ODU. This could be a problem with the ODU or a problem with the cable connecting the ODU to the IDU. Affected Component: ODU LED to RED: N/A Alarm Code: 74 Severity: Critical

Web Interface Alarm String	Optional Front Panel Alarm String	Description
ODU Fault Lower	oduFaultLower	The ODU has indicated a fault condition. Fault detection via polling of ODU or unsolicited message, if supported. Polling interval 5 sec. Polling done via API functional call. Report of this alarm in the Web Interface/Syslog/Alarm history indicates the fault code from the ODU. Affected Component: ODU LED to RED: N/A Alarm Code: 71 Severity: Critical
ODU Fault Upper	oduFaultUpper	The ODU has indicated a fault condition or unsolicited message, if supported. Fault detection via polling of ODU. Polling interval 5 sec. Polling done via API function call. Report of this alarm in the Web Interface/Syslog/Alarm history indicates the fault code from the ODU. Affected Component: ODU LED to RED: N/A Alarm Code: 73 Severity: Critical
Optional I/O Card Installed	optIOCardInstalled	The Optional I/O card has been installed into the IDU (only if the Optional I/O card is not enabled for use). Fault detection via card-detect logic. Alarm is raised then lowered. Affected Component: OptIO LED to RED: Optional I/O Alarm Code: 27 Severity: Info
Optional I/O Card Removed	optIOCardRemoved	The Optional I/O card has been removed from the IDU (only if the Optional I/O card has been enabled for use). Fault detection via card-detect logic. Affected Component: OptIO LED to RED: N/A Alarm Code: 26 Severity: Critical
Power Supply Card Removed Lower	pSCardRemovedLower	The specified Power Supply card has been removed from the IDU. Fault detection via card-detect logic. Affected Component: Power Supply LED to RED: N/A Alarm Code: 32 Severity: Major
Power Supply Card Removed Upper	pSCardRemovedUpper	The specified Power Supply card has been removed from the IDU. Fault detection via card-detect logic. Affected Component: Power Supply LED to RED: N/A Alarm Code: 37 Severity: Major
Power Supply Fault Lower	psFaultLower	The Power Supply card has indicated a fault. Fault detection via polling GPIO. Polling interval 5 sec. Affected Component: Power Supply LED to RED: N/A Alarm Code: 31 Severity: Critical

Web Interface Alarm String	Optional Front Panel Alarm String	Description
Power Supply Fault Upper	pSFaultUpper	The Power Supply card has indicated a fault. Fault detection via polling GPIO. Polling interval 5 sec. Affected Component: Power Supply LED to RED: N/A Alarm Code: 36 Severity: Critical
Protection Switch	protectionSwitch	This alarm will be set when an AL1 command is received from the active MODEM/ODU. Cleared when an AL2 command is received from the standby MODEM/ODU. Report of this alarm in the Web Interface/Syslog/Alarm history indicates the fault code from the ODU, if received. Affected Component: MODEM/ODU LED to RED: N/A Alarm Code: 75 Severity: Major
Remote Fault	remoteFault	Link Partner IDU indicating it has a fault condition. Local IDU receives Link Partner Fault detection via Radio Overhead (ROH) channel message. Affected Component: IDU LED to RED: N/A Alarm Code: 82 Severity: Info
Remote IDU Alarm	remoteIDUAlarm	The link partner IDU has indicated an alarm condition via ROH. Affected Component: Link Partner IDU LED to RED: N/A Alarm Code: 95 Severity: Major
Remote IDU External Alarm 1	remoteIDUExtAlarm1	The link partner IDU has indicated via ROH its external alarm input 1 has been activated. Affected Component: Link Partner External LED to RED: N/A Alarm Code: 96 Severity: Info
Remote IDU External Alarm 2	remoteIDUExtAlarm2	The link partner IDU has indicated via ROH its external alarm input 2 has been activated. Affected Component: Link Partner External LED to RED: N/A Alarm Code: 97 Severity: Info
Remote IDU External Alarm 3	remoteIDUExtAlarm3	The link partner IDU has indicated via ROH its external alarm input 3 has been activated. Affected Component: Link Partner External LED to RED: N/A Alarm Code: 98 Severity: Info
Remote IDU External Alarm 4	remoteIDUExtAlarm4	The link partner IDU has indicated via ROH its external alarm input 4 has been activated. Affected Component: Link Partner External LED to RED: N/A Alarm Code: 99 Severity: Info

Web Interface Alarm String	Optional Front Panel Alarm String	Description
Remote Reconfiguration Failure		When a remote reconfiguration fails and the original configuration is restored after timeout, raise then lower this alarm. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Info
RSL Low Lower	rsLowLower	RSSI is approaching the minimum operational level of the link as set during configuration. Fault detection via modem status polling, comparing RSSI value to threshold value in configuration table. Polling interval 5 sec. Affected Component: Modem LED to RED: N/A Alarm Code: N/A Severity: Major
RSL Low Upper	rsLowUpper	RSSI is approaching the minimum operational level of the link as set during configuration. Fault detection via modem status polling, comparing RSSI value to threshold value in configuration table. Polling interval 5 sec. Affected Component: Modem LED to RED: N/A Alarm Code: N/A Severity: Major
SDIDU Power-Up	sdiduPowerUp	During power-up raise then lower this alarm. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Info
SDIDU Re-boot	sdiduReboot	When a user reboots the SDIDU, raise then lower this alarm prior to re-booting. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Info
SNR Low Lower	snrLowLower	The signal-to-noise ratio is below the minimum operational level of the link as set during configuration. Fault detection via modem status polling, comparing Eb/N0 value to threshold value in configuration table. Polling interval 5 sec. Affected Component: Modem LED to RED: N/A Alarm Code: N/A Severity: Major
SNR Low Upper	snrLowUpper	The signal-to-noise ratio is below the minimum operational level of the link as set during configuration. Fault detection via modem status polling, comparing Eb/N0 value to threshold value in configuration table. Polling interval 5 sec. Affected Component: Modem LED to RED: N/A Alarm Code: N/A Severity: Major

Web Interface Alarm String	Optional Front Panel Alarm String	Description
Standard I/O Card Removed	stdIOCardRemoved	The Standard I/O card has been removed from the IDU. Fault detect via card-detect logic. Affected Component: STDIO LED to RED: N/A Alarm Code: 41 Severity: Critical
STM AU-AIS x	stmAuAIS	The SDH/SONET Mux/Demux has detected an AIS at the AU Level. Fault detection via polling of AU_AIS_T bit in STM-1 Core. Where 'x' is the HP index. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Critical
STM AU-LOP x	stmAuLossOfPointer	The SDH/SONET Mux/Demux has detected a Loss of Pointer Defect at the AU Level. Fault detection via polling of AU_LOP_T bit in STM-1 Core. Where 'x' is the HP index. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Critical
STM HP_B3 x	stmHpB3defect	The SDH/SONET Mux/Demux HP number 'x' has a CRC Error. Fault detection via polling of HP_B3_T bit in STM-1 Core. Where 'x' is the HP index. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Major
STM HP-PLM x	stmHpPathLabMismatch	The SDH/SONET Mux/Demux HP number 'x' has a Path Identifier Mismatch. Fault detection via polling of HP_PLM_T bit in STM-1 Core. Where 'x' is the HP index. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Critical
STM HP-RDI x	stmHpRemoteDefect	The SDH/SONET Mux/Demux HP number 'x' has a Remote Defect Indication. Fault detection via polling of HP_RDI_T bit in STM-1 Core. Where 'x' is the HP index. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Major
STM HP-REI x	stmHpRemoteError	The SDH/SONET Mux/Demux HP number 'x' has a Remote Error Indication. Fault detection via polling of HP_REI_T bit in STM-1 Core. Where 'x' is the HP index. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Major

Web Interface Alarm String	Optional Front Panel Alarm String	Description
STM HP-TIM x	stmHpTraceIdMismatch	The SDH/SONET Mux/Demux HP number 'x' has a Trace Identifier Mismatch. Fault detection via polling of HP_TM_TIM_T bit in STM-1 Core. Where 'x' is the HP index. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Major
STM HP-UNEQ x	stmHpUnequipped	The SDH/SONET Mux/Demux HP number 'x' is Unequipped. Fault detection via polling of HP_UNEQ_T bit in STM-1 Core. Where 'x' is the HP index. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Major
STM Loss of Clock	stmLossOfClock	The SDH/SONET clock has lost lock. Fault detection via polling of LIU. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Critical
STM LP-BIP2 lkm	stmLpBIP2Defect	The SDH/SONET Mux/Demux LP number 'x' has a CRC Error. Fault detection via polling of LP_BIP2_T bit in STM-1 Core. Where 'lkm' is the LP index as LKM numbering. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Major
STM LP-PLM lkm	stmLpPathLabMismatch	The SDH/SONET Mux/Demux LP number 'x' has a Path Identifier Mismatch. Fault detection via polling of LP_PLM_T bit in STM-1 Core. Where 'lkm' is the LP index as LKM numbering. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Critical
STM LP-RDI lkm	stmLpRemoteDefect	The SDH/SONET Mux/Demux LP number 'x' has a Remote Defect Indication. Fault detection via polling of LP_RDI_T bit in STM-1 Core. Where 'lkm' is the LP index as LKM numbering. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Major
STM LP-REI lkm	stmLpRemoteError	The SDH/SONET Mux/Demux LP number 'x' has a Remote Error Indication. Fault detection via polling of LP_REI_T bit in STM-1 Core. Where 'lkm' is the LP index as LKM numbering. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Major

Web Interface Alarm String	Optional Front Panel Alarm String	Description
STM LP-RFI lkm	stmLpRemoteFault	The SDH/SONET Mux/Demux LP number 'x' has a Remote Fault Indication. Fault detection via polling of LP_RFI_T bit in STM-1 Core. Where 'lkm' is the LP index as LKM numbering. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Critical
STM LP-TIM lkm	stmLpTraceIdMismatch	The SDH/SONET Mux/Demux LP number 'x' has a Trace Identifier Mismatch. Fault detection via polling of LP_TM_TIM_T bit in STM-1 Core. Where 'lkm' is the LP index as LKM numbering. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Major
STM LP-UNEQ lkm	stmLpUnequipped	The SDH/SONET Mux/Demux LP number 'x' is Unequipped. Fault detection via polling of LP_UNEQ_T bit in STM-1 Core. Where 'lkm' is the LP index as LKM numbering. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Major
STM MS_B2	stmMsB2Defect	The SDH/SONET Mux/Demux has a B2 Defect at the Multiplex level. Fault detection via polling of MS_B2_T bit in STM-1 Core. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Major
STM MS-AIS	stmMsAIS	The SDH/SONET Mux/Demux has detected an AIS at the Multiplexer Level. Fault detection via polling of MS_AIS_T bit in STM-1 Core. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Critical
STM MS-RDI	stmMsRemoteDefect	The SDH/SONET Mux/Demux has detected a Remote Defect at the Multiplexer Level. Fault detection via polling of MS_RDI_T bit in STM-1 Core. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Major
STM MS-REI	stmMsRemoteError	The SDH/SONET Mux/Demux has detected a Remote Error at the Multiplexer Level. Fault detection via polling of MS_REI_T bit in STM-1 Core. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Major

Web Interface Alarm String	Optional Front Panel Alarm String	Description
STM RS_B1	stmRsb1Defect	The SDH/SONET Mux/Demux has a B1 Defect. Fault detection via polling of RS_B1_T bit in STM-1 Core. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Major
STM RS_LOF	stmRsLossOfFrame	The SDH/SONET Mux/Demux has a Loss of Frame Defect. Fault detection via polling of RS_LOF_T bit in STM-1 Core. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Critical
STM RS_LOS	stmLossOfSignal	The SDH/SONET has a Loss of Signal Defect. Fault detection via polling of LIU. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Critical
STM RS_OOF	stmRsOutOfFrame	The SDH/SONET Mux/Demux has an Out of Frame Defect. Fault detection via polling of RS_OOF_T bit in STM-1 Core. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Critical
STM RS_TIM	stmRsTraceIdMismatch	The SDH/SONET Mux/Demux has a Trace Identifier Mismatch Defect. Fault detection via polling of RS_TIM_T bit in STM-1 Core. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Major
STM TU-AIS lkm	stmTuAIS	The SDH/SONET Mux/Demux TU number 'x' has an AIS. Fault detection via polling of TU_AIS_T bit in STM-1 Core. Where 'lkm' is the TU index as LKM numbering. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Critical
STM TU-LOM lkm	stmTuLossOfMultiframe	The SDH/SONET Mux/Demux TU number 'x' has a Loss of Multiframe. Fault detection via polling of TU_LOMF_T bit in STM-1 Core. Where 'lkm' is the TU index as LKM numbering. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Critical

Web Interface Alarm String	Optional Front Panel Alarm String	Description
STM TU-LOP lkm	stmTuLossOfPointer	The SDH/SONET Mux/Demux TU number 'x' has a Loss of Pointer Defect. Fault detection via polling of TU_LOP_T bit in STM-1 Core. Where 'lkm' is the TU index as LKM numbering. Alternate detection via Interrupt enabled in STM-1 core. Affected Component: IDU LED to RED: N/A Alarm Code: Solid Severity: Critical
Synthesizer Unlock Lower	synthUnlockLower	Modem synthesizer has unlocked. Fault detection via modem status polling. Polling is done in conjunction with Modem Unlock polling. Affected Component: Modem LED to RED: N/A Alarm Code: N/A Severity: Critical
Synthesizer Unlock Upper	synthUnlockUpper	Modem synthesizer has unlocked. Fault detection via modem status polling. Polling is done in conjunction with Modem Unlock polling. Affected Component: Modem LED to RED: N/A Alarm Code: N/A Severity: Critical
T1/E1 Channel Alarm Ch x	t1E1ChannelDisc1...16 -- OR -- optT1E1Channel1Disc...16Disc	There is either no cable detected at the specified E1/T1 channel port on Standard I/O Card or there is an AIS condition detected (only for active T1/E1 channels). Fault detection via polling of LIUs on Standard I/O card and Optional I/O Card when installed. Polling interval 2 channels per 1 sec. Report of this alarm in the Web Interface/Syslog/Alarm history indicates whether this is a disconnect or AIS condition. If both conditions are present, the disconnect alarm will take precedence over the AIS alarm. Affected Component: StdIO (1-16), OptIO (17-32) LED to RED: Standard I/O when 1-16, Optional I/O when 17-32, Turn LED orange rather than RED Alarm Code: 51-58 (1-16), 61-68 (17-32) Severity: Critical
T1/E1 Test Mode	t1e1TestMode	The user has selected a T1/E1 test mode (loopback or Tx Data). This alarm will be set when the user sets the test mode for any of the T1/E1 channels, and cleared when all T1/E1 channels are not in loopback and Tx Data is normal. Affected Component: StdIO LED to RED: N/A Alarm Code: 59 Severity: Info
West ATPC Tx at Max Power	westAtpcTxAtMaxPwr	The IDU is unable to increase the Tx Power as requested by link partner due to maximum power being reached. Maximum power is specified in the configuration table. Affected Component: ODU LED to RED: N/A Alarm Code: 78 Severity: Info

Appendix C. Abbreviations & Acronyms

A_dTPC: Adaptive Power Control

AIS: Alarm Indication Signal

BER: Bit Error Rate

Codec: Coder-Decoder

CPU: Central Processing Unit

dB: Decibel

dBm: Decibel relative to mW

DCE: Data Circuit-Terminating Equipment

DTE: Data Terminal Equipment

EIRP: Effective Isotropic Radiated Power

FCC: Federal Communications Commission

FEC: Forward Error Correction

FPGA: Field Programmable Gate Array

GPIO: General Purpose Input/Output

IF: Intermediate frequency

IP: Internet Protocol

LED: Light-emitting diode

LOS: Line of Sight

MIB: Management Information Base

Modem: Modulator-demodulator

ms: Millisecond

NC: Normally closed

NMS: Network Management System

OAM&P: Operations, Administration, Maintenance, and Provisioning

OC-3: Optical Carrier level 3

ODU: Outdoor Unit

PCB: Printed circuit board

POP: Point of Presence

QAM: Quadrature Amplitude Modulation

QPSK: Quadrature Phase Shift Keying

RF: Radio Frequency

RSL: Received Signal Level (in dBm)

RSSI: Received Signal Strength Indicator/Indication

RX: Receiver

SDH: Synchronous Digital Hierarchy

STP: Spanning Tree Protocol

SNMP: Simple Network Management Protocol

SNR: Signal-to-Noise Ratio

SDIDU: Software Defined Indoor Unit (Moseley trademark)

SONET: Synchronous Optical Network

STM-1: Synchronous Transport Module 1

TCP/IP: Transmission Control Protocol/Internet Protocol

TTL: Transistor-transistor logic

TX: Transmitter

IN CASE OF DIFFICULTY...

Moseley products are designed for long life and trouble-free operation. However, this equipment, as with all electronic equipment, may have an occasional component failure. The following information will assist you in the event that servicing becomes necessary.

TECHNICAL ASSISTANCE

Technical assistance for Moseley products is available from our Technical Support Department by phone or email. When calling, please give the complete model number of the radio, along with a description of the trouble/symptom(s) that you are experiencing. In many cases, problems can be resolved over the telephone, without the need for returning the unit to the factory. Please use one of the following means for product assistance:

Phone: 805 968-9621

E-Mail: <mailto:Support@moseleysb.com>

FAX: 805 685-7772

Web: <http://www.moseleysb.com/mb>

For all sales related questions please call your sales representative or for general inquiries please email sales@moseleysb.com.

FACTORY SERVICE

Component level repair of radio equipment is not recommended in the field. Many components are installed using surface mount technology, which requires specialized training and equipment for proper servicing. For this reason, the equipment should be returned to the factory for any PC board repairs. The factory is best equipped to diagnose, repair and align your radio to its proper operating specifications.

If return of the equipment is necessary, you will be issued a Service Request Order (SRO) number and return shipping address. The SRO number will help expedite the repair so that the equipment can be repaired and returned to you as quickly as possible. Please be sure to include the SRO number on the outside of the shipping box, and on any correspondence relating to the repair. No equipment will be accepted for repair without an SRO number.

A statement should accompany the radio describing, in detail, the trouble symptom(s), and a description of any associated equipment normally connected to the radio. It is also important to include the name and telephone number of a person in your organization who can be contacted if additional information is required.

The radio must be properly packed for return to the factory. The original shipping container and packaging materials should be used whenever possible.