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Issue 1
October 1998

GDC Metroplex - 6000®

TEAM 6000 for UNIX, Version 3.0.0

Installation and Operation

General DataComm

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Revision History

Issue Number	Date	Description of Change
1	5/1/97	First Issue. V1.2.0 software supports the following Metroplex cards and features: 6-Slot MetropakWall-Mount Enclosure 4-Slot and 8-Slot USS Shelf Platform Card and CSU T1 Option Card Flexi-Voice Plus Basecard; and Dual 0B, Dual TB, Dual 4W&EM, Dual 4WTO, and Dual OCU-DP Options Cards Flexi-Data Basecard and 422/V.11, V.35, and EIA232 Option Cards Frac-Data Basecard and 422/V.11, V.35, and Frac DSX-1 Option Cards
1	7/1/97	Second Issue. V1.1.0 software supports the following Metroplex cards and features: All of the above for the first issue, plus -- Dual G.703/64K Option Card on Flexi-Voice Plus Basecard FXS Octet Basecard DSX-1 LIU Option Card on Platform Card Timeslot Allocation
1	1/1/98	Third Issue. V1.2.0 software supports the following Metroplex cards and features: All of the above for the first issue, plus -- Alarm Detail: E1, HDSL E1, T1, HDSL T1, and MIB Prior to 3.00 6001 Configuration LIU Options: E1, HDSL E1, T1 (CSU or DSX1), and HDSL T1 Alarms Reported: E1, HDSL E1, T1 (CSU or DSX1), and HDSL T1 Alarm Dial-Out Error Reports (E1) - Main Window, Error Totals (E1), Background Block Errors (E1) and Errors Summary (E1) 6521 Frac Data Card Timeslot Assignment
1	6/1/98	Fourth Issue. V3.0.0 software supports the following Metroplex cards and features: All of the above for the third issue, plus -- Enhancements are made to E1 service, T1 HDSL, E1 HDSL, and expanded data rates on the MP6441 Frac-Data card.

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Chapter 1: System Description

Introduction

The information contained in this manual has been carefully checked and is believed to be entirely reliable. However, as General DataComm improves the reliability, function, and design of their products, the possibility exists that information may not be current.

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Safety Information

The DANGERS, WARNINGS and CAUTIONS that appear throughout this manual are not only preventative measures designed to uphold the safety of both the service engineer and operator, but also enhance equipment reliability.

The definitions and symbols for DANGER, WARNING and CAUTION comply with ANSI Z535.2, American National Standard for Environmental and Facility Safety Signs, and ANSI Z535.4, Product Safety Signs and Labels, issued by the American National Standards Institute.

The following examples show the symbols and definitions of DANGER, WARNING, CAUTION, *Note* and *Important* as they are used in this manual.

Note *Indicates a note. It is something you should be particularly aware of; something not readily apparent. A note is typically used as a suggestion.*

Important *Indicates an emphasized note. It is something you should be particularly aware of; something not readily apparent. Important is typically used to prevent equipment damage.*

Typographical Conventions

Level 1 Heading paragraph headers introduce major topics.

Level 2 Heading paragraph headers introduce subsections of major topics.

Level 3 Heading paragraph headers introduce subsections of secondary topics.

`Courier font is used to show text that is displayed on the screen.`

Times bold font is used when referring to screen names.

`Courier bold font is used to show specific input that you type at the keyboard.`

Overview

Team 6000 is GDC's Simple Network Management Protocol (SNMP)-based application for network management of the Metroplex 6000 product. Team 6000 is an HPOpenView application and has the same look and feel as GDC's other Team applications. This manual is to be used if this application is running on either a Sun/Solaris workstation or on a Hewlett Packard HP-UX platform.

Note *To learn how to use HP OpenView, refer to the HP Open View User's Guide and the HP OpenView Administration Reference manual. Also, HP OpenView is available in 0n-line Help in the Team Metroplex 6000 software package.*

Metroplex 6000 is a T1 Access Multiplexer, designed for the delivery of data and voice services on the customer premises. It provides various combinations of voice and data channels, and a network connection of one or two T1 lines.

The Metroplex 6000 is available as a wall-mount unit using the 6-slot Metropak, or as a rackmount unit using the Universal Systems Shelf. Four-slot and eight-slot USS backplanes are available. Thus, depending on the shelf, the capacity can be four, six or eight cards. One of these cards must be the Platform card.

The Metroplex cards consist of base cards, which occupy a slot in the enclosure or shelf, and piggyback option cards, which plug into the base cards and provide various interfaces.

The Platform basecard, MP6001, is the common card for Metroplex. It acts as the manager and the SNMP agent for the other cards. It provides various supervisory ports. It provides a TERM port for connection to a local VT-100 terminal, a DIAL port for dial-in VT-100 or PPP access, and an SNMP port for Ethernet or PPP access. The Platform card accepts one or two LIU option cards for network interfaces. It also accepts an Ethernet option card, required for LAN-based network management.

VT-100 management of the Metroplex allows you to configure, monitor and run diagnostics either from a locally-attached terminal or via a dial-up line. The VT-100 screens can also be used remotely over a LAN using the Telnet protocol. Metroplex 6000 supports both local management via a VT-100 terminal and SNMP network management at the same time.

For more details on VT-100 Local Management, refer to *GDC Publication 086R605-001*

The Flexi-Voice Plus basecard, MP6360, provides various voice and four-wire data channels. It accepts one, two or three dual-channel option cards, providing up to six channels. Option card types are Originate Battery (OB), configurable for FXS or DPO; Terminate Battery, configurable for FXO or DPT; 4-wire E&M, 4-wire Transport Only (4W TO), OCU-DP, and G. 703.

The Flexi-Data basecard, MP6441, provides up to four single-channel data interfaces. Each channel supports rates of 9.6, 56 and 64 kb/s, and is fully DDS-compatible. Option card types available are EIA232, V.35, 422/V.11, and Async 232.

The Frac-Data basecards, MP6520 and MP6521, provide one or two high-speed data channels, at rates of N x 56kb/s or N x 64 kb/s. Option card types available are V.35, 422/V.11, DSX-1, and Frac-E1.

The FXS Octet card, MP6380, provides eight channels of FXS-type voice, similar to the Dual OB Option card on the Flexi-Voice Plus card. The FXS Octet does not accept any option card nor provide any other, except FXS Loop Start, FXS Ground Start, or DPO.

Installation

For installation instructions, refer to the *Installation and Release Notes, Network manager for Metroplex 6000 (TEAM 6000) TEAM 6000 V1.3.0 for HP OpenView/Solaris, GDC Publication P/N 086R902-V130*; or to *Installation and Release Notes SOLARIS and HP Openview, SOLARIS 2.5.1/HPOV 4.1 Patches, GDC P/N 058R964-000*.

Responsibilities of the TEAM 6000

The TEAM 6000 application is used to manage the Metroplex 6000 cards, which include the Platform, Flexi-Data, Flexi-Voice, FXS Octet, and Frac-Data cards in combination. Collectively, the cards handle configuration, diagnostics, and control of the TEAM 6000.

The TEAM 6000 application is also responsible for discovering (`Discovery`) and displaying (`Mapping`) under `OpenView`.

Chapter 2: Discovery

Overview

`Discovery`, which searches for devices on the network, is integrated with the `OpenView IP` node discovery application. Once an Metroplex 6000 Platform card is discovered, `Discovery` polls the platform card using the Simple Network Management Protocol (SNMP) and takes the information it gathers for building objects in the OpenView Windows (OVW) database. Monitored by the Metroplex 6000, these objects represent cards in the shelf. Thus, `Discovery` is a polling routine for the TEAM 6000.

Auto-discovery application polls each new device it encounters to identify those devices which are Metroplex 6000 Platforms. When the application encounters a Metroplex 6000 Platform, it continues to poll for constructing the shelf submap.

There are times when the data traffic required for auto-discovery becomes a burden on the communication network, reducing the throughput of payload data. When that happens, you may decide to suspend the auto-discover, by either turning off HP OpenView polling through the Universe submap Options menu or disabling the netmon function of the TEAM 6000 application.

The TEAM 6000 application lets you use the discovery tool manually when auto-discovery is disabled.

MAP Integration

The following pertain to map integration:

Discovery

- Discovers TEAM 6000-compatible hardware systems in the network and their contents, i.e., the cards that they contain.
- Creates the system and equipment objects in the OVW database.

Shelf Map

- `HP OpenView (HPOV) Map` application gets the topology view from the OVW database and displays network topology in an open map.
- Updates the topology view (`Add/Delete/Modify Systems, Equipment, Status`) in response to traps received.
- Creates and maintains (updates) shelf background images.
- Creates images to reflect the shelf contents.

HPOV SNMP Configuration

The `Community Names` (both Read and Write) set in HPOV SNMP Configuration must match the configured `Community Names` on the Metroplex 6000 platform card. If they are incorrect, `Discovery` can not poll or update the Metroplex 6000 platform card.

The SNMP Configuration selection appears in the `Options` menu of the `HPOV` menu bar that appears at the top of all map windows.

Database

The Shelf Map function develops the following types of database objects:

1. • Root Object
2. • Metroplex 6000 Platform Shelf Object
3. • Objects for different types of cards

The `Root` object is the parent object of the TEAM software. The Root symbol is created from this object and all Submaps extend from this symbol. There is only one Root object per OpenView database.

The Metroplex 6000 Platform Shelf object serves as a logical addressing entity for Metroplex 6000 Platform cards. This deals with multiple IP addresses for the same shelf.

Shelf Map

The `Shelf Map` function is an integrated application under `OpenView`, responsible for displaying objects in `OpenView`. It displays the network in a hierarchy of submaps, multiple levels deep:

- `Universe Submap` — contains the Metroplex 6000 Platform shelves found by `Discovery`.
- `Shelf Submap` — displays all the devices in a shelf.
- `Interfaces Submap` — displays all the interfaces for a selected device in a shelf. The `Interfaces Submap` for a master device (the local, or central site, unit controlled by the TEAM software) also contains the remote unit(s) associated with the master.

Startup

The Shelf Map function starts automatically when OpenView Windows starts. As an OpenView program, it runs only when executed by OpenView.

Shelf Map Synchronization

The `Shelf Map` function enters its synchronization phase when it is started. While the Shelf Map is synchronizing, OpenView displays a Synchronizing message on the status line of the submaps displayed. During synchronization, the Shelf Map function creates symbols for new network objects to update the Submaps that use the database. It also updates alarm status. During this time, the Shelf Map function cannot respond to some OpenView requests and you cannot access some functions. For example, OpenView restricts you from deleting symbols and objects while an application is synchronizing. Also, the Shelf Map does not appear in the list of applications in dialog boxes until it completes its initial synchronization. When the Shelf Map is finished with synchronization, it enters a mode where it handles incoming OpenView events and topology changes.

The Shelf Map function also displays the synchronizing message during operations that take a long time, such as updating a shelf graphic. The Shelf Map synchronizes in conjunction with other OpenView applications. A synchronizing message may result from any one of the applications synchronizing.

Shelf Map Editing

The Shelf Map supports map edits accomplished through the OpenView user interface. There are several ways to modify the map through the user interface, including: add, delete, and cut/paste symbols. As mentioned above, you can not access these operations during map synchronization.

Addition of symbols includes both icon and connection symbols, accessed by different menu items in OpenView. The Shelf Map function does not accept additions of icon or connection symbols on the application plane of the map. You can, however, add any symbol to the user plane.

The Shelf Map function supports the deletion of symbols from the map. Deleting an object from the map also clears it from the Metroplex 6000 for UNIX tables.

The cut and paste operations are supported by `Map`. But the result of the paste is a symbol in the user plane of the map. The status of the symbol is kept synchronized with the device it represents.

Refer to the *HP OpenView User's Guide* for additional detail.

TEAM6000 Universe Submap

The TEAM6000 UNIVERSE submap is accessed through the Root symbol in the OpenView Root Submap. It contains a symbol for each Metroplex 6000 Shelf discovered. On each map, there is only one Universe Submap. Figure 2-1 displays a typical TEAM6000 UNIVERSE submap screen.

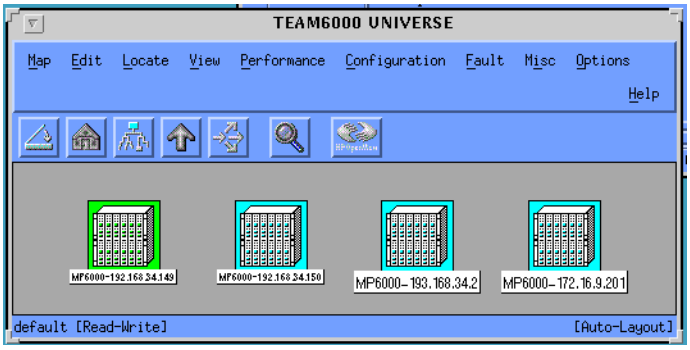


Figure 2-1 Typical TEAM 6000 Universe Submap Screen

You can modify them using the Describe/Modify Object Dialog Box. The label of the system is the text name as assigned in the system configuration application. Events in the Events Category application reference the shelf selection name as the source of the event.

Shelf Submap

The Shelf symbols on the TEAM6000 UNIVERSE submap provide access to Shelf Submaps. A Shelf Submap contains a symbol for each card in the corresponding shelf.

The Metroplex 6000 Platform card proxies SNMP messages to the other cards in the shelf. It also maintains a table of all cards in the Shelf.

You can execute applications by selecting a symbol in the Shelf Submap and then choosing a menu item that corresponds to an application. Figure 2-2 displays a typical Shelf Submap screen.

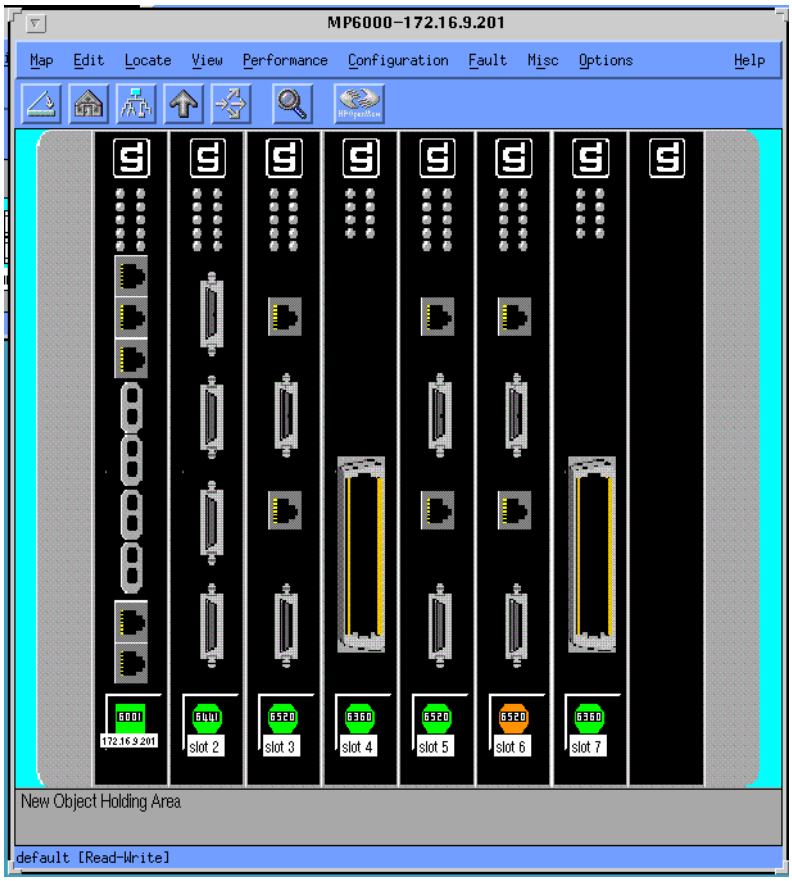


Figure 2-2 Typical Shelf Submap Screen

Slot Deletion

The Metroplex 6000 discovers each card in a shelf and holds the information until it is deleted by the TEAM software. Physically removing a card from a shelf or disconnecting a device from the system does not delete it from the Shelf Submap. To properly remove a card or other device from the system you must both physically remove it and remove it from the `Metroplex 6000 Node Table`.

To remove:

1. Physically remove the device from the system. In the case of a central site device, that means removing the card from the shelf. In the case of a remote device, that means disconnecting it.
2. At the TEAM workstation, select the shelf from the `Shelf Submap`.
3. Choose the device you are deleting, pull down the `Edit` menu, and select `Delete` from all submaps.

Background Images

The Shelf Map function can represent the Metroplex 6000 Shelf and its contents in an OpenView background image. The image is synchronized with the current shelf configuration and displays the shelf with all Metroplex 6000 platform cards in the proper locations. Shelf Submap symbols are aligned with their corresponding card images in the background image.

You can set this capability using the Map Configuration Dialog Box. The default configuration is to enable background graphics.

Symbol Types

As the highest level in the Submap hierarchy, the Root symbol is your access to the system in OpenView. This symbol is created in the OpenView Root Submap. Access the Universe Submap by double-clicking on this symbol.

The Shelf symbol is the logical representation of the Metroplex 6000 Shelf in the Network. Each physical shelf on the network has a corresponding Shelf symbol in the Map. Yet this symbol represents more than just the Metroplex 6000 Platform card--it stands for all the cards in the shelf. The Shelf symbol is an access point to the Shelf Submap. Open the Shelf Submap by double-clicking on this symbol.

The Metroplex 6000 symbol represents the platform card in the Metroplex 6000 Shelf. There are two places in OpenView where this symbol is found: (1) IP Map creates this symbol in the Internet Submap when discovered by netmon to be a Metroplex 6000 application. Here, this symbol represents the IP Map view of the Metroplex 6000 Platform card; and (2) the Shelf Map function initiates the Metroplex 6000 symbol on the Shelf Submap, where this represents the Metroplex 6000 Platform card within the shelf. Built using the object discovered by netmon, the symbol has a status source which is set to Compound (Propagate).

Symbol Labels

As a convenience, you can change a target name by modifying its string so that you can keep track of shelf name, slot number, and symbol label, which are programmatically determined. These three items are identified in this format: <shelf name:slot number, symbol label>. Let's say you have Shelf11234:5, slot 5 and you want to change the shelf name to Hartford Hub and the symbol label of the 5553 in Slot 5 to WTBY (Waterbury link). The target name string is now Hartford Hub:5, WTBY and is used as a target identifier for the application on the base window and all subordinate dialog box windows. Moreover, this function specifies the application icon bitmap file name and the icon label. The icon label then becomes the symbol label of the target slot element which had launched this application.

illustrates this concept here.

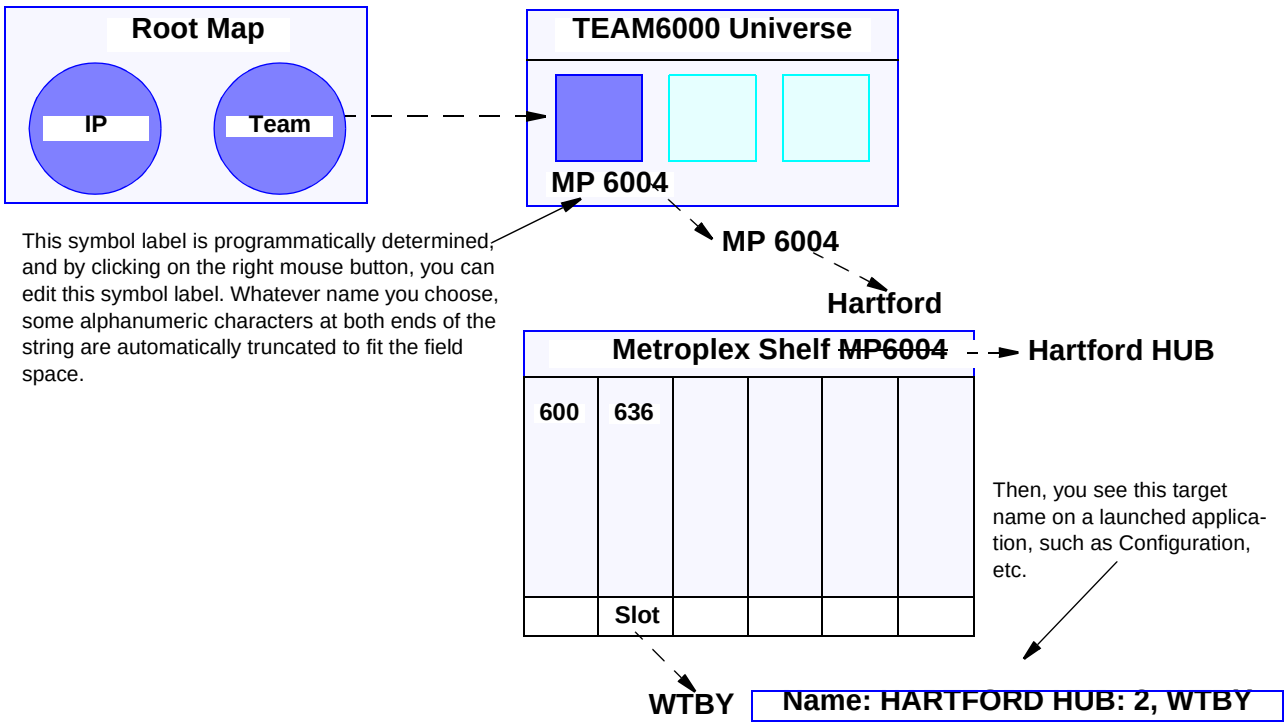


Figure 2-3 Modifying Symbol Label

Metroplex 6000 Application Misidentification

During set up of a new system, it can occur that HPOV Discovery runs before the TEAM application software is installed. If a Metroplex 6000 application is discovered when this happens, it is added to the IP submap as a generic object.

When the application software is in place, the generic object prevents the Metroplex 6000 application from being discovered and correctly identified. If a Metroplex 6000 application is misidentified, it can not function for the TEAM applications. But if this occurs, delete the Metroplex 6000 generic object and ping the device so that the Metroplex 6000 application is discovered correctly and identified by a Metroplex 6000 object.

Rediscovery and Alarm Synchronization

You can run `Synchronization` on-demand by selecting `Poll Shelf` from the fault menu in the `HPOV` menu bar that appears at the top of map and submap windows.

The time it takes the `Poll Shelf` application to run varies according to the number of elements in the shelf. The `Discovery` and `Alarm Synchronization` functions can interfere with primary data flow while they are running.

Note *If the* `OpenView` *windows are exited while either of these windows is open, it remains open until you close it manually.*

Manual Discovery

Manual Discovery lets you identify a Metroplex 6000 card for the TEAM application, thereby instructing the application to poll the Metroplex 6000 and construct a shelf submap for it and the devices it controls. This process is not required while the application is performing auto-discovery.

If the size of the network, where the application is operating, precludes auto-discovery, you can disable auto-discovery within the TEAM 6000 application itself by (1) stopping the netmon task that Shelf Discovery needs for operation, or by (2) disabling auto-discovery with HP OpenView by the Universe submap Options menu. Both methods are described below.

To Disable Auto-Discovery by Stopping Netmon

Within the TEAM application, operation of the auto-discovery process is governed by a Local Registration File (LRF) called discover.lrf that is located in the directory /usr/OV/lrf. To disable auto-discovery by turning off netmon you need to modify that file by carrying out the following steps:

1. Open a shell tool on your workstation.
2. Stop the Shelf Discovery process by typing

   /opt/OV/bin/ovstop shelf_discovery

3. Make a backup copy of the discover.lrf file so that it can be reloaded later in its original form if needed.
4. Load the discover.lrf file into an editor so that you can modify it.
5. Locate the following two lines in the file

   opt/OV/bin/shelf_discovery:

   OVs_YES_START:trapd,ovwdb,netmon::OVs_WELL_BEHAVED:15

6. Delete **,netmon** from the second line and save the file. The two lines should now read

   opt/OV/bin/shelf_discovery:

   OVs_YES_START:trapd,ovwdb::OVs_WELL_BEHAVED:15

7. To update the process configuration, run OpenView Add Object on the discover.lrf file by typing

   /opt/OV/bin/ovaddobj /usr/OV/lrf/discover.lrf

8. Restart the Shelf Discovery process by typing

   /opt/OV/bin/ovstart shelf_discovery

To Disable Auto-Discovery by Turning Off OpenView Polling

The auto-discovery process is part of the Status Polling procedure carried out by the HP OpenView software. To disable auto-discovery by controlling OpenView polling, carry out the following steps:

1. Display the Universe submap.
2. From the Options menu, select Network Polling. Configuration:IP

3. In the resulting dialog box deselect either `Perform Status Polling`, to suspend all automatic polling by the OpenView software, or `Discover New Nodes`, to suspend only polling for the discovery process.
4. Dismiss the dialog box.

To Perform Manual Discovery

Before you can perform manual discovery on a Metroplex 6000, it must be configured with the appropriate community name and you must be able to communicate with it. To perform manual discovery carry out the following steps:

1. From the `Options` menu, select `SNMP Configuration` and make sure that the Metroplex 6000 has the proper `Community Configuration`.
2. Make sure you can communicate with the Metroplex 6000 by pinging it and issuing an `snmpwalk` command. If this does not work, check the routing tables in the workstation to make sure that there is a route available to the Metroplex 6000.
3. Display the IP submap of the segment to which the Metroplex 6000 is connected.
4. From the `Edit` menu, select `Add Objects`.
5. In the resulting window select the `Computer` symbol class.
6. Modify the symbol by using the middle mouse button to drag the `Metroplex 6000` Symbol Subclass onto it on the IP submap.
7. In the `Add Objects` dialog box, enter the label assigned to the Metroplex 6000.
8. Set the `IP Map Object Attributes`. Be sure to enter both the hostname and the IP address.

Note *If a valid hostname is not available, enter the IP address of the Metroplex 6000 in the* `Hostname` *field.*

When the process is completed, the `Shelf Discovery` application polls the Metroplex 6000 System and draws the shelf topology based on the information it receives from the Metroplex 6000.

Chapter 3: Operations

Introduction

The TEAM 6000 software application consists of a group of smaller applications, each devoted to a specific aspect of controlling or monitoring functions administered by the Metroplex 6001 Platform card and five subordinate cards 6360, 6380, 6441, 6520, and 6521. This chapter fully describes the `Front Panel`, `Maintenance`, and `Information` status functions. Configuration functions are covered in *Chapter 5, Platform Card, Chapter 6, Flexi-Voice Card, Chapter 7, Flexi-Data Card, Chapter 8, Frac-Data Card, Chapter 9, FXS Octet Card,* and *Chapter 10, E1 Frac-Data Card*.

Common Window Features

Each 6000 TEAM application you select opens an on-screen window in which to operate. A number of features are common to many of the windows:

Control	Function and Location
Triangle button	In the title bar (present only when TEAM software is operating on a Sun workstation), button reduces the window to an icon when you click on it. Double-clicking on icon restores the window. This button appears on the top level window for each application.
Title bar	Identifies the specific TEAM application running in the window, for example, Metroplex 6000 Configuration or DSE Highway Configuration
Menu bar	Always contains the selections `File`, on the far left, and `Help`, on the far right. File menu always contains the selection `Exit`, where you can dismiss the window. Some window file menus contain selections special to the window. Help menu lets you read information concerning the window. Some windows have additional menu bar choices. The menu bar appears on the top level window for each application.
Name field	Identifies the Metroplex 6000 that is currently connected to by displaying the user-configured shelf name, followed by the Metroplex 6000 slot number.

Descriptions in this manual of the individual 6000 TEAM applications identify window features specific to the applications, such as selections in the menu bar and menus, and buttons.

Map Window Menu Bar Access

You can access TEAM application functions from the menu bar in two HP OpenView map windows: the `TEAM 6000 Universe` map by selecting on a shelf icon, or a shelf submap by selecting on a Metroplex 6000 icon. Figure 3-1 is a simple drawing of a path leading from the `Root` screen to the Team 6000 Universe screen where you can select that icon.

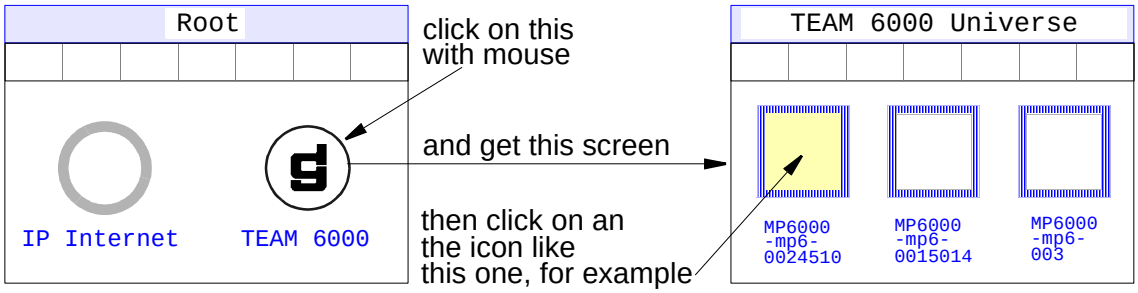


Figure 3-1 Accessing Metroplex 6000 with an Icon from the TEAM 6000 Universe

The first of the two following tables illustrates how the TEAM application functions are arranged on the menu bar at the top of the HPOV TEAM Universe Map window. The second shows the functions that appear on the menu bar of a shelf submap. The tables show only the menu selections for the TEAM 6000 applications. Map window menus also include selections in addition to those that apply to TEAM 6000 because the windows also provide access to other applications.

You must select the shelf or Metroplex 6000 you intend to work with before you open the menu you intend to use. Select by clicking the mouse on the appropriate icon. Below is a display of the TEAM Universe Map menus:

Menu Bar	Menu Selections
`Configuration`	
	`Timeslot Assignment...`
`Fault`	
	`Poll Shelf...` `Shelf Selftest...`

Menu Bar	Menu Selections
`Misc`	
	`Front Panel Poll Rate...` `App Info...`

Monitor Functions

Front Panels

A Metroplex 6000 Front Panel display window (See Figure 3-2) provides graphical interfaces with the Metroplex 6000 cards: Metroplex `6001 Platform`, `6360 Flexi-Voice+`, `6380 FSX Octet`, `6441 Flexi-Data`, `6520 Frac-Data`, or the `6521 Frac-Data`. You can launch a front panel in either of two ways:

- Select the unit you intend to work with in the HPOV Map window, then select `Front Panel` from the `Performance` menu for that window.
- Display the shelf sub-map that includes the unit you intend to work with, then double-click the mouse on the slot icon for the unit.

The application responds by displaying a window depicting one of the Metroplex 6000 front panels. In addition, the bottom of the front panel display contains a `Select` button, a `Status` field, and a `Help` button. The `Select` button provides access to the TEAM application menus for the Metroplex 6000 cards. The status field displays information on communications between the application and a Metroplex 6000 card. The `Help` button gives you help information concerning the front panel display.

The LEDs shown in the display of the front panels reflect the states of the actual indicators on the physical units (See Figure 3-2). A LED appears bright green or red to indicate *`ON`* or grey to indicate *`OFF`*. The LEDs in the displays of the front panels show the current states of the LEDs on the physical units. The select button, at the bottom of the front panel image, lets you see the menus for the rest of the TEAM 6000 application functions. The diagram and table on the following pages show the arrangement of the select button menus on the front panel for the Metroplex 6001 Platform Card (Refer to the hardware manuals).

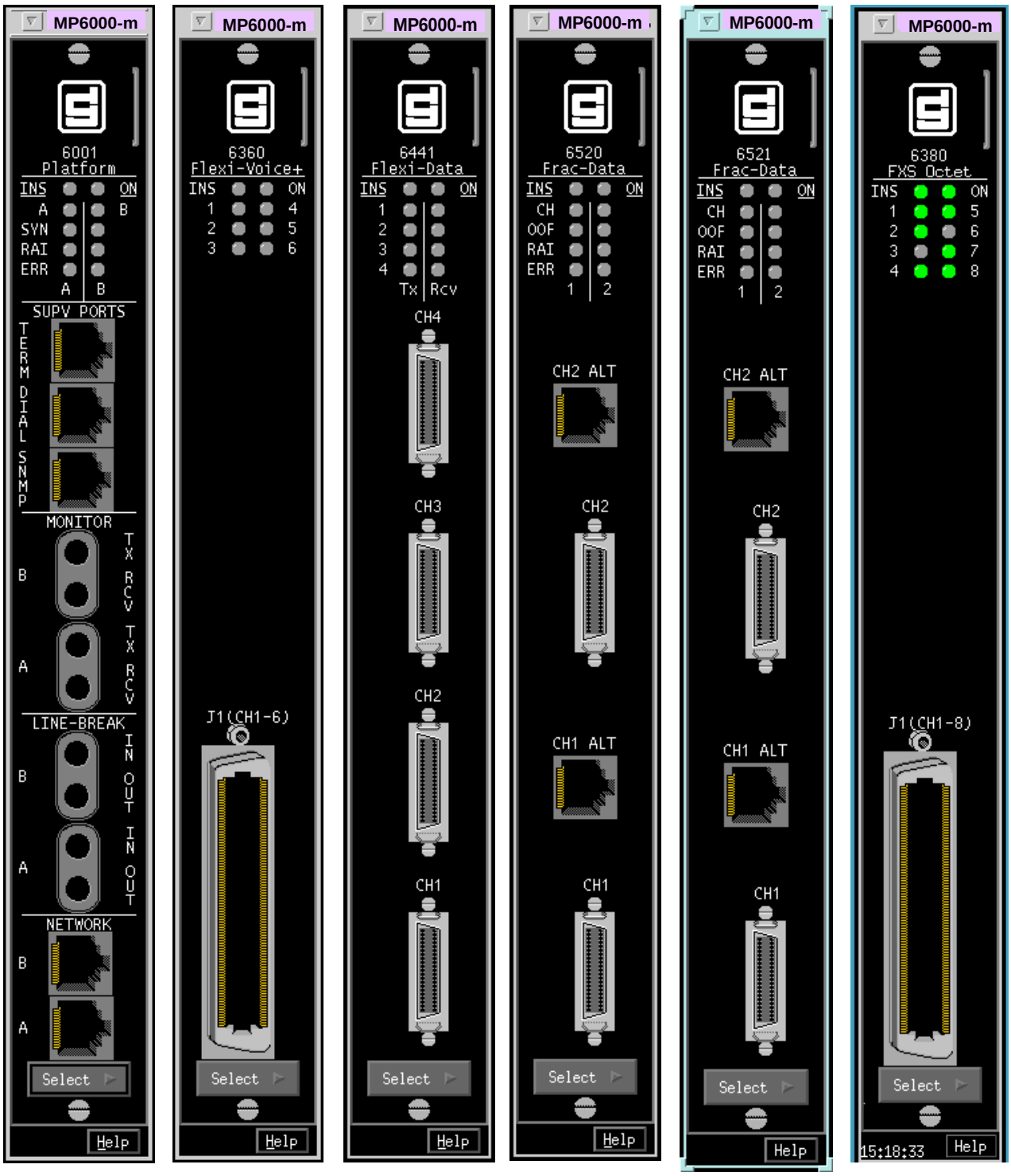
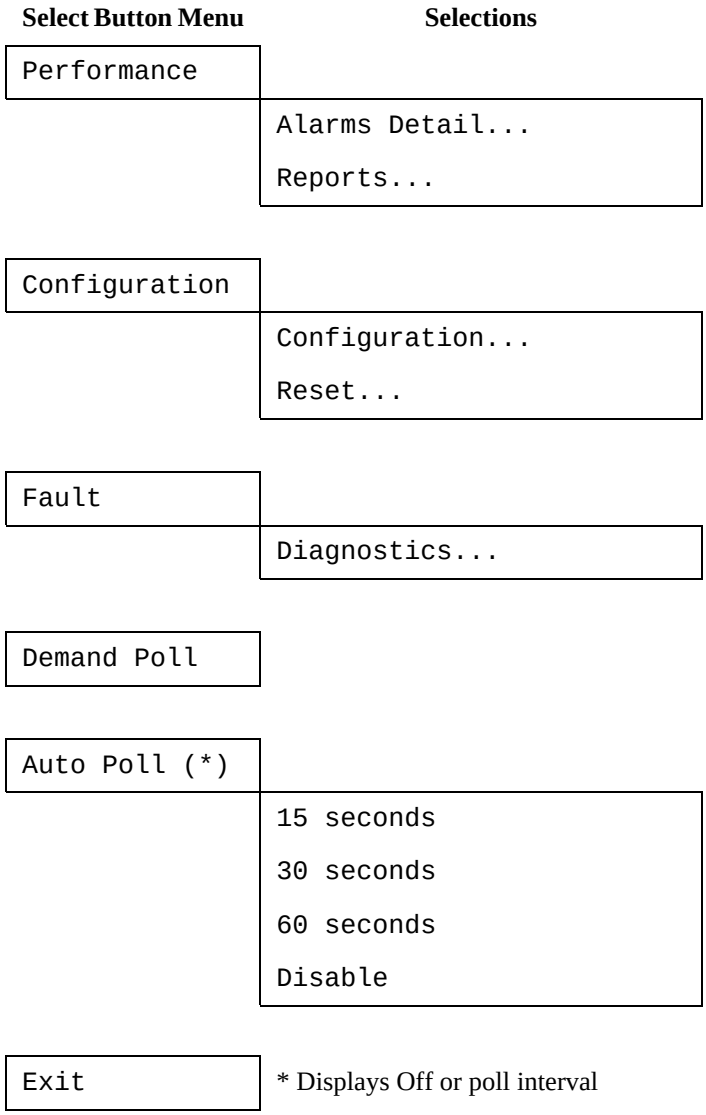


Figure 3-2 Metroplex 6000 Front Panels

The menu depends, of course, on what particular 6000 Metroplex card or front panel you have installed or operating. The diagram below is merely an example of what you could select from a button menu.



The two poll selections in the `Select` button menu determine when the application collects new information from the Metroplex 6000 cards to update the front panel window:

- Selecting `Demand Poll` causes an immediate update of the display.
- `Auto Poll` lets you choose updates at 15, 30, or 60 second intervals, or to disable automatic polling. If you select `Disable`, the front panel window displays a static snapshot of the LED states as they were at the last poll, either when the window was launched, or at the time of a subsequent `Demand Poll`.

The menu selection `Exit` dismisses the front panel window when you click on it.

Configure Functions

Reset

You can launch the TEAM `Reset` application from the shelf submap `Configuration` Menu or the front panel `Select` button Configuration Menu. The application displays the Maintenance window for the selected Metroplex 6000.

Metroplex 6000 Configuration

The Metroplex 6000 Configuration application displays windows for configuring the Metroplex 6001 with IP addressing and routing, and for specifying trap destinations. This application is accessible under `Select--->Configuration--->Navigate--->Trap Options`, `IP Routing Options`, and `Community Name Options` in a shelf submap menu bar button menu of the Metroplex 6001 front panel display. *Chapter 5* describes Metroplex 6000 Configuration in detail.

Note *There is a general SNMP error is displayed when you to try to change configuration or save the configuration to a file while a diagnostics test is active.*

Miscellaneous (Misc) Functions

Information

You can launch the TEAM Information application from the `HPOV Universe Map Misc Menu` or the shelf submap `Misc Menu`. The application displays the read-only `Information` window for the selected Metroplex 6000 *(*See Figure 3-3*)*, where `Misc---->AppInfo...` produces this screen.

`Information` displays one read-only window that contains the name of the application, software revision level information, and copyright information. The `File` menu in the menu bar contains only the selection `Exit`, where you can dismiss the window.

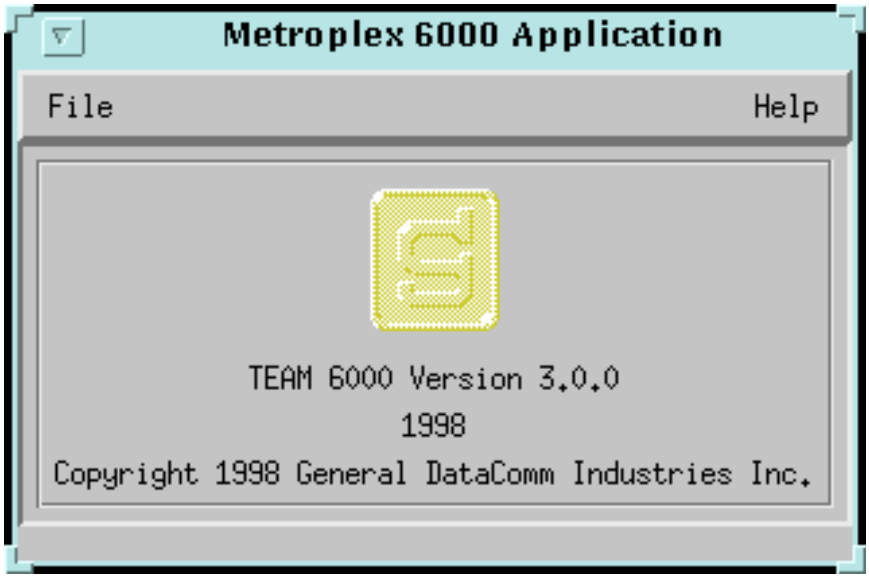


Figure 3-3 Information Window for the TEAM 6000

Chapter 4: Universe Map Operations

Configuration

Metroplex Timeslot Assignment

Menu Bar	Menu Selections
Configuration	
	Timeslot Assignment
Fault	
	Shelf Selftest...

Designed to monitor the timeslot allocation of the Metroplex LIU, the Metroplex Timeslot Assignment interacts with the various configuration applications running on the same work-station and furnishes real-time updates to timeslot assignments. If timeslot assignments change, these configuration applications notify the Timeslot Assignment application, and then the Timeslot Assignment application reads the LIU assignment and channel status information from the Metroplex 6000. Thus, the display gets updated.

When you select a shelf on the 6000 Universe sub-map, you can launch the Metroplex Timeslot Assignment Application from the HPOV Map Application, by way of the Main Configuration Window, which is read-only. There is only one main window and it handles the timeslot allocation for both LIU-A and LIU-B. Figure 4-1 shows the `Metroplex Timeslot Assignment` screen. When CAS is on, `Timeslot 16` displays `Signalling`.

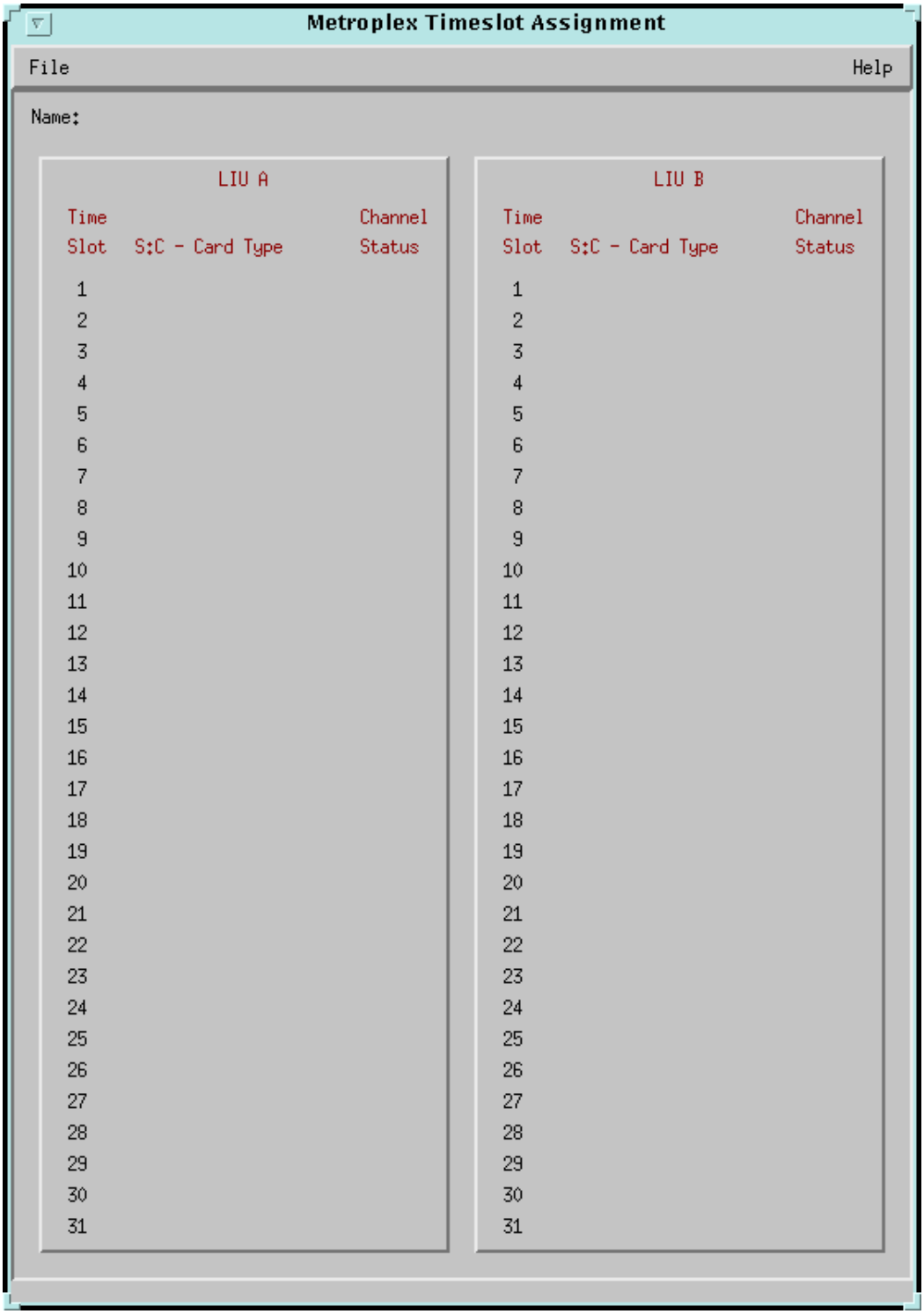


Figure 4-1 Metroplex Timeslot Assignment Screen (Platform Card)

On the title bar is the application name, Metroplex Timeslot Assignment. The menu bar has File for file operations and your basic Help info. The main part of the screen has fields that are read-only and the status message area (lower right) tells you about current status of the application and unit interaction. Below is a summary of the menu button functions for the timeslot assignment application.

Menu Buttons	Menu Selections	Results in:
File		
	Refresh	Reading LIU assignment information from the unit.
	Exit	Terminating application.
Help		
	Displaying help information.	

Arrayed in Table 4-1 below are three groups of data fields for the Metroplex Timeslot Assignment along with their definitions and functions. These three categories are Name, LIU A, and LIU B. The LIU groups contain identical column fields for the specific LIU. Fields are defined only once. The LIU B group is not displayed if the shelf does not contain LIU B. Table 4-2 shows you the Metroplex Timeslot Assignment file Menu (Platform Card).

Table 4-1 Metroplex Timeslot Assignment (Platform Card)

Field	Displayed (Read-only)	Description
Timeslot	**Off**, 1, 2,...., 31	For a T1 LIU, Timeslots 25 -31 are grayed out.
S:C - (Slot:Channel)	Examples for LIU A are 4:1, 4:2, 4:3, 3:1, 1, 5:1, *5:2, and so on. Examples for LIU B are 7:1, 6:2, 6:1, 6:1, 6:1, 1, and so on.	Identifies slot (*for example, Slot 5) and channel (*for example, Channel 2) of the card using the timeslot. When a timeslot is assigned to D & I, only the slot number of the platform card is displayed. Field is blank if the timeslot is unassigned.
- Card Type	Examples are *6360 E & M, 6360 Orig Batt, 6001 D & I Sig, and so on.	Represents card number (*for example, Card 6360) and channel type (*for example, Card Type E & M) using the timeslot. Field is blank if the timeslot is unassigned.
Status (Channel status)	Test, OK, Fail, Alarm, or --	Reflects the status of the card in the timeslot. The double dash, --, is used when the channel status does not apply, for instance, when the timeslot is assigned to D & I as shown in the accompanying figure above. Field is blank if the timeslot is unassigned.
Note: Defaults in bold.		

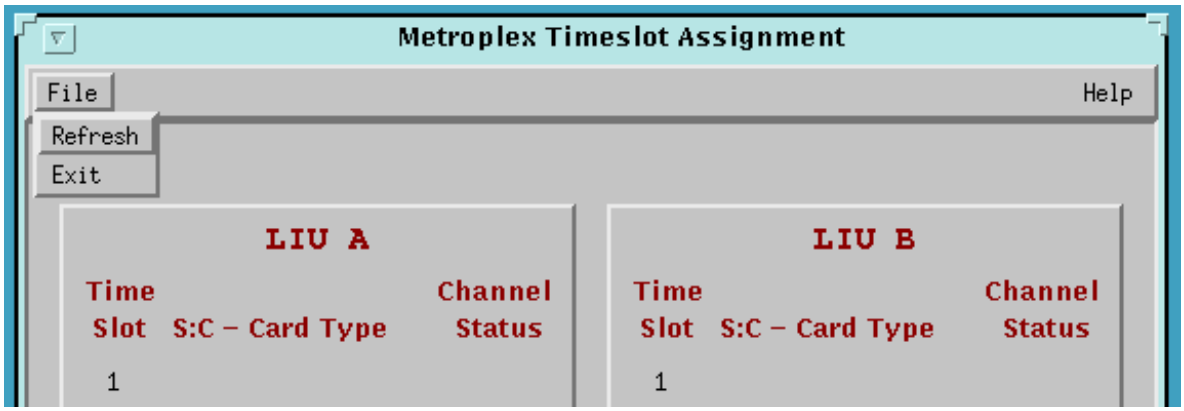


Figure 4-2 Metroplex Timeslot Assignment File Menu (Platform Card)

Fault

Shelf SelfTest

A selftest can be performed on the shelf, where six slots, each holding a type of card, can be tested. The results are displayed above the Shelf `Selftest` action menu after the selftest is run. Exiting and returning to the screen clears the selftest result (See Figure 4-3 and Figure 4-4). Refer to Table 4-2.

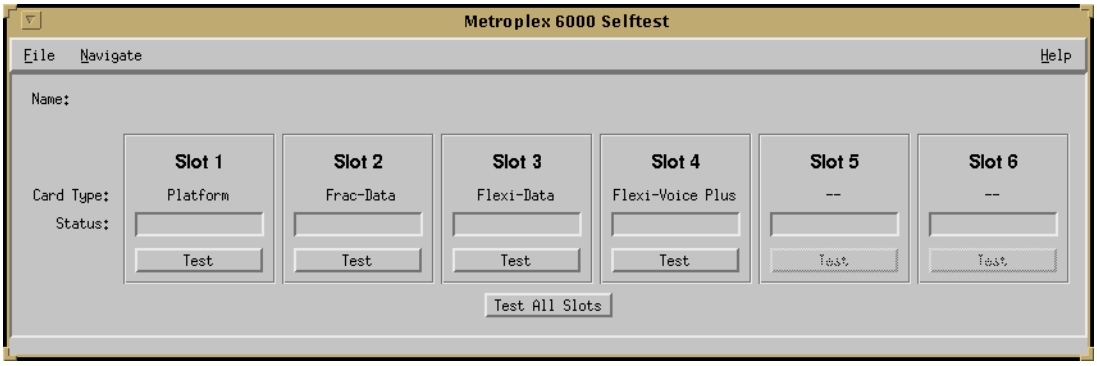


Figure 4-3 Selftest Screen for Six Channels (6001 Card)

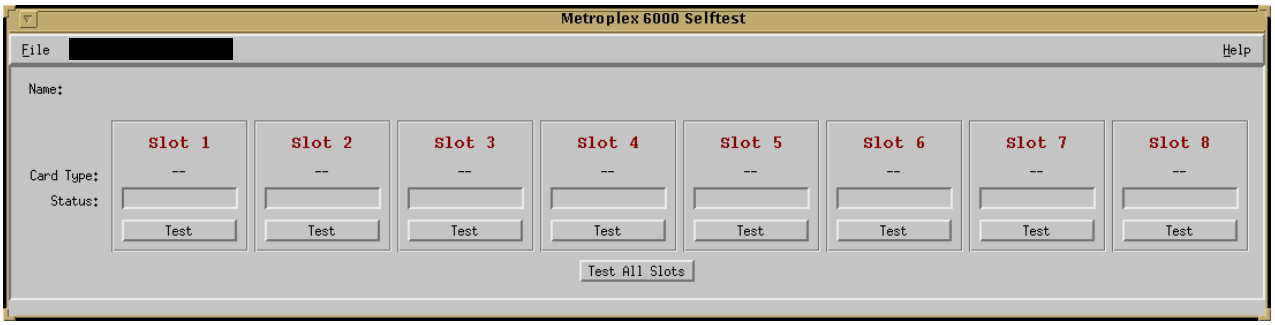


Figure 4-4 Selftest Screen for Eight Channels (6001 Card)

Table 4-2 Selftest Selections and Messages (6001 Card)

Field	Slot Number Selection	Description
`Card Type`	`Platform, Frac-Data, Flexi-Data, Flexi-Voice Plus, FXS Octet unspecified or unknown`	Specifies card type read from card. Unknown indicates Platform card does not recognize Card Type. Check the firmware revision.
`Status`	`Passed, Failed`	Indicates the current status of the self-test. Failed means the card did not pass selftest.

Chapter 5: Platform Card

Introduction

The Platform basecard, MP6001, is the common card for Metroplex. It acts as the manager and the SNMP agent for the other cards. It provides various supervisory ports. It provides a TERM port for connection to a local VT-100 terminal, a DIAL port for dial-in VT-100 or PPP access, and an SNMP port for Ethernet or PPP access. The Platform card accepts one or two LIU option cards for network interfaces. It also accepts an Ethernet option card, required for LAN-based network management.

VT-100 management of the Metroplex allows you to configure, monitor and run diagnostics either from a locally-attached terminal or via a dial-up line. The VT-100 screens can also be used remotely over a LAN using the Telnet protocol. Metroplex 6000 supports both local management via a VT-100 terminal and SNMP network management at the same time. (For descriptions of the front panel LEDS, refer to the hardware manual. Note also that flashing LEDs are not supported.)

Platform Card (6001)

The performance and configuration information for the Platform Card (6001) is presented in this chapter. You can access `Performance` from the main menu bar or from the front panel select switch.

Alarm Details Menu

Alarm detail selections bring you the following screens, where the alarm detail screens vary with the option cards installed on the base card: E1, HDSL-E1, T1, HDSL-T1, and the MIB (prior to 3.00).

E1 Alarm

See Figure 5-1 and refer to Table 5-1.

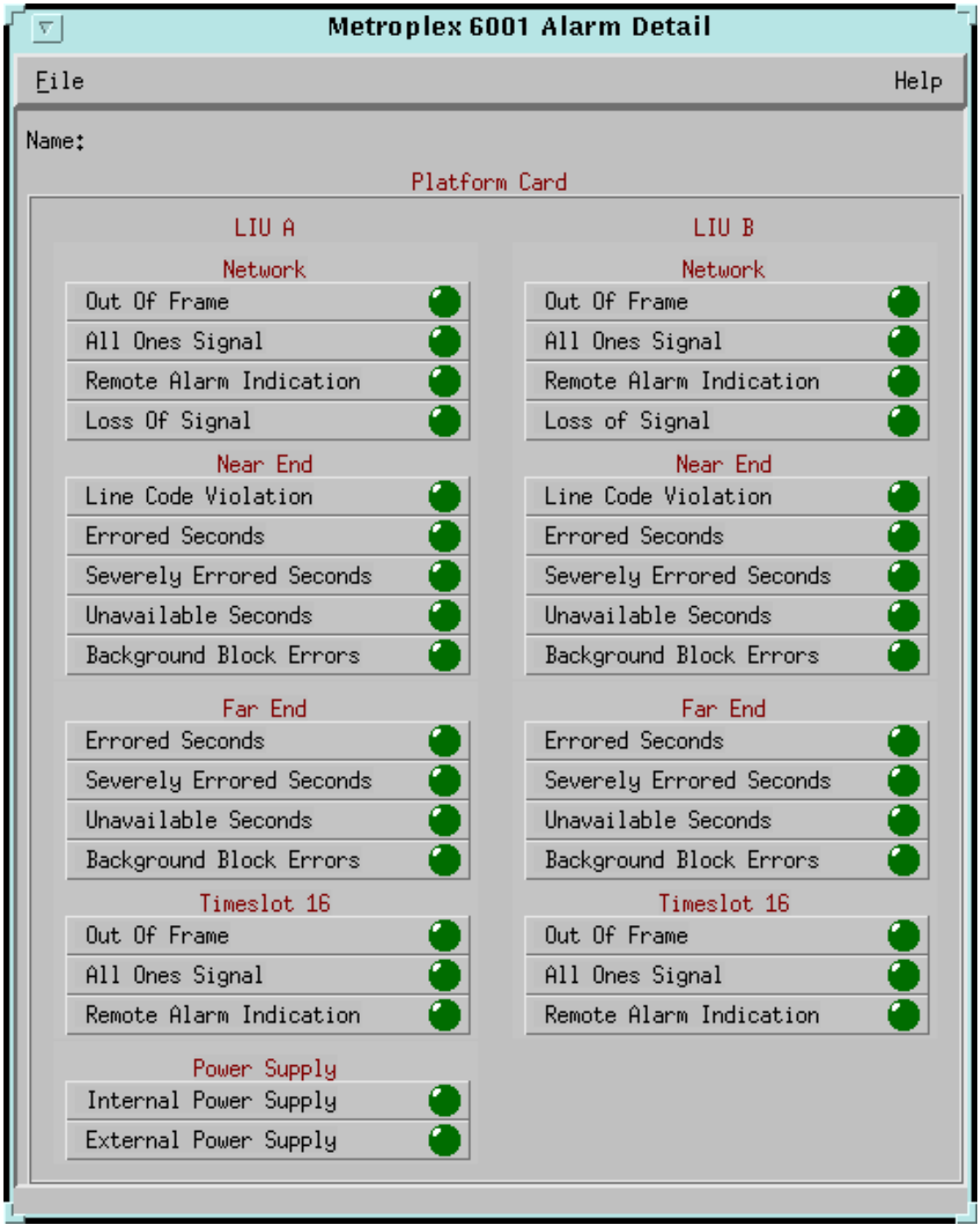


Figure 5-1 E1 Alarm Detail Screen (6001)

Table 5-1 E1 Alarm States (6001)

Network and Timeslot 16	LED Indications
Out Of Frame	OOF (Out of Frame) is detected as defined in TR 62411.
All Ones Signal	AIS (Alarm Indication Signal) is being received from the network.
Remote Alarm Indication	Yellow indicates a RAI (Remote Alarm Indication) is being received from the network. Blue indicates an AIS (Alarm Indication Signal) is being received from the network.
Loss of Signal	Red indicates LOS (Loss of Signal) is detected as defined in TR 62411.
Near End and Far End	
Line Code Violation (near-end only)	Line Code Violation (LCV) event for a HDB3 coded signal is the occurrence of a received bipolar violation that is not part of a zero-substitution code.
Errored Seconds	An errored second (ES) is defined as a second with at least one CRC error event.
Severely Errored Seconds	A severely errored second (SES) is defined as a second with 320 or more CRC6 error events, or one or more OOFs.
Unavailable Seconds	Unavailable errored seconds (UAS) is defined as a count of one-second intervals when service is not available.
Background Block Errors	Since an errored block is a block having one or more bits which are in error, we define a Background Block Error (BBE) as an errored block not occurring as part of an SES (Severely Errored Second) event.
Timeslot 16	
Out of Frame	LOS (Loss Of Signal) or OOF (Out Of Frame) is detected as defined in TR 62411.
All Ones Signal	AIS (Alarm Indication Signal) is being received from the network.
Remote Loss Of Signal	Yellow indicates a RAI (Remote Alarm Indication) is being received from the network. Blue indicates an AIS (Alarm Indication Signal) is being received from the network.
Power Supply (LIU A only)	
Internal Power Supply	LED lights up red if the internal power supply malfunctions or is not available.
External Power Supply	LED lights up red if the external power supply malfunctions or is not available.

Note:

When LIU B is not active, the alarm detail screen is removed from the screen and reduced horizontally in size. When CAS is off, then the power supply alarms are displayed instead of the Timeslot 16 alarms.

When CAS is off, the Timeslot 16 alarms are removed from the screen. For the LIU A, this causes the power supply alarms to move into the screen position normally occupied by the Timeslot 16 alarms.

When CAS is off on both LIUs, or CAS is Off on LIU A and LIU B is not active, then Timeslot 16 alarms are removed from the screen, causing it to reduce in size vertically.

If the shelf type is USS, the power supply alarms are removed from the screen and reduced in size vertically.

HDSL-E1 Alarm

See Figure 5-2 and refer to Table 5-2.

Figure 5-2 HDSL-E1 Alarm Detail Screen (6001)

Table 5-2 HDSL-E1 Alarm States (6001)

Network and Timeslot 16	LED Indications
Out Of Frame	OOF (Out of Frame) is detected as defined in TR 62411.
All Ones Signal	AIS (Alarm Indication Signal) is being received from the network.
Remote Alarm Indication	Yellow indicates a RAI (Remote Alarm Indication) is being received from the network. Blue indicates an AIS (Alarm Indication Signal) is being received from the network.
Near End and Far Ends	
Errored Seconds	An errored second (ES) is defined as a second with at least one CRC error event.
Severely Errored Seconds	A severely errored second (SES) is defined as a second with 320 or more CRC6 error events, or one or more OOFs.
Unavailable Seconds	Unavailable errored seconds (UAS) is defined as a count of one-second intervals when service is not available.
Background Block Errors	Since an errored block is a block having one or more bits which are in error, we define a Background Block Error (BBE) as an errored block not occurring as part of an SES (Severely Errored Second) event.
HDSL	
Remote Loss Of Signal	Yellow indicates a RAI (Remote Alarm Indication) is being received from the network. Blue indicates an AIS (Alarm Indication Signal) is being received from the network.
Loss Of Signal	Red indicates LOS (Loss of Signal) is detected as defined in TR 62411.
Loop 1 Loss Of Signal	Red indicates LOS (Loss of Signal) for Loop 1 is detected as defined in TR 62411.
Loop 2 Loss Of Signal	Red indicates LOS (Loss of Signal) for Loop 2 is detected as defined in TR 62411.
Loop 1 Loss Of Sync	Advises you that there was no framing on the U-loop signal (or it has been lost) for Loop 1.
Loop 2 Loss Of Sync	Advises you that there was no framing on the U-loop signal (or it has been lost) for Loop 2.
Major Bit Error Rate	Major Bit Error Rate based on threshold. Threshold: 10E-03, 10E-04, 10E-05, and 10E-06 bit error rates.
Minor Bit Error Rate	Minor Bit Error Rate based on threshold. Threshold: 10E-03, 10E-04, 10E-05, and 10E-06 bit error rates.

Table 5-2 HDSL-E1 Alarm States (6001) (Continued)

Network and Timeslot 16	LED Indications
Power Supply (LIU A only)	
`Internal Power Supply`	LED lights up red if the internal power supply malfunctions or is not available.
`External Power Supply`	LED lights up red if the external power supply malfunctions or is not available.
Note: When `LIU B` is not active, the alarm detail screen is removed from the screen and reduced horizontally in size. When CAS is off, then the power supply alarms are displayed instead of the Timeslot 16 alarms. When CAS is off, the Timeslot 16 alarms are removed from the screen. For the LIU A, this causes the power supply alarms to move into the screen position normally occupied by the Timeslot 16 alarms. When CAS is off on both LIUs, or CAS is Off on LIU A and LIU B is not active, then Timeslot 16 alarms are removed from the screen, causing it to reduce in size vertically. If the shelf type is USS, the power supply alarms are removed from the screen and reduced in size vertically. When one LIU is HDSL-E1 and the other is E1, the LIU contains only those alarms appropriate for that particular LIU, that is, the screen combines both the E1 and HDSL-E1 screens.	

T1 Alarm

See Figure 5-3 and refer to Table 5-3.

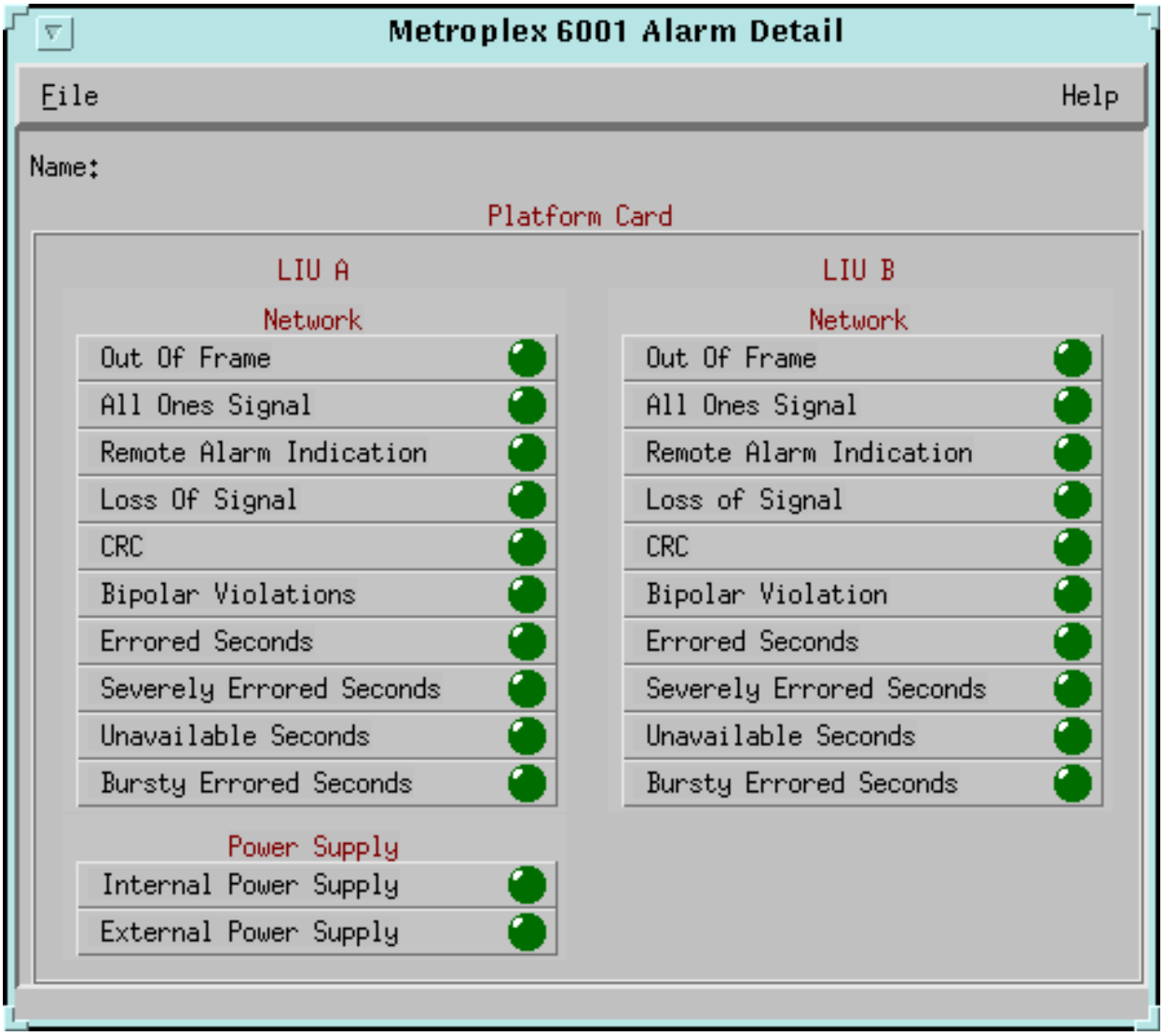


Figure 5-3 T1 Alarm Detail Screen (6001)

Table 5-3 T1 Alarm States (6001)

Network	LED Indications
Out Of Frame	OOF (Out of Frame) is detected as defined in TR 62411.
All Ones Signal	AIS (Alarm Indication Signal) is being received from the network.
Remote Alarm Indication	Yellow indicates a RAI (Remote Alarm Indication) is being received from the network. Blue indicates an AIS (Alarm Indication Signal) is being received from the network.

Table 5-3 T1 Alarm States (6001)

Network	LED Indications
Loss Of Signal	Yellow indicates a RAI (Remote Alarm Indication) is being received from the network. Blue indicates an AIS (Alarm Indication Signal) is being received from the network. Red indicates LOS (Loss of Signal) is detected as defined in TR 62411.
Bipolar Violations	Allowing this alarm enables Bipolar Violations Threshold and Bipolar Violations Window.
CRC	Allowing this alarm enables CRC Threshold and CRC Window.
Errored Seconds	An errored second (ES) is defined as a second with at least one CRC error event.
Severely Errored Seconds	A severely errored second (SES) is defined as a second with 320 or more CRC6 error events, or one or more OOFs.
Unavailable Seconds	Unavailable errored seconds (UAS) is defined as a count of one-second intervals when service is not available.
Bursty Errored Seconds	A bursty errored second (BES) is defined as a second with more than one, but less than 320 CRC6 error events.
LIU A only	
Internal Power Supply	LED lights up red if the internal power supply malfunctions or is not available.
External Power Supply	LED lights up red if the external power supply malfunctions or is not available.
Note: When LIU B is not present, it is removed from the screen and is reduced in size horizontally. If the shelf type is USS, the power supply alarms are removed from the screen and reduced in size vertically.	

HDSL-T1 Alarm

See Figure 5-4 and refer to Table 5-4.

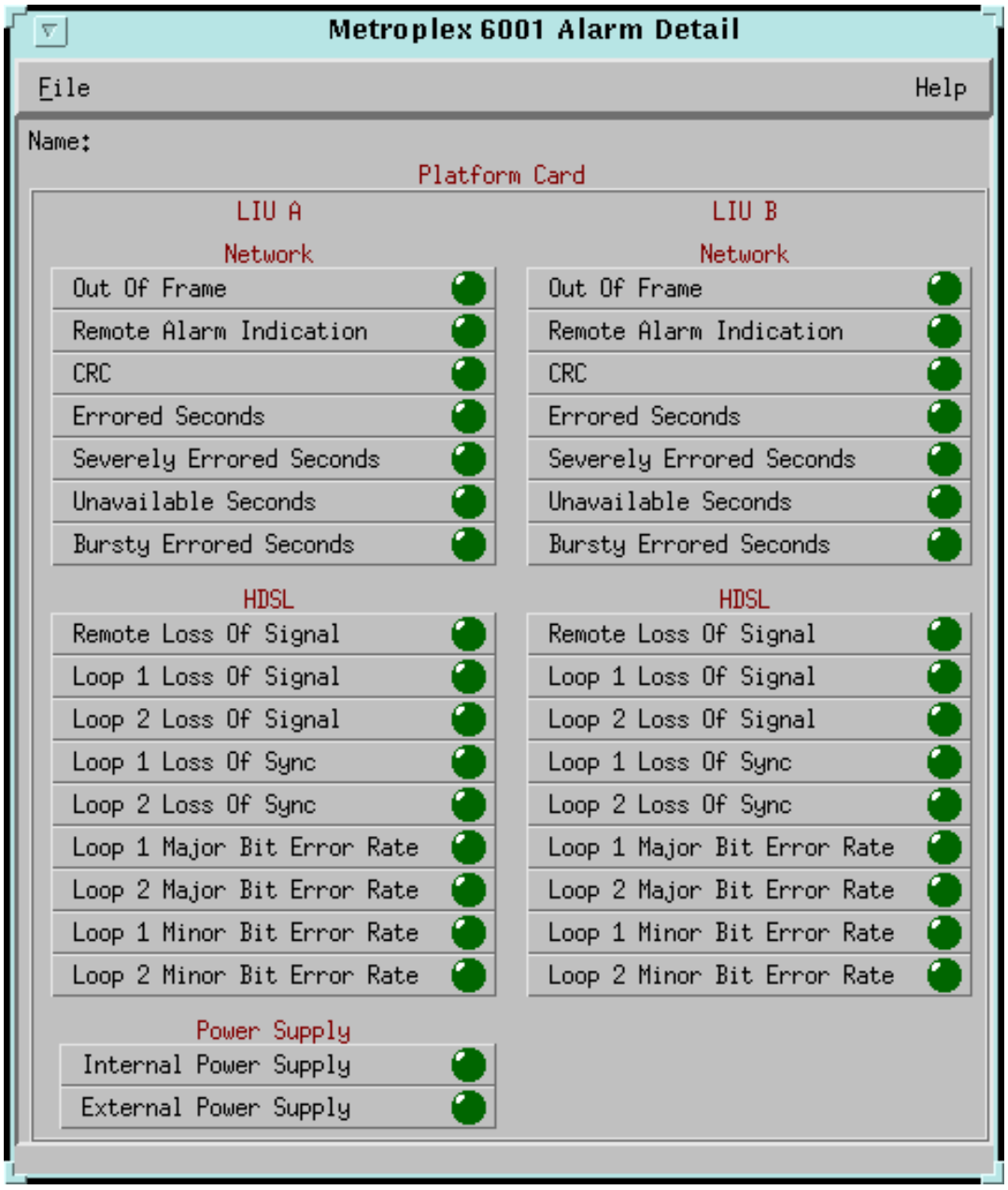


Figure 5-4 HDSL-T1 Alarm Detail Screen (6001)

Table 5-4 HDSL-T1 Alarm States (6001)

Network	LED Indications
Out Of Frame	OOF (Out of Frame) is detected as defined in TR 62411.
All Ones Signal	AIS (Alarm Indication Signal) is being received from the network.
Remote Alarm Indication	Yellow indicates a RAI (Remote Alarm Indication) is being received from the network. Blue indicates an AIS (Alarm Indication Signal) is being received from the network.
CRC	Allowing this alarm enables CRC Threshold and CRC Window.
Errored Seconds	An errored second (ES) is defined as a second with at least one CRC error event.
Severely Errored Seconds	A severely errored second (SES) is defined as a second with 320 or more CRC6 error events, or one or more OOFs.
Unavailable Seconds	Unavailable errored seconds (UAS) is defined as a count of one-second intervals when service is not available.
Bursty Errored Errors	A bursty errored second (BES) is defined as a second with more than one, but less than 320 CRC6 error events.
HDSL	
Remote Loss Of Signal	Yellow indicates a RAI (Remote Alarm Indication) is being received from the network. Blue indicates an AIS (Alarm Indication Signal) is being received from the network. Red indicates LOS (Loss of Signal) is detected as defined in TR 62411.
Loop 1 Loss of Signal	Red indicates LOS (Loss of Signal) for Loop 1 is detected as defined in TR 62411.
Loop 2 Loss of Signal	Red indicates LOS (Loss of Signal) for Loop 2 is detected as defined in TR 62411.
Loop 1 Loss of Sync	Advises you that there was no framing on the U-loop signal (or it has been lost) for Loop 1.
Loop 2 Loss of Sync	Advises you that there was no framing on the U-loop signal (or it has been lost) for Loop 2.
Major Bit Error Rate	Major Bit Error Rate based on threshold. Threshold: 10E-03, 10E-04, 10E-05, and 10E-06 bit error rates.
Minor Bit Error Rate	Minor Bit Error Rate based on threshold. Threshold: 10E-03, 10E-04, 10E-05, and 10E-06 bit error rates.

Table 5-4 HDSL-T1 Alarm States (6001) (Continued)

Network	LED Indications
LIU A only	
`Internal Power Supply`	LED lights up red if the internal power supply malfunctions or is not available.
`External Power Supply`	LED lights up red if the external power supply malfunctions or is not available.
Note: When `LIU B` is not present, it is removed from the screen and is reduced in size horizontally. If the shelf type is USS, the power supply alarms are removed from the screen and reduced in size vertically. When one LIU is HDSL-T1 and the other is T1, the LIU contains only those alarms appropriate for that particular LIU, that is, the screen combines the T1 and HDSL-T1 screens.	

Alarm - MIB Version Prior to 3.00

See Figure 5-5 and refer to Table 5-5.

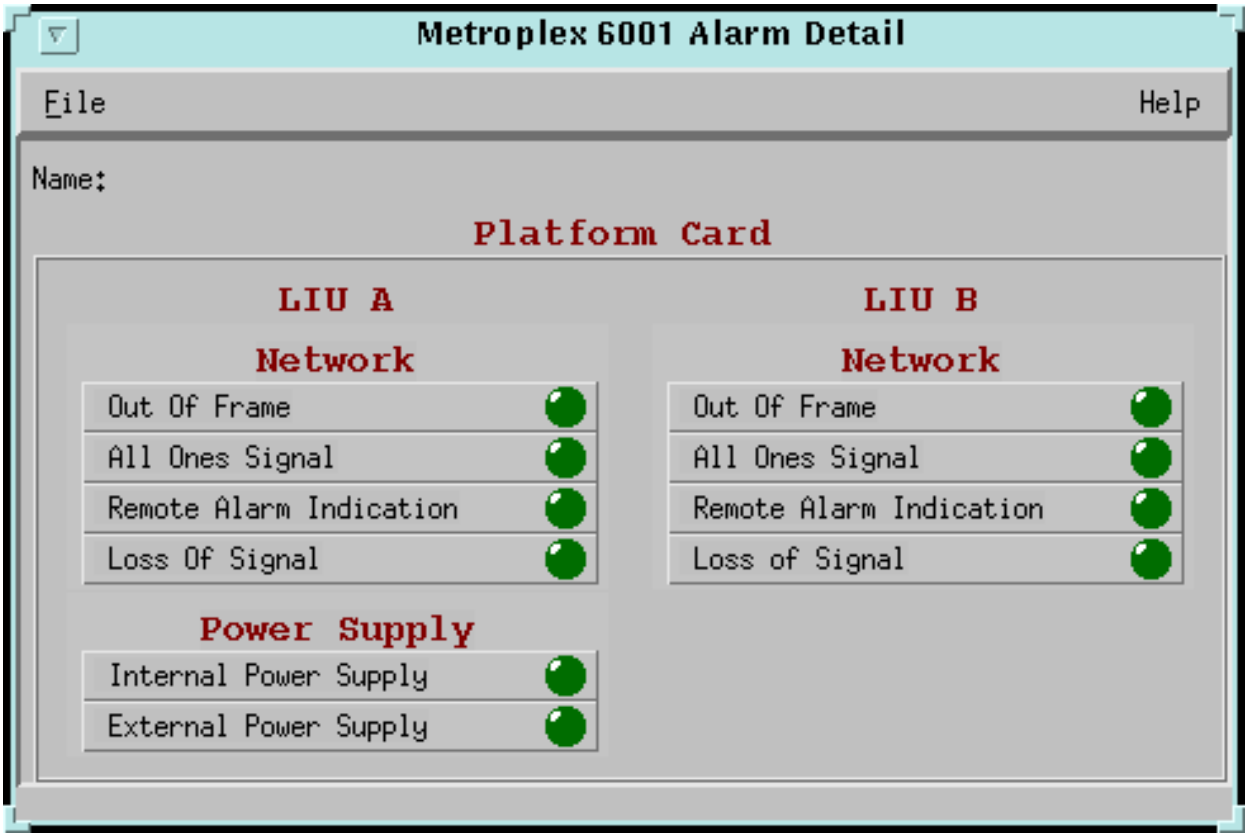


Figure 5-5 Alarm Detail Screen - MIB Prior to 3.00 (6001)

Table 5-5 Alarm States Screen - MIB Prior to 3.00 (6001)

Network	LED Indications
Out Of Frame	OOF (Out of Frame) is detected as defined in TR 62411.
All Ones Signal	AIS (Alarm Indication Signal) is being received from the network.
Remote Alarm Indication	Yellow indicates a RAI (Remote Alarm Indication) is being received from the network. Blue indicates an AIS (Alarm Indication Signal) is being received from the network.
Loss of Signal	Red indicates LOS (Loss of Signal) is detected as defined in TR 62411.
LIU A only	
Internal Power Supply	LED lights up red if the internal power supply malfunctions or is not available.
External Power Supply	LED lights up red if the internal power supply malfunctions or is not available.
Note: When LIU B is not present, it is removed from the screen and is reduced in size horizontally. If the shelf type is USS, the power supply alarms are removed from the screen and reduced in size vertically.	

Reports

6001 Error Reports - Overview

This section describes various error reports (statistics) screens for MP 6001 LIUs with T1 and T1-HDSL, or E1 and E1-HDSL interface types. Several screens have been added to support the E1, T1-HDSL, and E1-HDSL interfaces. There are some cosmetic changes and additions to every screen from the previous release. Some of the added features are:

- New background color(bisque) for graphs to emphasize graphical data
- Auto-ranging of Y-Axis
- X-Axis glyph labels lead to pop-up windows by point and click
- Real-time representation of the intervals
- Interval based graphs have scrolling capability to view all 24 hours worth data
- Periodic polling for data

The above features are described in the next sections. As the screens for T1, T1-HDSL, E1, E1-HDSL, and the screens for individual attributes (like ES or SES) are very similar; only the common set of screens are covered in the following text.

Only screens for E1 are described here as T1, T1-HDSL, and E1-HDSL screens look the same as E1 without the far end statistics or fewer statistical attributes being reported. Any differences between T1, T1-HDSL, E1, and E1-HDSL are pointed out as required. These screens are described in detail:

- Metroplex 6001 Error Reports (E1) - Main Window
- Metroplex 6001 Error totals (E1)

- Metroplex Background Block Errors(E1)
- Metroplex 6001 Errors Summary (E1)

Description of MIB objects and terms

mp6001StatsLastInitialized (MIB Object)

This object keeps the time elapsed (time-ticks) from the time the statistics was last reset or the LIU was reset. This object is key to interpreting data in terms of real-time. The maximum value the object can hold is `2^32=4294967296` (497 days, 2h:27m:52s). The application does not handle roll-over of this value and requires a statistics reset at least once every 497 days. A sample value is used here to show how it is used to calculate real-time relative to the workstation (manager) time.

value = 18330000 time-ticks = 2 days 2 hours 55 minutes

The minutes value indicates data was dumped into the most recent interval 10 minutes ago. If the current time on the workstation is `11:55` then at `11:45` data was dumped into the most recent interval. The time for the remaining intervals is simply 15 minutes less down the time line.

The hours and minutes values indicate how long ago the current 24 hour totals have been dumped into the recent 24 hour totals. In this sample, it was 2 hours and 55 minutes ago. If the current time on the workstation is `11:55`, then at 9:00, the current 24 hour totals were transferred to the recent 24 hour totals. Also, the current 24 hour totals data were cleared in the unit. The values in the recent 24 hour totals at this time (9:00) represents data for times 9:00 (Thursday) to 9:00 (Wednesday).

Auto Ranging

This feature dynamically changes the Y-Axis scale depending on the maximum value of any of the attributes on the X-Axis. If the value for a certain attribute (or interval) is `100`, then the Y-Axis maximum value is `100`. When the X-Axis value for an attribute changes to `500` the Y-Axis maximum changes to `500`. This way the graphs are more readable when the values for all attributes (or interval) fall within the same range.

Error Reports (E1) - Main Window

See Figure 5-6. The `Error Reports (E1) Main Window` screen application is used to display statistics accumulated by the Metroplex 6001 Platform card. You can launch this platform card screen from the HPOV Shelf Map. This screen is the starting point for all other screens. The screen contains several input areas. Each of the areas is described below. The main window consists of two glyphs (buttons), which when clicked, open up the totals screen and error summary screen. The LIU selection abbreviated menu (choice menu) has six selections, which are: `LIU A`, `LIU A - Loop 1`, `LIU A - Loop 2`, `LIU B`, `LIU B - Loop 1`, and `LIU B - Loop 2`. This list makes selections unavailable, depending on the hardware configuration.

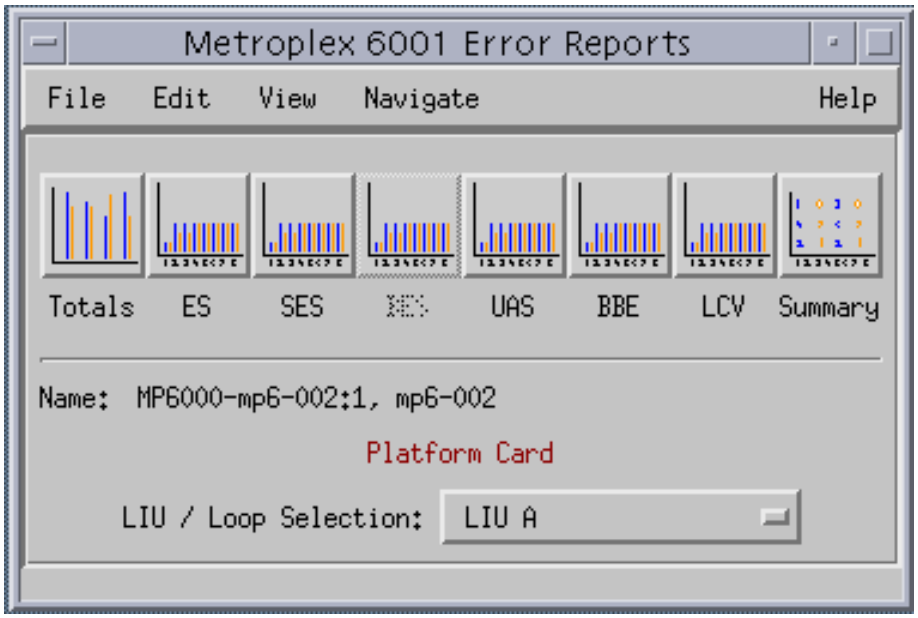


Figure 5-6 Error Reports (E1) - Main Window (6001)

The `Navigate` menu of the summary window lets you access individual windows showing more detailed statistics on each error condition. The menu bar contains the menu cells `File`, `Edit`, `View`, and `Navigate`.

File

See Figure 5-7.

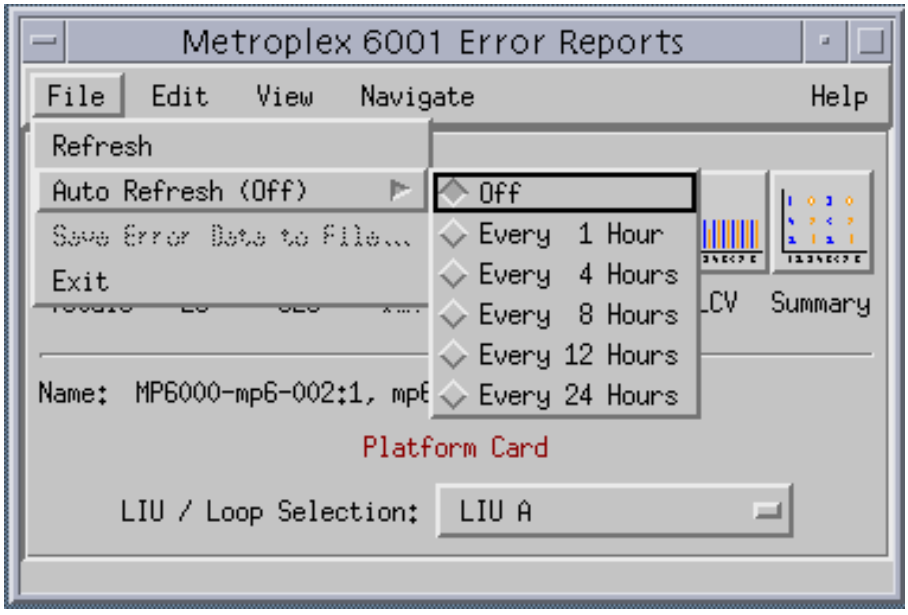


Figure 5-7 File->Auto Refresh Screen (6001)

The menu item `File->Refresh` is an on-demand update of the data for the selected LIU (loop). The `File->Auto Refresh` has menu items to periodically poll the unit for data and update the screens. The menu item `File->Auto Refresh->Off` disables periodic poll and any other option, periodically refreshing at a selected value. Selection of poll time is dynamically appended to the menu item `File->Auto Refresh` (Example: `Auto Refresh (Every 24 Hours)`). The `File->Save Error Data to File...` saves the data to a file from the last poll. The data saved in the file is in pure text format. The `File->Exit` menu item closes all windows and terminates the application.

Edit

The `Edit->Reset Statistics` menu item sends an SNMP set to clear (1) statistics in the unit and (2) data presented on the screen.

View

The `View->Legend` reveals any hidden legend areas existing for all the screens. The legend area describes any notations used. For instance, the main window has a legend area which contains the expansions for the acronyms ES, SES, and so forth.

Navigate

See Figure 5-8.

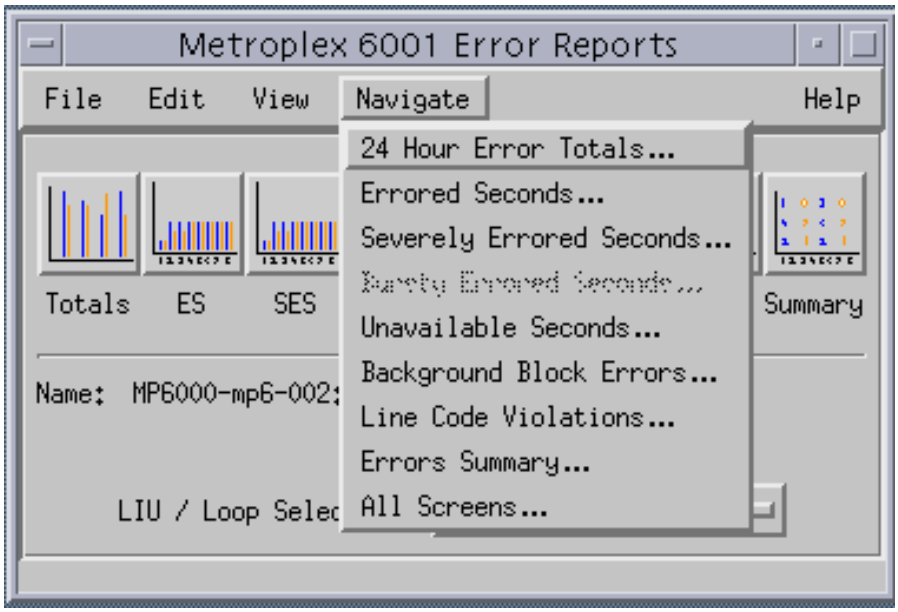


Figure 5-8 Navigate->Several Menu Items Screen (6001)

The Navigate menu consists of several menu items to open other screens that are part of the error reports application.

Error Totals (E1)

See Figure 5-9.

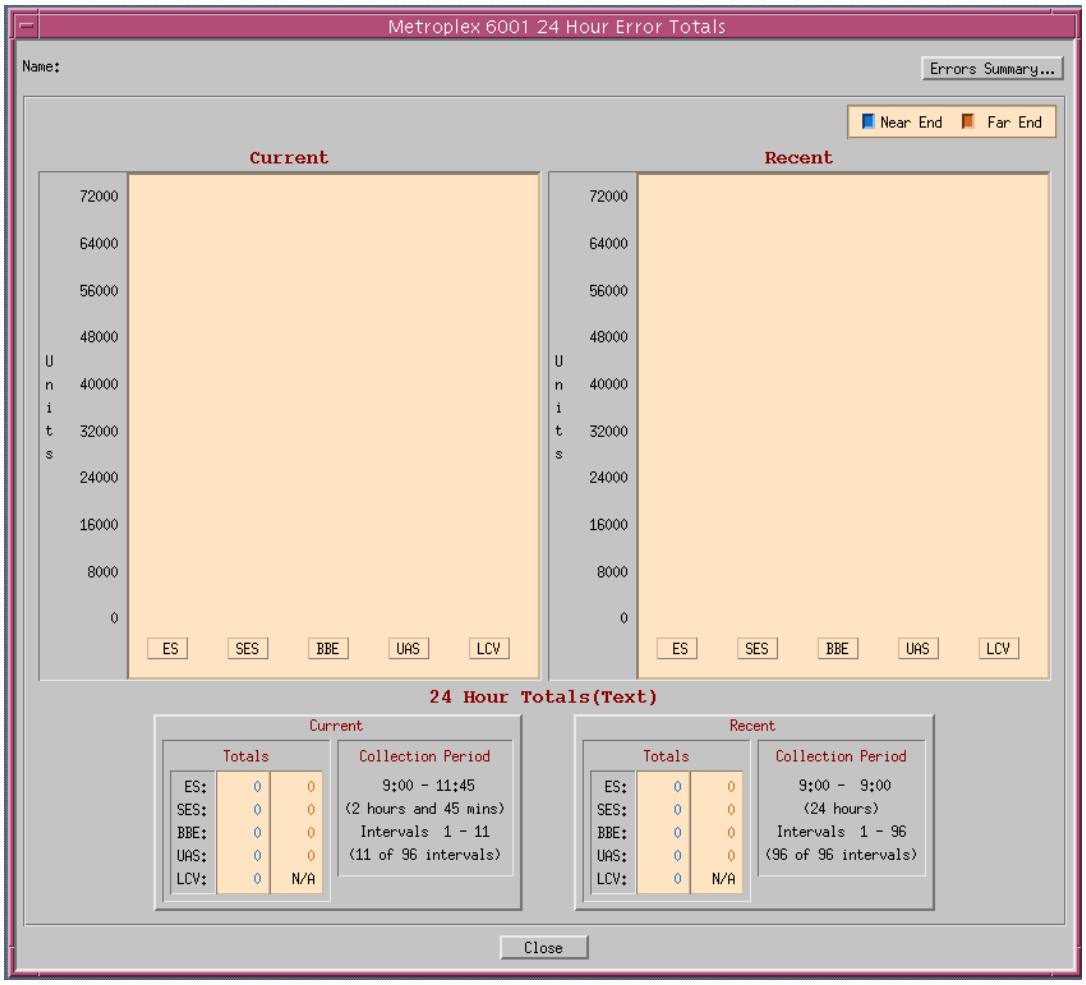


Figure 5-9 Twenty Four-Hour Error Totals Screen (6001)

This screen contains graphs for `Current 24 Hour Totals`, `Recent 24 Hour Totals`, and textual representation of 24 Hour totals and data collection periods in real time.

The Current 24 Hour totals and Recent 24 Hour totals are identical in content. Only the Current 24 Hour totals are described here. The equivalent T1 screen does not have Recent 24 Hour Totals. The buttons, representing the X-Axis an the graph, open up the screen containing the data of the attributes spread over 24 hours in buckets of 15 minutes. This is the same as using the Navigate menu for the attribute. The graph contains two bars, one for `Near End` and one for `Far End`. This is applicable for T-1 HDSL, E-1 HDSL, and E-1 interfaces. The screen for T1 interface has one bar which represents `Near End` data.

The time data presented in the Collection Period area uses the mib object `mp6001StatsLastInitialized` to extract the elapsed time and to convert it to real-time. Refer to *Description of Mib Objects and Terms* for more details.

Errors Summary (E1)

See Figure 5-10.

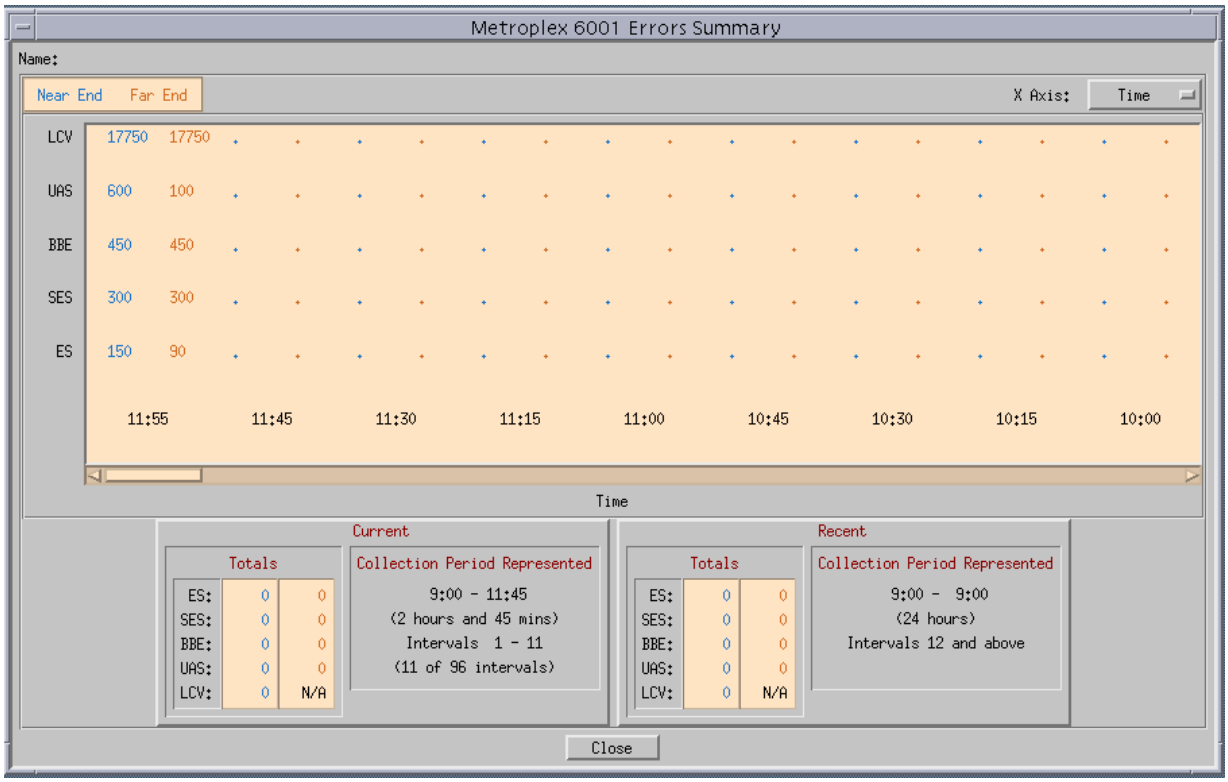


Figure 5-10 Errors Summary Screen (6001)

This screen represents all the statistical data that is possible for an LIU in textual form. The Y-Axis is fixed and the statistical attributes take place. The X-Axis is changeable to view the time scale or interval scale, or both. An important point to be noted here is that the graph has 24 hours worth of data represented, but some of the intervals add up to be the current 24 hour totals with the remaining intervals partially adding up to the recent 24 hour totals. This is applicable for E1, T1-HDSL, and E1-HDSL interfaces. If data has been collected for less than 24 hours, the time/intervals on the X-Axis of the graph are grayed-out for the unavailable period.

At the bottom of the screen the textual information presented about collection period indicates the spread of the current 24 hours and recent 24 hours for individual statistical attributes over 15 minute intervals. The time indicates the real-time determined from `mp6001StatsLastInitialized` and workstation time during which data has been collected. Also indicated is the intervals which correspond to the duration given above. This paragraph does not apply to T1 interfaces because all the collected data always represent the current 24 hour totals.

Looking at the current 24-hour error totals for the `LIU A`, you see shown along six vertical axes in intervals of seconds are total errors represented by vertical bar graphs that have occurred for each of six error events, designated as KEY: ES (Errored Seconds), SES (Severely Errored Seconds), BES (Bursty Errored Seconds), UAS (Unavailable Seconds), BPV (Bipolar Violations), and LOF (Loss of Frame Count). There are three different options or intervals, `0 to 65000`, `32500`, or

to 16250, on the vertical scale. Select one of them by clicking on one of the items in Set Vertical Scale. This is an example of the 0 to 65000 interval for reporting LIU A total errors in the current 24-hour period.

- Error Reports Window Menus

The Error Reports window has File, Edit, and Navigate menus in its menu bar.

See Figure 5-11. The File menu consists of Reset Statistics and Exit selections. The Clear Statistics selection reads the statistics from the LIU A or LIU B and updates the display to reflect changes that have occurred since the window was opened or since the last Clear Statistics

.

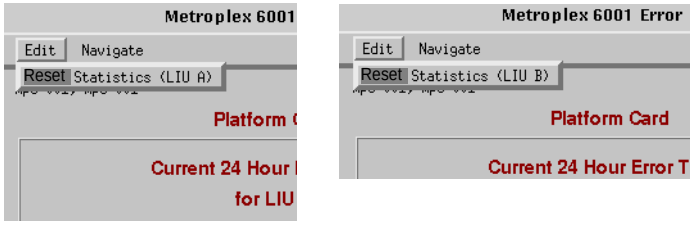


Figure 5-11 Error Report File Selection Screens (6001)

The Exit selection dismisses the Error Reports window.

See Figure 5-12. The Navigate menu contains eight detailed Error Reports displays:

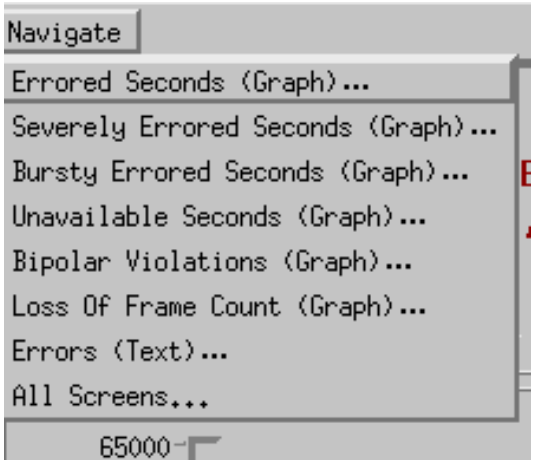


Figure 5-12 Error Report Navigate Selection Screen (6001)

There are six graphic and two textual screens, detailing information about errors collected at 15-minute intervals during the recent four hours.

- Errored Seconds (ES) Report

An Errored Second (ES) is defined as a second with at least one CRC error event. For this screen you have a Set Vertical Scale where you have three vertical scales of seconds intervals to choose from. The screen shows also numeric displays for the current 24-hour period. This screen graphically shows the number of errored seconds that have taken place in one of six four-hours periods.

Time intervals are the horizontal axis of the bar graph display. There are 18 graph bars, each displaying bars for the Metroplex 6001 Platform card application. The graph bars are identified as 0 through 16 and Avg:

0 is the number of errored seconds that have occurred so far in the current, incomplete 15-minute interval.

Selecting a 4-hour period allows the user to choose a four-hour period of the current 24 hours; 0 to 4 selects the number of errors occurred in the latest 4-hour period.

1 through 16 spans the four hour-period selected, divided into 15-minute intervals.

Avg is the mean for the 16 values of completed intervals.

The vertical axis of the bar graph displays the number of errored seconds against a selectable scale of 0 to 900, 450, or 225; click on a preferred vertical scale in Set Vertical Scale above the bar graph. The unit lets you view four hours of error reports, while non-applicable intervals are grayed-out.

When you are finished with this screen, click on the OK button to dismiss the window.

- Severely Errored Seconds (SES) Report

Severely Errored Second (SES) is defined as a second with 7 or more CRC error events, or one or more Out of Frames. The screen shows the Severely Errored Seconds (SES) screen. In Set Vertical Scale you have three vertical scales of seconds intervals to choose from. The screen shows also numeric displays for the current 24-hour period. This screen graphically shows the number of severely errored seconds that have taken place in one of six four-hours periods.

Time intervals are the horizontal axis of the bar graph display. There are 18 graph bars, each displaying bars for the Metroplex 6001 Platform card application. The graph bars are identified as 0 through 16 and Avg:

0 is the number of severely errored seconds that have occurred so far in the current, incomplete 15-minute interval.

Selecting a 4-hour period allows the user to choose a four-hour period of the current 24 hours; 0 to 4 selects the number of errors occurred in the latest 4-hour period.

1 through 16 spans the four-hour period selected, divided into 15-minute intervals.

Avg is the mean for the 16 values of completed intervals.

The vertical axis of the bar graph displays the number of severely errored seconds against a selectable scale of 0 to 900, 450, or 225; click on a preferred vertical scale in Set Vertical Scale above the bar graph. The unit lets you view four hours of error reports, while non-applicable intervals are grayed-out.

When you are finished with this screen, click on the OK button to dismiss the window.

- Background Block Errors (E1)

Background Block Errors are parameters (in the background) indicating whether a CRC block errors were detected in a preceding frame in the opposite direction of transmission.

See Figure 5-13.

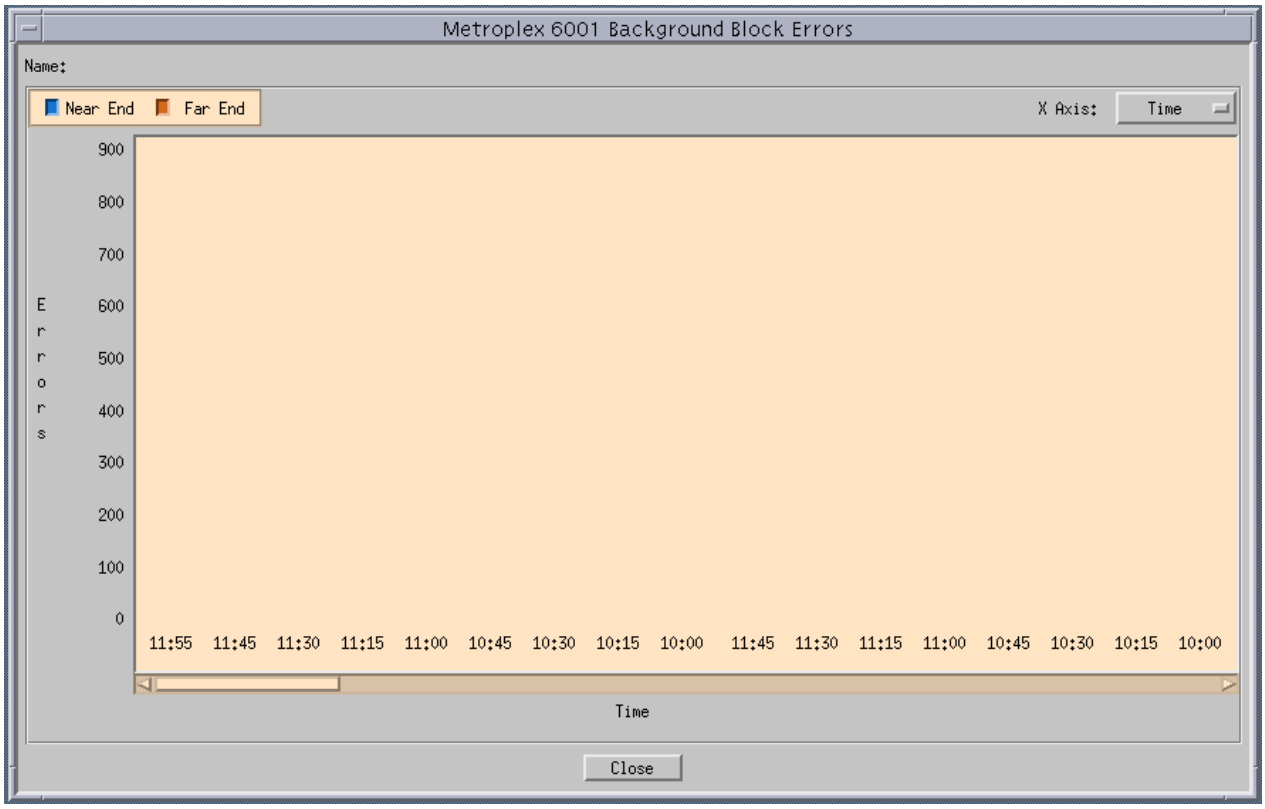


Figure 5-13 Background Block Errors (E1) Screen (6001)

This screen is the basic screen for all individual statistical attributes like ES, SES, etc. The only variation between screens is the title of the screen. Like all other graphs, the Y-Axis scale dynamically changes depending on the maximum value of a certain interval. The X-Axis option button on the upper right hand corner allows the user to view the X-Axis as a time scale or interval scale or both. The graph contains two bars to represent Near End and Far End. There is only one bar when the interface type is T1. The screens for T1-HDSL and E1-HDSL interfaces are identical to E1 interface. If data has been collected for less than 24 hours, the time/intervals on the X-Axis of the graph are grayed out for the unavailable period.

- Bursty Errored Seconds (BES) Report

Bursty Errored Second (`BES`) is defined as a second with more than one, but less than 320 CRC6 error events. The screen shows the Bursty Errored Seconds (BES) screen. In `Set Vertical Scale` you have three vertical scales of seconds intervals to choose from. The screen shows also numeric displays for the current 24-hour period. This screen graphically shows the number of bursty errored seconds that have taken place in one of six four-hours periods.

Time intervals are the horizontal axis of the bar graph display. There are 18 graph bars, each displaying bars for the Metroplex 6001 Platform card application. The graph bars are identified as `0` through `16` and `Avg`:

`0` is the number of bursty errored seconds that have occurred so far in the current, incomplete 15-minute interval.

Selecting a 4-hour period allows the user to choose a four-hour period of the current 24 hours; `0` to `4` selects the number of errors occurred in the latest 4-hour period.

1 through 16 spans the four-hour period selected, divided into 15-minute intervals.

Avg is the mean for the 16 values of completed intervals.

The vertical axis of the bar graph displays the number of bursty errored seconds against a selectable scale of 0 to 900, 450, or 225; click on a preferred vertical scale in Set Vertical Scale above the bar graph. The unit lets you view four hours of error reports, while non-applicable intervals are grayed-out.

When you are finished with this screen, click on the OK button to dismiss the window.

- Unavailable Errored Seconds (UAS) Report

Unavailable Errored Seconds (UAS) is defined as a count of one-second intervals when service is not available. Service-not-available means 10 or more consecutive SESs. The screen shows the Unavailable Errored Seconds (UAS) screen. In Set Vertical Scale you have three vertical scales of seconds intervals to choose from. The screen shows also numeric displays for the current 24-hour period. This screen graphically shows the number of unavailable seconds that have taken place in one of six four-hours periods.

Time intervals are the horizontal axis of the bar graph display. There are 18 graph bars, each displaying bars for the Metroplex 6001 Platform card application. The graph bars are identified as 0 through 16 and Avg:

0 is the number of unavailable seconds that have occurred so far in the current, incomplete 15-minute interval.

Selecting a 4-hour period allows the user to choose a four-hour period of the current 24 hours; 0 to 4 selects the number of errors occurred in the latest 4-hour period.

1 through 16 spans the four-hour period selected, divided into 15-minute intervals.

Avg is the mean for the 16 values of completed intervals.

The vertical axis of the bar graph displays the number of unavailable seconds against a selectable scale of 0 to 900, 450, or 225; click on a preferred vertical scale in Set Vertical Scale above the bar graph. The unit lets you view four hours of error reports, while non-applicable intervals are grayed-out.

When you are finished with this screen, click on the OK button to dismiss the window.

- Line Code Violations

Line Code Violations (LCV) specifies the T1 or E1 near-end line code violations performance alarm measurement interval. It also specifies the E1 near-end line code violations performance alarm mask. N/A is displayed for an HDSL LIU.

The front panel (Platform 6001) indicator reflects the current status of LCV error events.

The screen shows the Line Code Violations (LCV) screen. In Set Vertical Scale you have three vertical scales of seconds intervals to choose from. The screen shows also numeric displays for the current 24-hour period. This screen graphically shows the number of line code violations that have taken place in one of six four-hours periods.

Time intervals on the horizontal axis of the bar graph display are: 1 Second, 10 Seconds, 30 Seconds, 1 Minute, 15 Minutes, 1 Hour, 24 Hours, and No Limit.

The vertical axis of the bar graph displays the number of line code violations seconds against a selectable scale of 0 to 65000, 32500, or 16250; click on a preferred vertical scale in Set Vertical Scale above the bar graph. The unit lets you view four hours of line code violation reports, while non-applicable intervals are grayed-out.

When you are finished with this screen, click on the OK button to dismiss the window.

- Bipolar Violations Report

Bipolar Violations (BPV) is defined as an alarm event occurring when the signal the DSU receives from the Metroplex 6001 Platform card does not alternate between signal levels as required for Alternate Mark Inversion (AMI) or Bipolar with 8 Zero Substitution (B8ZS) data encoding.

The front panel (Platform 6001) indicator reflects the current status of BPV error events.

The screen shows the Bipolar Violations (BPV) screen. In Set Vertical Scale you have three vertical scales of seconds intervals to choose from. The screen shows also numeric displays for the current 24-hour period. This screen graphically shows the number of bipolar violations that have taken place in one of six four-hours periods.

Time intervals are the horizontal axis of the bar graph display. There are 18 graph bars, each displaying bars for the Metroplex 6001 Platform card application. The graph bars are identified as 0 through 16 and Avg:

0 is the number of bipolar violations that have occurred so far in the current, incomplete 15-minute interval.

Selecting a 4-hour period allows the user to choose a four-hour period of the current 24 hours; 0 to 4 selects the number of bipolar violations occurred in the latest 4-hour period.

1 through 16 spans the four-hour period selected, divided into 15-minute intervals.

Avg is the mean for the 16 values of completed intervals.

The vertical axis of the bar graph displays the number of bipolar violations seconds against a selectable scale of 0 to 65000, 32500, or 16250; click on a preferred vertical scale in Set Vertical Scale above the bar graph. The unit lets you view four hours of bipolar violation reports, while non-applicable intervals are grayed-out.

When you are finished with this screen, click on the OK button to dismiss the window.

- Loss of Frame Count (LOFC) Report

Loss of Frame Count (LOFC) is the accumulation of the number of times a Loss of Frame is declared. For this screen, in Set Vertical Scale you have three vertical scales of seconds intervals to choose from. The screen shows also numeric displays for the current 24-hour period. This screen graphically shows the number of loss of frame errors that have taken place in one of six four-hours periods.

Time intervals are the horizontal axis of the bar graph display. There are 18 graph bars, each displaying bars for the Metroplex 6001 Platform card application. The graph bars are identified as 0 through 16 and Avg:

0 is the number of loss of frames that have occurred so far in the current, incomplete 15-minute interval.

Selecting a 4-hour period allows the user to choose a four-hour period of the current 24 hours; 0 to 4 selects the number of errors occurred in the latest 4-hour period.

1 through 16 spans the four-hour period selected, divided into 15-minute intervals.

Avg is the mean for the 16 values of completed intervals.

The vertical axis of the bar graph displays the number of loss of frames against a selectable scale of 0 to 65000, 32500, or 16250; click on a preferred vertical scale in Set Vertical Scale above the bar graph. The unit lets you view four hours of error reports, while non-applicable intervals are grayed-out.

When you are finished with this screen, click on the OK button to dismiss the window.

- Error Report (Text)

The Error Events display screen is the text version of the Error Reports graphic representations. It tabulates data on the six types of error events that have occurred.

The screen displays Total Error Events over the current 24-hour period (without current interval). The display headed Current Error Events: `Current 15 Minute Interval` shows the error events accumulated thus far in the uncompleted current interval. For the 15-minute boundary, the accumulation is transferred to the `Current 24 Hours` count and a new current interval begins.

The `Cumulative Error Events` display at the bottom of the screen gives you a detailed view of error events that have happened over the most recent 24 hours. Each interval corresponds to 15-minute durations. The `Number Of Valid Intervals` indicates the number of intervals, which could be 96 or less, completed by the unit in the past 24 hours.

Click on the `OK` button to dismiss the window when are finished with it.

Configuration

Metroplex 6000 Configuration Window Fields

The main Metroplex 6000 Configuration window contains three text input fields and eight display fields. The information you store in this window is simply text to identify the Metroplex 6000 and the shelf it controls, and to provide an operator at a TEAM management workstation with the name of a person on-site where the equipment is located to contact if need arises.

Three text input fields in the Metroplex 6000 Configuration window are labeled `System Name`, `System Location`, and `System Contact`. The application does not enforce any restrictions on the text you can insert in these fields, but we recommend that you fill in appropriate information.

See Figure 5-14. Selection from the main menu bar or the front panel select switch. From the 6001 Platform Card Configuration Menu screen, you can select Channel Configurations for channels.

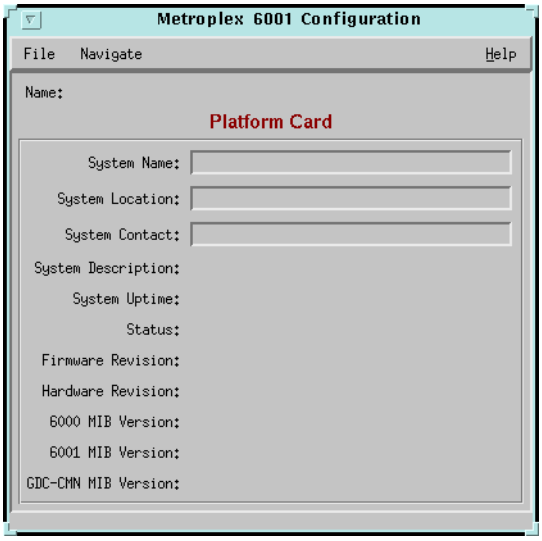


Figure 5-14 Configuration Menu Screen (6001)

The Main Configuration window displays the following read-only items:

Name:	User-configured name for the LIU
`Sytem Name:`	Identifier assigned to the Metroplex 6000 Platform card and its shelf
`Sytem Location:`	Address of the site where the Metroplex 6000 Platform card and its shelf are located
`Sytem Contact:`	Name and telephone number of the on-site person responsible for care and maintenance of equipment in the shelf administered by the Metroplex 6000 Platform card
`Sytem Description:`	Metroplex 6000 Manager
`Sytem Uptime:`	Time elapsed since the last time a reset was performed or power was cycled at the Metroplex 6000

Name:	User-configured name for the LIU
Status:	On line or off line
Firmware Revision:	Revision level of the LIU operating code
Hardware Revision:	Revision level of the hardware on the Metroplex 6000 Platform Card
6000 MIB Version:	Revision level of the MIB files that enable Team 6000 control
6001 MIB Version:	Revision level of the MIB files that enable 6001 card control
GDC-CMN MIB Version:	Revision level of the Common MIB files installed in the Metroplex 6000

The following steps describe how to use the configuration application, and illustrate the functions of the 6001 Configuration window menus.

1. Access the 6001 Configuration window, either from the submap menu bar or from the 6001 Front Panel display. The application reads the current 6001 configuration from the LIU when you open the Main window.

   You can select to base your configuration changes on either the current configuration or a stored configuration template. In either case, the LIU continues to operate using its un-changed current configuration.

   The Refresh selection on the Main window File menu causes the application to read the current configuration from the LIU. All changes to all configuration windows that have not previously been saved to the LIU or a template are lost when you select Refresh.

2. To edit the current configuration of the LIU, proceed directly to the Navigate menu as described below.

   To edit a template, select Load Template from the File menu and select a template from the resulting list.

3. Click on the Navigate button to display a menu of the 6001 configuration windows, and select the one in which you intend to make changes.

4. Make changes as needed in the configuration window. When you click on the input field for an option, a window opens to display all the values the field can be set to. Click the mouse on the value you select. When you change the value or setting of an option, the application displays the option name and the new value in white, rather than black, type. They remain white until you either save the changes or a template by means of the Main window File menu, or restore the option to its last stored value or setting.

   You can discard changes to a 6001 configuration window and return all its fields to their stored values in two ways:

   Click on the Reset button to discard changes while keeping the window open

   Click on the Cancel button to discard changes and close the window.

   You can close a 6001 configuration window without losing changes by clicking on either the OK button or the pushpin icon, which is located in the upper left corner of the window.

   You can keep multiple configuration windows open on-screen and move between them by clicking the mouse on the one in which you intend to operate. The 6001 Main Configuration window remains on-screen throughout the configuration process.

5. When you have accessed all the configuration windows that you need to and made all of your changes, click on the `File` menu button of the 6001 Main Configuration window. From that menu you can select `Save to Unit` to save the new configuration in the LIU, or select `Save to Template` to save it as a template in the workstation.

   When you select `Save to Unit`, the changed configuration becomes the current configuration for the LIU.

When you select `Save to Template`, a window appears containing a list of existing templates and a field for entering a new template name. You can select an existing template to be overwritten with the new configuration, or enter a name to create a new template. A stored template is available to be loaded by the application and then saved, with or without further modification, to any Team 6000 LIU.

The main Metroplex 6000 Configuration window is the first to appear when you launch the application. It contains three configurable fields for system information and eight read-only fields. This screen lets you access the other ten screens in the Metroplex 6000 Configuration application: `Metroplex 6000 Options`, `Trap Options`, `IP Routing Options`, `Community Name Options`, and `Miscellaneous Metroplex 6000 Options`.

The Metroplex 6000 Configuration window has two pull down menus: `File` and `Navigate`. The contents of the menus appear below.

Menus	Menu Selections	
File		
	Refresh	
	Save to Unit	
	Load Template...	dialog window
	Save to Template (*)...	dialog window
	Compare to Template...	dialog window
	Exit	
Navigate		
	Platform Options...	dialog window
	Liu A Options...	dialog window
	Liu B Options...	dialog window
	Power Supply Alarms Reported...	dialog window
	LIU A Alarms Reported...	dialog window
	LIU B Alarms Reported...	dialog window
	Alarm Dial-Out Options...	dialog window
	Trap Options...	dialog window

Menus	Menu Selections	
	IP Routing Options...	dialog window
	Community Name Options...	dialog window
	All Screens...	

* Displays needed when there are pending changes, unneeded when there are no pending changes.

Menu Selection Definitions

File Menu Selection	Definition
Refresh	This selection on the main window `File` menu causes the application to read the current configuration from the LIU. All changes to all configuration windows that have not previously been saved to the LIU or a template are lost when you select `Refresh`.
Save to Unit	Sends the displayed configuration to the Metroplex 6000. If the configuration has changed, a pop-up suggests that this new configuration be saved. A footer message indicates that configuration categories are being downloaded.
Load Template	Opens a window listing all Agent Configuration templates stored on the workstation, from which you may select a template file to display.
Save to Template	Stores the displayed configuration, with any changes you have made, under the currently selected template file name.
Compare to Template	Compares the displayed configuration to a selected template file.
Exit	Dismisses the window.
*Metroplex 6000 Configuration application only (not applicable to Template application)	

Navigate Menu Selection	Opens window for setting:
Platform Options	Options that control the configuration of the platform card.
LIU A Options	Options that control the configuration of the LIU A.
LIU B Options	Options that control the configuration of the LIU B.
Power Supply Alarms Reported	Displays the Power Supply Alarms Reported window. This selection is available only when the MIB object is `mp6000ShelfType`, a wall-mount enclosure.
LIU A Alarms Reported	Displays the MEtroplex 6001 LIU Alarms Reported window that is appropriate for the type of LIU (`LIU A`) as indicated in the MIB object `mp6001InterfaceType`.

Navigate Menu Selection	Opens window for setting:
LIU B Alarms Reported	Displays the MEtroplex 6001 LIU Alarms Reported window that is appropriate for the type of LIU (`LIU B`) as indicated in the MIB object `mp6001InterfaceType`.
Alarm Dial-Out Options	Displays the Metroplex 6001 Alarm Dial-Out Options Screen.
Trap Options	Displays Trap Options and Trap Address Options.
IP Routing Options	Displays IP Routing Options.
Community Name Options	Displays Community Names Options.
All Screens	Opens all Metroplex 6001 Configuration screens simultaneously.

Platform Options

See Figure 5-15 and refer to Table 5-6. The Configuration screen is used to configure `System Options` and shows you both the system options Configuration and the `Drop & Insert Timeslot Configuration` screen selections.

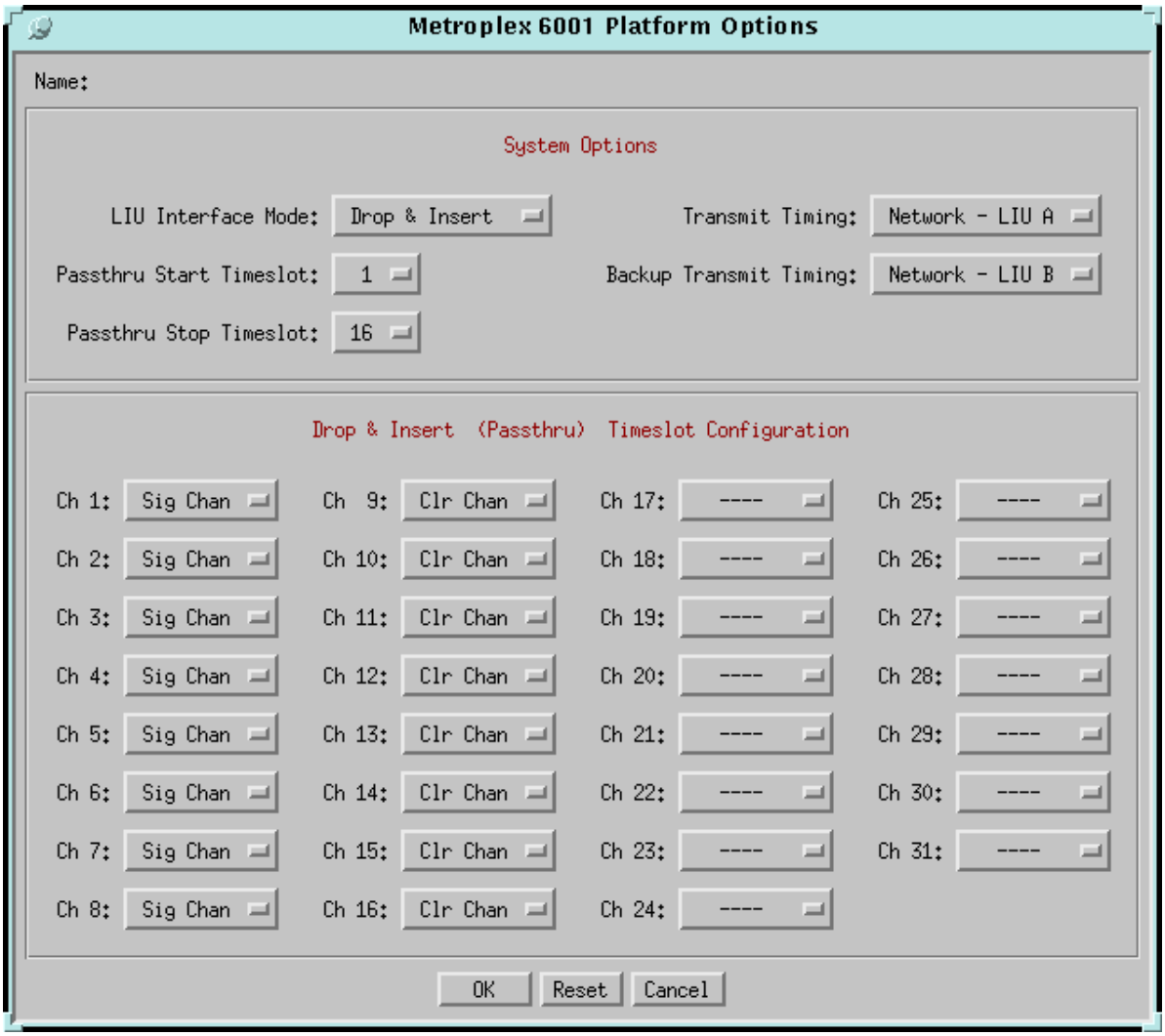


Figure 5-15 System Options/Drop & Insert Timeslot Screen (6001)

Table 5-6 System Selections and Messages (6001)

Field	Selection	Description
LIU Interface Mode	**Network Link**, Diverse Link, Drop and Insert	Specifies the operation of the LIUs. Network Link is used when one or both LIUs are connected to the network independently. Diverse Link allows LIU B to backup LIU A. When a failure occurs on LIU A, LIU B is instructed to take over. This selection is not available if channels are assigned to LIU B or if LIU B is not present. `Drop & Insert` is used when timeslots on LIU A are redirected through LIU B and are therefore not available for channel cards. This selection is disabled (grayed-out) when CAS for LIU A is off and CAS for LIU B is on.
Transmit Timing	**Network A**, Internal	Specifies the transmit timing source. Internal is used when the Metroplex 6000 provides the timing to the network. Network A is used when the network connected to LIU A provides the timing.
Backup Transmit Timing	Network B, **Internal**	Specifies the backup transmit timing source. This is used when an LIU A failure occurs. The available timing options are dependent on Transmit Timing selection. Internal is used when the Metroplex 6000 provides the timing in the network. Network B is used when the network connected to LIU B provides the timing.
Passthru Start Timeslot	**Off** and 1-31	Specifies the start timeslot for Drop and Insert. Type 0 or Off.
Passthru Stop Timeslot	**Off** and 1-31	Specifies the stop timeslot for Drop and Insert. This timeslot must be equal to or greater than start timeslot. '0' (zero) can be used to specify Off.
Drop & Insert Channel Type	**Clear,** Signaling, and Unavailable	Select Signaling Channel for voice channels or Switched 56 data channels which require robbed-bit signaling. `Sig Chan` selections are grayed-out if CAS selection is off for either LIU. Setting any channel to `Sig Chan` disables the `Off`-state for CAS on both LIUs. Selecting Clear Channel (`Clr Chan`) passes all eight bits of the timeslot. `Ch 16` has the menu cell `CAS Sig` when the interface type is E1. This selection is enabled only when CAS is on for both LIUs. When CAS is on, `Ch 16` is disabled (grayed-out) and forced to `CAS Sig`.
Messages		
Application Has Pending Edits (OK/Cancel)		Displayed if you made a change on the screen but did not select save first. If you select `Cancel`, the screen becomes active and you can then select the save option. If you select `OK`, the screen is exited and the configuration changes are lost.
Note: Selections in **bold** print are the default positions.		

T1 LIU Options (CSU or DSX1)

See Figure 5-16, which features a CSU interface type, and refer to Table 5-7. There are two types of screens: LIU A and LIU B, each with T1 LIU options, CSU or DSX1. Screen changes depend on the option cards installed.

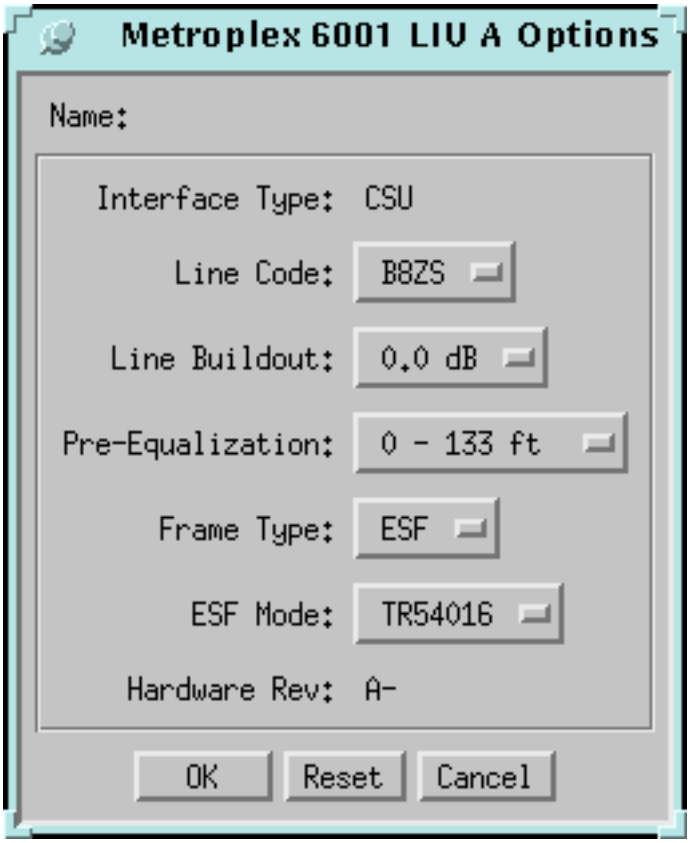


Figure 5-16 T1 LIU Options (CSU or DSX1) Screen (6001)

Table 5-7 T1 LIU Options Selections and Messages (6001)

Field	Selection	Description
Interface Type (read only)	CSU, DSX-1, Unknown	Specifies the Interface Type read from card. Unknown indicates Platform card does not recognize Interface Type. Check the firmware revision.
Line Code	**B8ZS**, AMI	This sets the line code for the equipment side to AMI (Alternate Mark Inversion, with no bipolar violations) or B8ZS (Bipolar with 8 Zero Substitution, with bipolar violations). This selection must match the line code used on your T1 line.
Line Build-Out	0.0dB, **-7.5dB**, -15.0dB	Line Build-Out - Applying to CSU only, this sets the Line Build-Out to one of the following attenuation levels: 0 dB, -7.5 dB, or -15 dB. Select the Line Build-Out to compensate for the cable loss to the first T1 repeater (e.g. 0dB for a high cable loss). This selection is disabled (grayed-out) when `Interface Type` is DSX1.
Pre-Equalization	Intervals in ft: **0 - 133** 133 - 266 266 - 399 399 - 533 533 - 655	Pre-equalization applies to the DSX1 only and not to the CSU where you would see this field grayed-out.
Frame Type	D4, **ESF**	This sets the frame format to D4 (D4 Superframe Format) or ESF (Extended Superframe Format). When this selection is D4, ESF mode is disabled (grayed-out).
ESF Mode	TR54016, **None**	This sets Central Office compatibility to ANSI or TR54016. These publications define, in part, how signal quality or performance measurements are determined, transmitted, and responded to. The ANSI mode supports Bellcore Scheduled Performance Report Messages (PRMs) and Unscheduled Messages, messages initiated by the Telco and contained in the Data Link sub-channel provided in ESF framing. The TR54016 mode supports their Telemetry Asynchronous Block Serial Protocol (TABS), a maintenance message protocol initiated by the Telco and contained in the Data Link sub-channel provided in ESF framing. The ESF mode is grayed-out or disabled when `Frame Type` is D4.
Hardware Rev (read-only)	--, A-,..., AA,... ZZ	Current hardware version.
Messages		
Application Has Pending Edits (OK/Cancel)		Displayed if you made a change on the screen but did not select save first. If you select `Cancel`, the screen becomes active and you can then select the save option. If you select `OK`, the screen is exited and the configuration changes are lost.
Notes: 1. Some configuration parameters are not changeable when an LIU is in a diagnostic test, which displays on the screen an SNMP general error. 2. Defaults in bold.		

E1 LIU Options

See Figure 5-17 and refer to Table 5-8. The screen below is shown when `Navigate->LIU A/B Options` is selected and the `Interface Type` is E1. This screen allows you to configure a particular LIU.

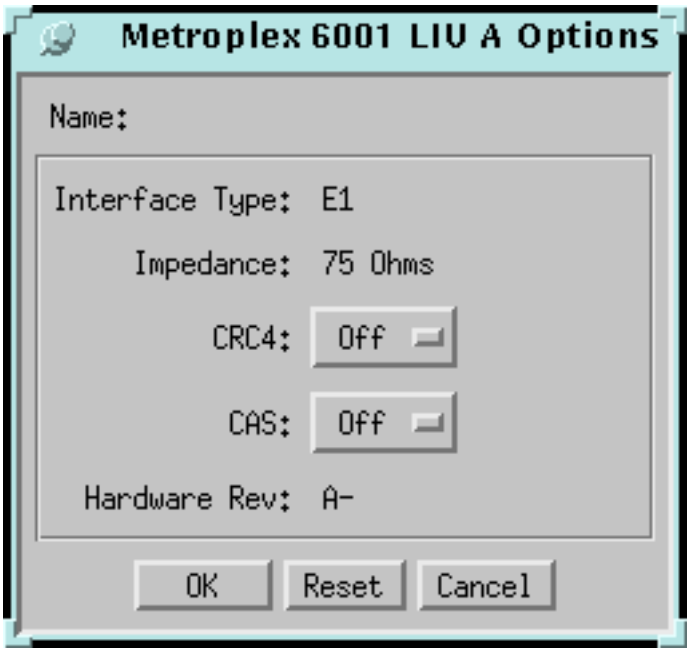


Figure 5-17 E1 LIU Options Screen (6001)

Table 5-8 E1 LIU Configuration Selections and Messages (6001)

Field	Selection	Description
Interface Type (read only)	E1	Specifies that the Interface Type read from card is E1.
CRC4	On or Off	When Frame Type is D4, ESF Mode is disabled (grayed-out).
CAS	On or Off	This selection is disabled (grayed-out) if any channel card using a Timeslot requires channel signalling. `Off` disables (grays-out) all timeslot selections for all voice channels, except when: The interface type of a channel is a `4-Wire Transmit Only`. All Timeslot selections for any Flexi-Data channel has a data rate of `Switched 56 kbps`. `Sig Chan` and `Drop & Insert Timeslot` are selected. `Off` is disabled, if any of the following statements are true: (1) A timeslot is assigned to a voice channel. (2) The `Digital Service` for a Flexi-Data channel is set to `Switched 56 kbps`. (3) `Drop & Insert Timeslot` is selected to `Sig Chan`. Selection `On` is grayed-out if `Timeslot 16` is assigned on the Drop & Insert portion of the platform options window. Conversely, Timeslot 16 is grayed-out if the selection is on.
Impedance (read-only)	75 Ohms, 120 Ohms, or Jumper Error	The impedance selected by the hardware jumper.
Hardware Rev (read-only)	--, A-,..., AA,... ZZ	Current hardware version.
Messages		
Application Has Pending Edits (OK/Cancel)		Displayed if you made a change on the screen but did not select save first. If you select `Cancel`, the screen becomes active and you can then select the save option. If you select `OK`, the screen is exited and the configuration changes are lost.
Notes: 1. Some configuration parameters are not changeable when an LIU is in a diagnostic test, which displays on the screen an SNMP general error. 2. Defaults in bold.		

HDSL E1 LIU Options

See Figure 5-18 and refer to Table 5-9. The screen below is shown when `Navigate->LIU A/B Options` is selected and the `Interface Type` is HDSL E1. This screen allows you to configure a particular LIU.

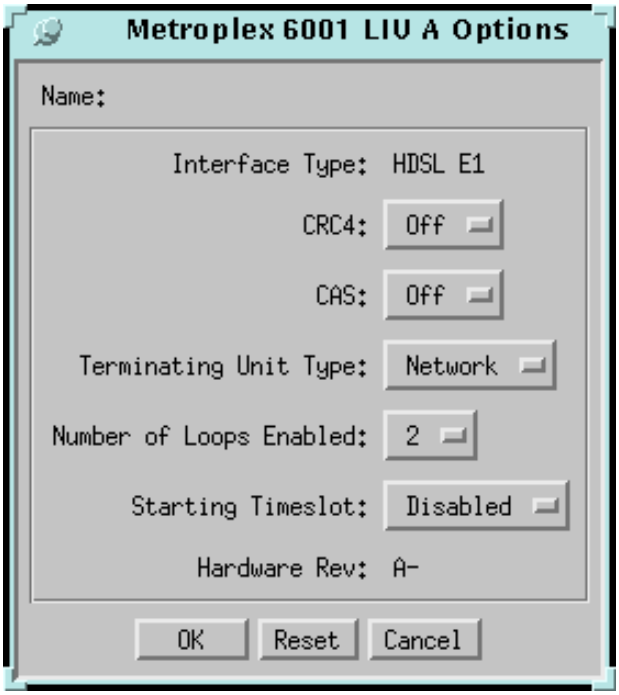


Figure 5-18 HDSL E1 Configuration Screen (6001)

Table 5-9 HDSL E1 Configuration Selections and Messages (6001)

Interface Type (read only)	HDSL E1	Specifies that the Interface Type read from card is HDSL E1.
CRC4	Off or **On**	This turns CRC-4 Multiframe On or Off.
CAS	**On** or Off	This selection is on if any channel card using a Timeslot requires channel signalling. `Off` disables (grays-out) all timeslot selections for all voice channels, except when: The interface type of a channel is a `4-Wire Transmit Only`. All Timeslot selections for any Flexi-Data channel has a data rate of `Switched 56 kbps`. `Sig Chan` and `Drop & Insert Timeslot` are selected. If a Timeslot is assigned to a voice channel, or the `Digital Service` for a Flexi-Data channel is set to `Switched 56 kbps`, or `Drop & Insert Timeslot` is selected to `Sig Chan`, then `Off` is disabled. Selection `On` is grayed-out if `Timeslot 16` is assigned on the Drop & Insert portion of the platform options window and conversely, Timeslot 16 is grayed if the selection is on.
Terminating Unit Type	**Network** or Line	This is used only for HDSL LIUs, in all other cases the value will always be N/A. When a HDSL LIU is specified, it can be configured as a NTU (Network Terminating Unit) or LTU (Line Terminating Unit). In most cases, a HDSL LIU on the Metroplex 6000 will be configured as a NTU.

Table 5-9 HDSL E1 Configuration Selections and Messages (6001) (Continued)

Interface Type (read only)	HDSL E1	Specifies that the Interface Type read from card is HDSL E1.
Number of Loops Enabled	1 or **2**	This selection is disabled (grayed-out) when any of the Timeslots 13 through 24 on the Drop and Insert portion of the platform options window is selected for inclusion. Conversely, these same timeslot selections are disabled (grayed-out) if the number of loops enabled is `1`.
Starting Timeslot	Disabled, 1, 2,..., 14	Specifies the stop timeslot for drop and insert. By choosing `Disabled,` this selection becomes disabled (grayed-out) if you have two loops enabled.
Hardware Rev (read-only)	--, A-,..., AA,... ZZ	Current hardware version.
Messages		
Application Has Pending Edits (OK/Cancel)		Displayed if you made a change on the screen but did not select save first. If you select `Cancel`, the screen becomes active and you can then select the save option. If you select `OK`, the screen is exited and the configuration changes are lost.
Notes: 1. Some configuration parameters are not changeable when an LIU is in a diagnostic test, which displays on the screen an SNMP general error. 2. Defaults are in bold.		

HDSL T1 LIU Options

See Figure 5-19 and refer to Table 5-10. The screen below is shown when `Navigate->LIU A/B Options` is selected and the `Interface Type` is HDSL T1. This screen allows you to configure a particular LIU.

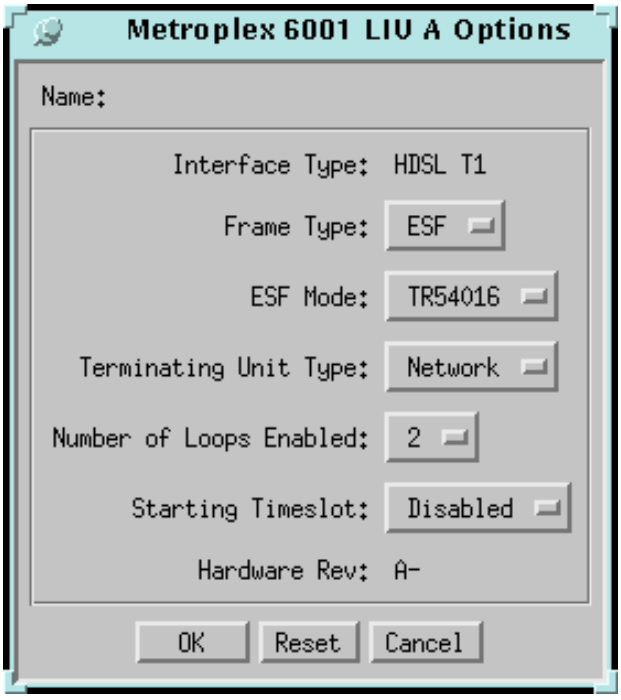


Figure 5-19 HDSL T1 Configuration Screen (6001)

Table 5-10 HDSL T1 Configuration Selections and Messages (6001)

Interface Type (read only)	HDSL T1	Specifies that the Interface Type read from card is HDSL T1.
Frame Type	D4 or **ESF**	When D4 is selected, ESF mode is disabled (grayed-out).
ESF Mode	**None** or TR54016	When frame type is D4, this mode is disabled (grayed-out).
Terminating Unit Type	**Network** or Line	This is used only for HDSL LIUs, in all other cases the value will always be N/A. When a HDSL LIU is specified, it can be configured as a NTU (Network Terminating Unit) or LTU (Line Terminating Unit). In most cases, a HDSL LIU on the Metroplex 6000 will be configured as a NTU.
Number of Loops Enabled	1 or **2**	This selection is disabled (grayed-out) when any of the Timeslots 13 through 24 on the Drop and Insert portion of the platform options window is selected for inclusion. Conversely, these same timeslot selections are disabled (grayed-out) if the number of loops enabled is `1`.
Starting Timeslot	**Disabled,** 1, 2,..., 13	Specifies the stop timeslot for drop and insert. By choosing `Disabled,` this selection becomes disabled (grayed-out) if you have two loops enabled.
Hardware Rev (read-only)	--, A-,..., AA,... ZZ	Current hardware version.
Messages		
Application Has Pending Edits (OK/Cancel)		Displayed if you made a change on the screen but did not select save first. If you select `Cancel`, the screen becomes active and you can then select the save option. If you select `OK`, the screen is exited and the configuration changes are lost.
Notes: 1. Some configuration parameters are not changeable when an LIU is in a diagnostic test, which displays on the screen an SNMP general error. 2. Defaults are in bold.		

Power Supply Alarms Reported

See Figure 5-20. This screen is shown when you choose `Configuration/Navigate->Power Supply Alarms Reported` on the Metroplex 6001 Configuration main window. This selections is available only when the MIB object is `mp6000ShelfType` is a wall-mount enclosure.

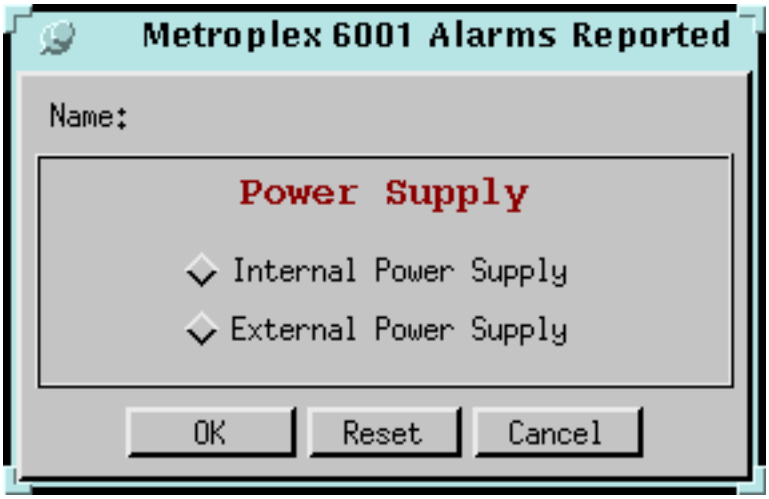


Figure 5-20 Power Supply Alarms Reported Screen (6001)

T1 LIU Alarms Reported (CSU or DSX1)

See Figure 5-21 and refer to Table 5-11. You see this screen for alarms reported when you choose `Configuration/Navigate->LIU A/B Alarms Reported` and MIB object `mp6001InterfaceType` is CSU or DSX1. This screen lets you configure the LIU alarms applicable to a particular LIU.

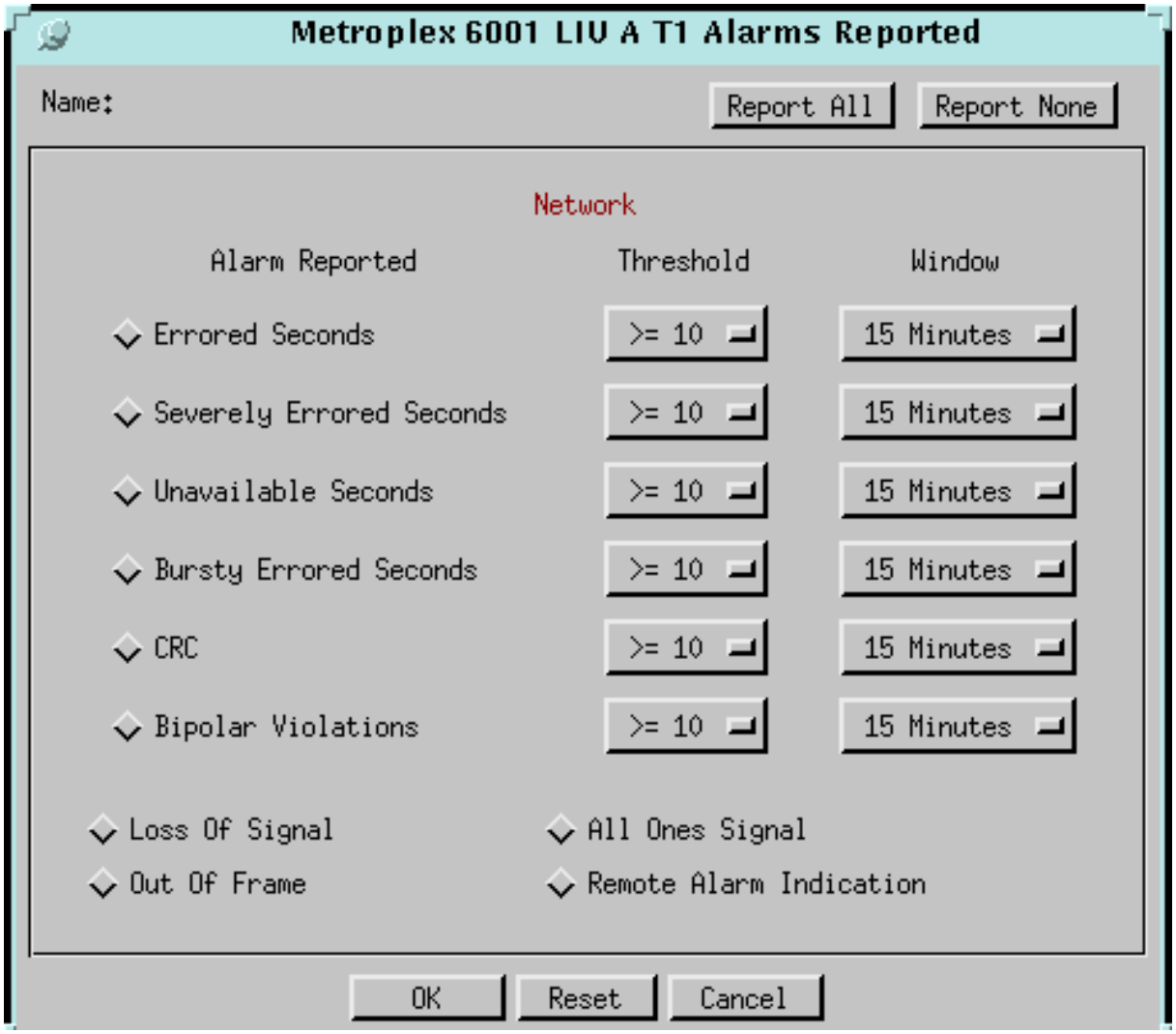


Figure 5-21 T1 LIU Alarms Reported (CSU or DSX1) Screen (6001)

The above screen displays alarms as reported or masked (Refer to local management manual for specific masking and reporting descriptions on each field in Table 5-11). Alarms are always displayed on monitor screens regardless of their reported/masked configuration. Performance alarms such as `Errored Seconds`, for example, pertaining to the T1 LIU require additional configuration of thresholds and measurement interval windows. A field is unmasked when the diamond glyph ◇ is recessed.

Table 5-11 T1 LIU Alarms Reported (CSU or DSX1) (6001)

Field	Network Alarm Description
Name (read-only)	Identifies the 6001 application that is currently connected to by displaying the user-configured shelf name, followed by the CSU or DSX1 slot number, and the user-configured device name.
Errored Seconds (ES)	Enables Threshold and Window.
ES Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Errored Seconds alarms are not allowed.
ES Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Errored Seconds alarms are not allowed.
Severely Errored Seconds (SES)	Allowing this alarm enables SES Threshold and SES Window.
SES Thresh-old	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Severely Errored Seconds alarms are not allowed.
SES Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Severely Errored Seconds alarms are not allowed.
Unavailable Seconds (UAS)	Allowing this alarm enables UAS Threshold and UAS Window.
UAS Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Unavailable Seconds alarms are not allowed.
UAS Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Unavailable Seconds alarms are not allowed.
Bursty Errored Seconds (BES)	Allowing this alarm enables BES Threshold and BES Window.
BES Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Bursty Errored Seconds alarms are not allowed.
BES Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Bursty Errored Seconds alarms are not allowed.
CRC	Allowing this alarm enables CRC Threshold and CRC Window.
CRC Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if CRC alarms are not allowed.
CRC Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if CRC alarms are not allowed.
Bipolar Violations	Allowing this alarm enables Bipolar Violations Threshold and Bipolar Violations Window.

Table 5-11 T1 LIU Alarms Reported (CSU or DSX1) (6001) (Continued)

Field	Network Alarm Description
CRC Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Bipolar Violations alarms are not allowed.
CRC Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Bipolar Violations alarms are not allowed.
Loss of Signal	LOS (Loss of Signal) is detected.
Out of Frame	OOF (Out of Frame) is detected as defined in TR 62411.
All Ones Signal	AIS (Alarm Indication Signal) is being received from the network.
Remote Alarm Indication	RAI (Remote Alarm Indication) is being received from the network.
Action Buttons (top)	
Report All	Selects all alarms for reporting.
Report None	Deselects all alarms with no alarms reported.
Action Buttons (bottom)	
OK	Dismisses the window with the edits retained. This is the same action as the pin-pull.
Reset	Undoes pending edits since last File->Save to Unit operation.
Cancel	Same as Reset, dismissing the screen.

E1 LIU Alarms Reported

See Figure 5-22 and refer to Table 5-12. You see this screen for alarms reported when you choose Configuration/Navigate->LIU A/B Alarms Reported and MIB object mp6001InterfaceType is E1. This screen lets you configure the LIU alarms applicable to a particular LIU.

Figure 5-22 E1 LIU Alarms Reported Screen (6001)

The above screen displays alarms as reported or masked (Refer to local management manual for specific masking and reporting descriptions on each field in Table 5-12). Alarms are always displayed on monitor screens regardless of their reported/masked configuration. Performance alarms such as `Errored Seconds`, for example, pertaining to the T1 LIU require additional configuration of thresholds and measurement interval windows. A field is unmasked when the diamond glyph ◇ is recessed.

Table 5-12 E1 LIU Alarms Reported (6001)

Field	Network Alarm Description
Name (read-only)	Identifies the 6001 application that is currently connected to by displaying the user-configured shelf name, followed by the CSU or DSX1 slot number, and the user-configured device name.
Network Near End	
Line Code Violation	Allowing this alarm enables LCV Threshold and LCV Window.
LCV Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Line Code Violation alarms are not allowed.
LCV Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Line Code Violation alarms are not allowed.
Errored Seconds (ES)	Allowing this alarm enables ES Threshold and ES Window.
ES Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Errored Seconds alarms are not allowed.
ES Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Errored Seconds alarms are not allowed.
Severely Errored Seconds (SES)	Allowing this alarm enables SES Threshold and SES Window.
SES Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Severely Errored Seconds alarms are not allowed.
SES Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Severely Errored Seconds alarms are not allowed.
Unavailable Seconds (UAS)	Allowing this alarm enables UAS Threshold and UAS Window.
UAS Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Unavailable Seconds alarms are not allowed.
UAS Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Unavailable Seconds alarms are not allowed.
Background Block Errors (BBE)	Allowing this alarm enables BBE Threshold and BBE Window.
BBE Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Background Block Errors alarms are not allowed.
BBE Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Background Block Errors alarms are not allowed.

Table 5-12 E1 LIU Alarms Reported (6001) (Continued)

Field	Network Alarm Description
Network Far End	
Errored Seconds (ES)	Allowing this alarm enables ES Threshold and ES Window.
ES Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Errored Seconds alarms are not allowed.
ES Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Errored Seconds alarms are not allowed.
Severely Errored Seconds (SES)	Allowing this alarm enables SES Threshold and SES Window.
SES Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Severely Errored Seconds alarms are not allowed.
SES Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Severely Errored Seconds alarms are not allowed.
Unavailable Seconds (UAS)	Allowing this alarm enables UAS Threshold and UAS Window.
UAS Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Unavailable Seconds alarms are not allowed.
UAS Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Unavailable Seconds alarms are not allowed.
Background Block Errors (BBE)	Allowing this alarm enables BBE Threshold and BBE Window.
BBE Thresh-old	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Background Block Errors alarms are not allowed.
BBE Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Background Block Errors alarms are not allowed.
Network	
Out of Frame	OOF (Out of Frame) is detected as defined in TR 62411.
Loss of Signal	Red indicates LOS (Loss of Signal) is detected as defined in TR 62411.
All Ones Signal	AIS (Alarm Indication Signal) is being received from the network.
Remote Alarm Indication	RAI (Remote Alarm Indication) is being received from the network, that is, it specifies the aggregate remote alarm indication alarm mask.
Timeslot 16	
Out of Frame	OOF (Out of Frame) is detected.

Table 5-12 E1 LIU Alarms Reported (6001) (Continued)

Field	Network Alarm Description
All Ones Signal	AIS (Alarm Indication Signal) is being received from the network.
Remote Alarm Indication	RAI (Remote Alarm Indication) is being received from the network.
Action Buttons (top)	
Report All	Selects all alarms for reporting.
Report None	Deselects all alarms with no alarms reported.
Action Buttons (bottom)	
OK	Dismisses the window with the edits retained. This is the same action as the pin-pull.
Reset	Undoes pending edits since last File->Save to Unit operation.
Cancel	Same as Reset, dismissing the screen.

HDSL E1 LIU Alarms Reported

See Figure 5-23 and refer to Table 5-13. This screen shows you alarms reported when you choose Configuration/Navigate->LIU A/B Alarms Reported and MIB object mp6001InterfaceType is HDSL-E1. This screen lets you configure the LIU alarms applicable to a particular LIU.

The above screen displays alarms as reported or masked (Refer to local management manual for specific masking and reporting descriptions on each field in Table 5-13). Alarms are always displayed on monitor screens regardless of their reported/masked configuration. Performance alarms such as Errored Seconds, for example, pertaining to the T1 LIU require additional configuration of thresholds and measurement interval windows. A field is unmasked when the diamond glyph  is recessed.

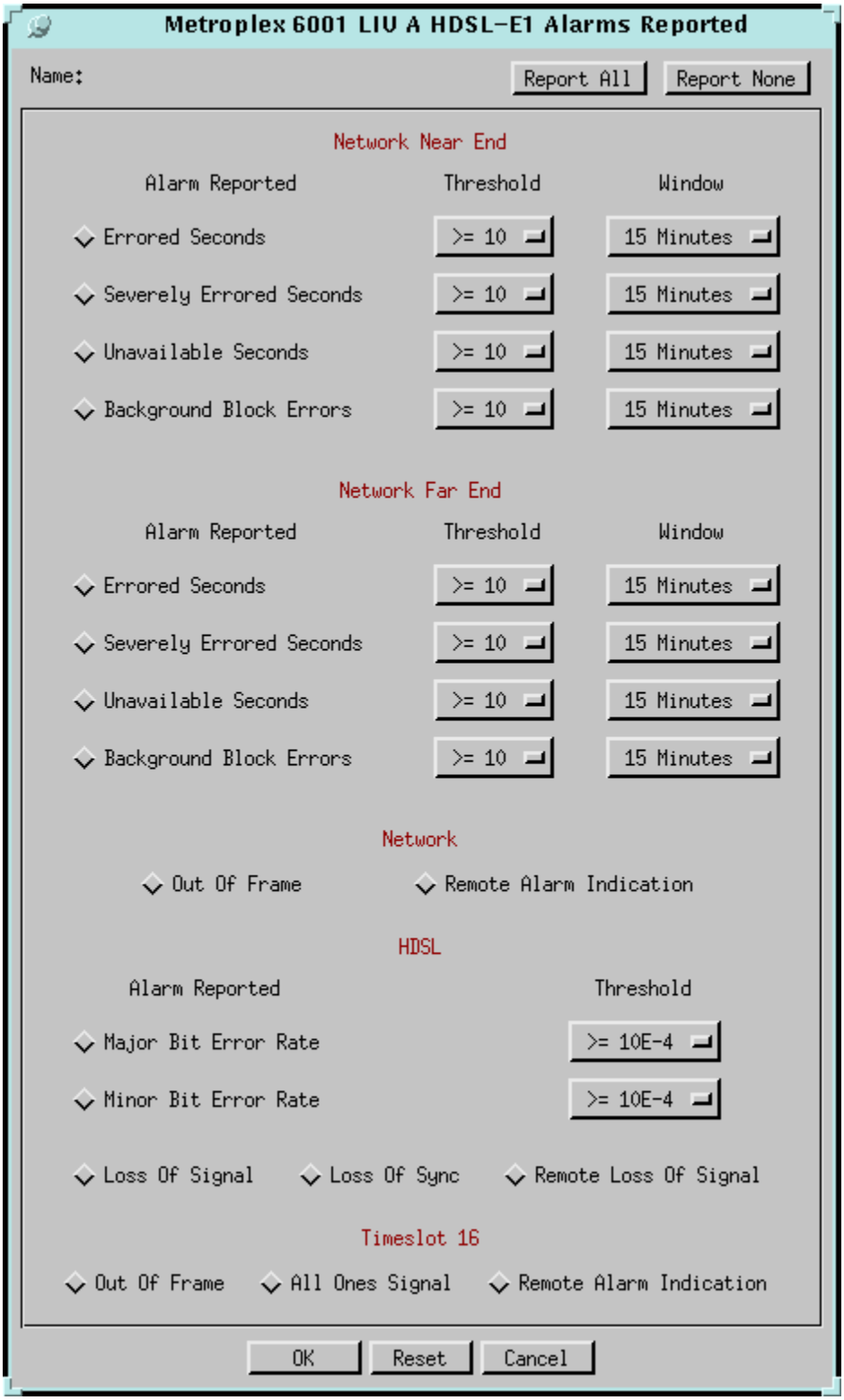


Figure 5-23 HDSL E1 LIU Alarms Reported Screen (6001)

Table 5-13 HDSL E1 LIU Alarms Reported (6001)

Field	Network Alarm Description
Name (read-only)	Identifies the 6001 application that is currently connected to by displaying the user-configured shelf name, followed by the CSU or DSX1 slot number, and the user-configured device name.
Network Near End and Far End	
Errored Seconds (ES)	Allowing this alarm enables ES Threshold and ES Window.
ES Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Errored Seconds alarms are not allowed.
ES Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Errored Seconds alarms are not allowed.
Severely Errored Seconds (SES)	Allowing this alarm enables SES Threshold and SES Window.
SES Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Severely Errored Seconds alarms are not allowed.
SES Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Severely Errored Seconds alarms are not allowed.
Unavailable Seconds (UAS)	Allowing this alarm enables UAS Threshold and UAS Window.
UAS Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Unavailable Seconds alarms are not allowed.
UAS Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Unavailable Seconds alarms are not allowed.
Background Block Errors (BBE)	Allowing this alarm enables BBE Threshold and BBE Window.
BBE Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Background Block Errors alarms are not allowed.
BBE Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Background Block Errors alarms are not allowed.
Network Alarms	
Out of Frame	OOF (Out of Frame) is detected as defined in TR 62411.
Remote Alarm Indication	RAI (Remote Alarm Indication) is being received from the network, that is, it specifies the aggregate remote alarm indication alarm mask.

Table 5-13 HDSL E1 LIU Alarms Reported (6001) (Continued)

Field	Network Alarm Description
HDSL Alarms	
Major Bit Error Rate (BER)	Allowing this alarm enables Major BER Threshold.
Major BER Threshold	Options are ->=10E-4, ->=10E-5, ->=10E-6, ->=10E-7, and ->=10E-8. This alarm is disabled (grayed-out) if Major Bit Error Rate alarms are not allowed.
Minor Bit Error Rate (BER)	Allowing this alarm enables Minor BER Threshold.
Minor BER Threshold	Options are ->=10E-4, ->=10E-5, ->=10E-6, ->=10E-7, and ->=10E-8. This alarm is disabled (grayed-out) if Minor Bit Error Rate alarms are not allowed.
Loss Of Signal	Red indicates LOS (Loss of Signal) is detected as defined in TR 62411.
Loss Of Sync	Advises you that there was no framing on the U-loop signal (or it has been lost) for the unit.
Remote Loss Of Signal	Problem with a remote unit. Either it is disabled or can not transmit or receive a signal.
Action Buttons (top)	
Report All	Selects all alarms for reporting.
Report None	Deselects all alarms with no alarms reported.
Action Buttons (bottom)	
OK	Dismisses the window with the edits retained. This is the same action as the pin-pull.
Reset	Undoes pending edits since last File->Save to Unit operation.
Cancel	Same as Reset, dismissing the screen.

HDSL T1 LIU Alarms Reported

See Figure 5-24 and refer to Table 5-14. This screen shows you alarms reported when you choose Configuration/Navigate->LIU A/B Alarms Reported and MIB object mp6001InterfaceType is HDSL-T1. This screen lets you configure the LIU alarms applicable to a particular LIU.

The above screen displays alarms as reported or masked (Refer to local management manual for specific masking and reporting descriptions on each field in Table 5-14). Alarms are always displayed on monitor screens regardless of their reported/masked configuration. Performance alarms such as Errored Seconds, for example, pertaining to the T1 LIU require additional configuration of thresholds and measurement interval windows. A field is unmasked when the diamond glyph  is recessed.

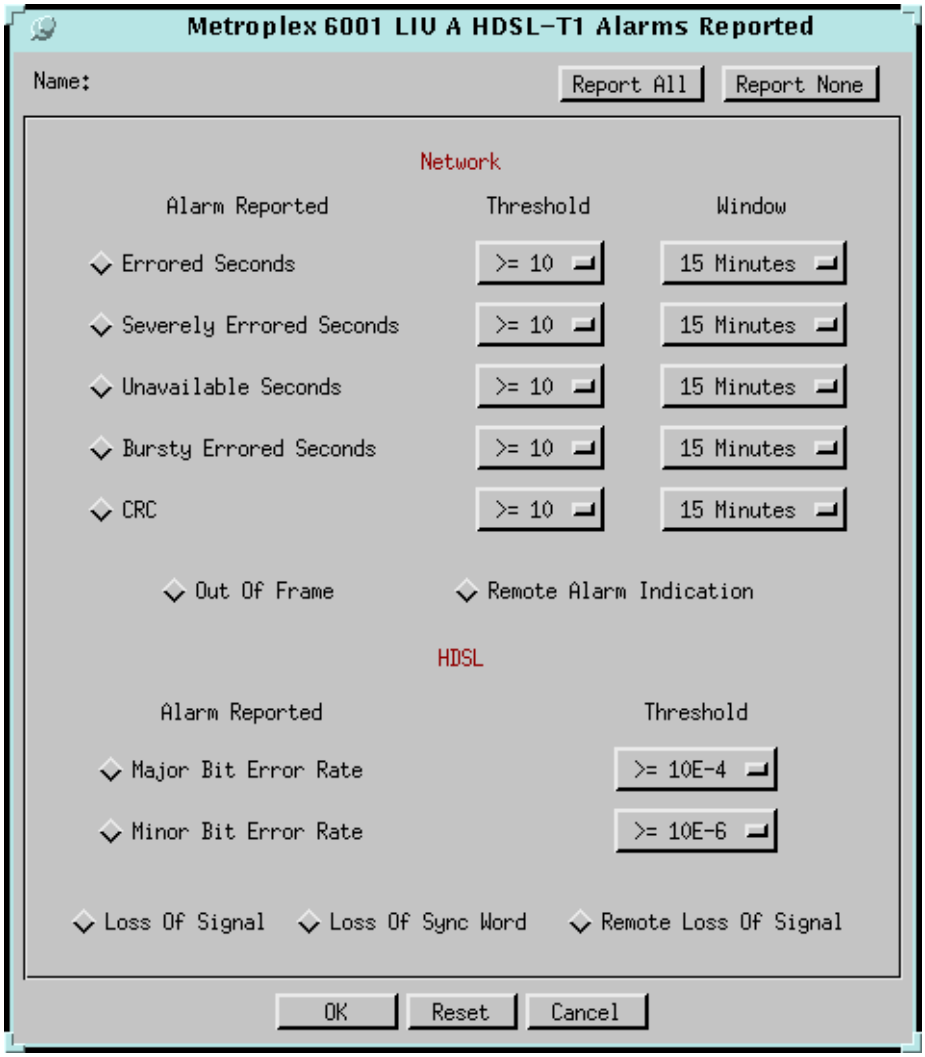


Figure 5-24 HDSL T1 LIU Alarms Reported Screen (6001)

Table 5-14 HDSL T1 LIU Alarms Reported (6001)

Field	Network Alarm Description
`Name (read-only)`	Identifies the 6001 application that is currently connected to by displaying the user-configured shelf name, followed by the HDSL T1 slot number, and the user-configured device name.
Network Near End and Far End	
`Errored Seconds (ES)`	Allowing this alarm enables `ES Threshold` and `ES Window`.
`ES Threshold`	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Errored Seconds alarms are not allowed.

Table 5-14 HDSL T1 LIU Alarms Reported (6001) (Continued)

Field	Network Alarm Description
ES Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Errored Seconds alarms are not allowed.
Severely Errored Seconds (SES)	Allowing this alarm enables SES Threshold and SES Window.
SES Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Severely Errored Seconds alarms are not allowed.
SES Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Severely Errored Seconds alarms are not allowed.
Unavailable Seconds (UAS)	Allowing this alarm enables UAS Threshold and UAS Window.
UAS Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Unavailable Seconds alarms are not allowed.
UAS Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Unavailable Seconds alarms are not allowed.
Bursty Errored Seconds (BES)	A bursty errored second (BES) is defined as a second with more than one, but less than 320 CRC6 error events.
BES Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Background Block Errors alarms are not allowed.
BES Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Background Block Errors alarms are not allowed.
CRC	Allowing this alarm enables CRC Threshold and CRC Window.
CRC Threshold	Options are - >= 1, - >= 3, - >= 10, - >= 100, - >= 1000, or - >= 10000. This alarm is disabled (grayed-out) if Background Block Errors alarms are not allowed.
CRC Window	Options are 1 sec, 10 sec, 30 sec, 1 min, 15 min, 1 hr, 24 hrs, and Infinite. This alarm is disabled (grayed-out) if Background Block Errors alarms are not allowed.
Out of Frame	OOF (Out of Frame) is detected as defined in TR 62411.
Remote Alarm Indication	RAI (Remote Alarm Indication) is being received from the network, that is, it specifies the aggregate remote alarm indication alarm mask.
HDSL Alarms	
Major Bit Error Rate (BER)	Allowing this alarm enables Major BER Threshold.
Major BER Threshold	Options are ->=10E-4, ->=10E-5, ->=10E-6, ->=10E-7, and ->=10E-8. This alarm is disabled (grayed-out) if Major Bit Error Rate alarms are not allowed.

Table 5-14 HDSL T1 LIU Alarms Reported (6001) (Continued)

Field	Network Alarm Description
Minor Bit Error Rate (BER)	Allowing this alarm enables Minor BER Threshold.
Minor BER Threshold	Options are ->=10E-4, ->=10E-5, ->=10E-6, ->=10E-7, and ->=10E-8. This alarm is disabled (grayed-out) if Minor Bit Error Rate alarms are not allowed.
Loss Of Signal	Red indicates LOS (Loss of Signal) is detected as defined in TR 62411.
Loss Of Sync Word	Advises you that there was no framing on the U-loop signal (or it has been lost) for the unit.
Remote Loss Of Signal	Problem with a remote unit. Either it is disabled or can not transmit or receive a signal.
Action Buttons (top)	
Report All	Selects all alarms for reporting.
Report None	Deselects all alarms with no alarms reported.
Action Buttons (bottom)	
OK	Dismisses the window with the edits retained. This is the same action as the pin-pull.
Reset	Undoes pending edits since last File->Save to Unit operation.
Cancel	Same as Reset, dismissing the screen.

Alarm Dial-Out

See Figure 5-25 and refer to Table 5-15. This screen shown is available when you select Configuration/Navigate->Alarm Dial-Out Options. This screen allows you to configure the Alarm Dial-Out options and is available only when the 6001 MIB version is 3.00 and higher.

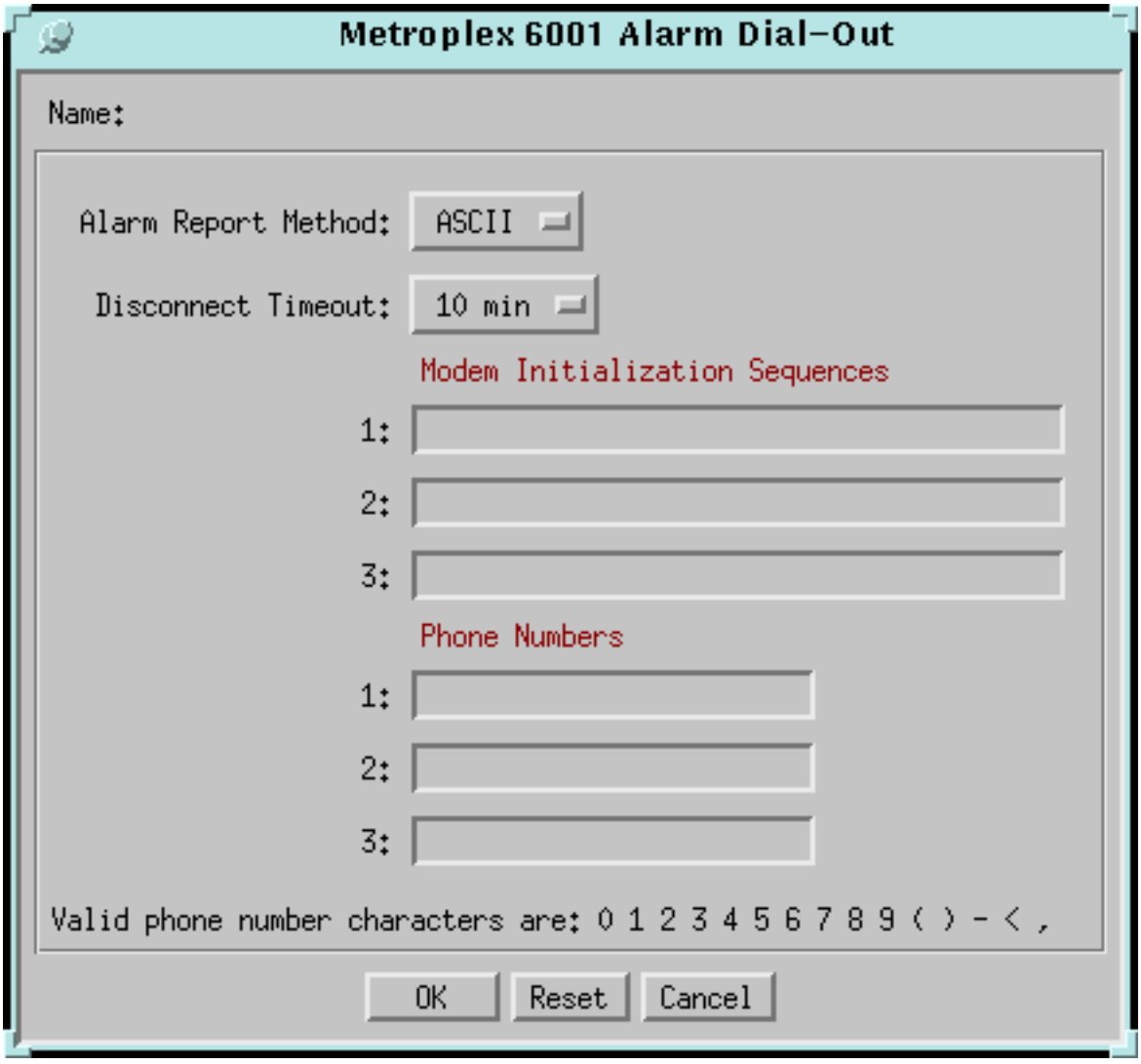


Figure 5-25 Alarm Dial-Out Screen (6001)

Table 5-15 Alarm Dial-Out (6001)

Field	Description
`Name`	Identifies the 6001 application that is currently connected to by displaying the user-configured shelf name, followed by the CSU or DSX1 slot number, and the user-configured device name.
`Alarm Report Method`	Options are `Disable`, `ASCII`, and `SNMP`. When Disable is selected all other options on the screen are disabled (grayed-out).
`Disconnect Timeout`	Options are `Immediate`, `1 min`, `2 min`, ..., `15 min`. When the Alarm Report Method is SNMP, the selection `Immediate` is grayed-out (disabled). When the Alarm Report Method is `Disable`, this field is grayed-out.

Table 5-15 Alarm Dial-Out (6001) (Continued)

Field	Description
Action Buttons (bottom)	
OK	Dismisses the window with the edits retained. This is the same action as the pin-pull.
Reset	Undoes pending edits since last File->Save to Unit operation.
Cancel	Same as Reset, dismissing the screen.

Modem Initialization Sequences

There are three (3) fields for entering the modem initialization sequences. Each field can contain up to forty (40) characters. No validation is performed on these strings. These fields are disabled (grayed-out) when the mode of Alarm Report Method is in Disable.

Phone Numbers

There are three (3) fields for entering the phone numbers to call when alarms are to be reported. Each phone number can contain up to twenty-four (24) characters and are limited to:

0 thru 9, '(', ')', -, <, and comma (,).

These fields are disabled (grayed-out) when the mode of Alarm Report Method is Disable.

Trap Options

See Figure 5-26.

Figure 5-26 Trap Options Screen (6001)

The Metroplex 6000 Trap Options configuration window lets you configure Trap destination options that the Metroplex 6000 can support as listed in the following paragraphs:

Traps are used in SNMP to send unsolicited information to a network manager. The information usually consists of events or alarms sent to the network manager for reports or special processing.

The `Trap Destination Table` in the Metroplex 6000 must be filled out if a network manager is to receive Traps. The Metroplex 6000 can store up to five Trap destinations. Each Trap destination includes the IP Address and UDP port of the network manager and the Community Name.

- Traps Supported

Traps notify a network manager where there is an extraordinary event. The Metroplex 6000 supports these Traps.

Trap	Sent when:
Cold Start	First network interface is determined to be up.
Link UP	Any other network interface comes up.
Link DOWN	A network interface goes down.
Authentication Failure	An SNMP command is received with an incorrect Community Name (can be masked by means of the Authentication Traps field).

The `Cold Start` Trap is sent instead of the `Link Up` Trap for the Ethernet interface. When another interface is brought up, a `Link Up` Trap is sent.

Once the Metroplex 6000 is plugged into the shelf, `Link UP` and `Link Down` Traps may be sent to a network manager when an interface changes state. The Ethernet interface is never in the down state. The WAN interface, the DBU WAN interface, and the WAN interface of the `CTRL` port can change states as part of their normal operation.

The Metroplex 6000 supports these Metroplex 6000-specific Traps:

Trap	Sent when
Diversity	Allows two network connections at the same time with one connection acting as a spare to carry the data traffic of the other connection during line failure. Once this occurs, it has to be manually switched back in `Reset`.
Alarm	A network element detects a change in its alarm information.

The Alarm Trap can be masked in the Node Table. You do this by either (1) turning off the alarm scan to a network element or (2) through the Metroplex 6000, which toggles all alarm traps (Trap Control).

- Trap Generation Fields

Traps	Description
All	Specifies if the Trap facility is enabled or disabled.
Authentication	Masks or unmasks the `Authentication Failure` Trap.

- Trap Destination Table

The Trap Destination Table is arranged in three columns:

Trap Destination	Description
IP Address	Designates Address of the Trap destination.
UDP Port	Specifies the port used by SNMP manager.
Community Name	Specifies the Community Name associated with the Trap destination.

- Selected Entry Criteria

Adding a Trap Definition

To add a Trap definition:

1. In the All Traps field select Enable.
2. If you want the Authentication Failure Trap sent at the appropriate time, select `Enable` in the Authentication Traps field. To prevent it from being sent, select `Disable`.
3. Click in the `IP Address` field under `Selected Entry Criteria` and type in the address of the intended destination.
4. Click in the `UDP Port` field and type in the port number used by the SNMP manager. Use the default port number (`162`) unless the system administrator requires a different port.
5. Click in the `Community Name` field and type in the Community Name associated with the Trap destination.
6. Click on the `Add` button.

- Editing a Trap Definition

To edit a Trap definition:

1. Click on the Trap definition that you want to edit in the `Trap Destination Table`.
2. Trap information appears in the corresponding `Selected Entry Criteria` fields.
3. Perform the desired changes.
4. Click on the `Replace` button.

- Deleting a Trap Definition

To delete a Trap definition:

1. Click on the `Trap` definition that you want to delete in the Trap Destination Table.

2. Click on the `Delete` button.

Metroplex 6001 IP Routing Options

See Figure 5-27. This window lets you configure IP Routing options that the Metroplex 6000 can support as described in the pages that follow.

The window is divided into the IP Destination Table, which displays configured routing information, and the Selected Entry Criteria area, which contains the fields and buttons for configuring information.

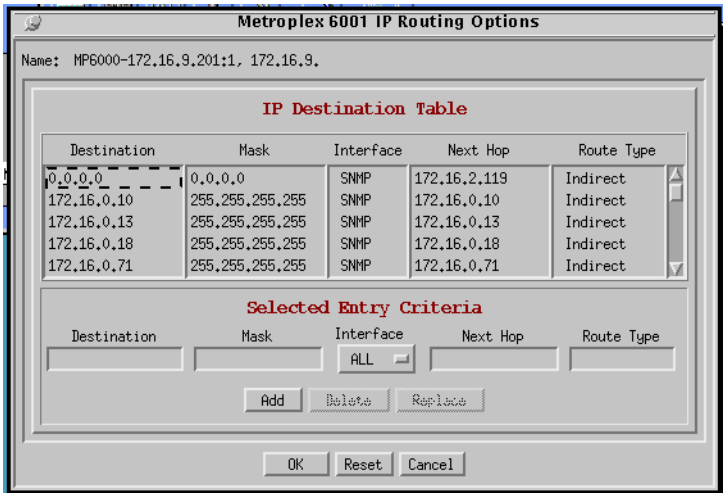


Figure 5-27 IP Routing Options Configuration Window or Screen (6001)

- Fields

Field	Description
Destination	IP address to which the routing is being defined
Mask	Used to divide IP Addresses into network identifier and host identifier. The bits set to `1` in the mask correspond to the network identifier. The entire network identifier portion must be contiguous and to the left of the host identifier portion. Examples appear next.

Note *This mask is the filter used to establish the `Routing Table`. It must be set by experienced system administrative personnel.*

Some valid subnet masks are:

255.0.0.0	*Standard Class A network mask*
255.128.0.0	*Class A network, 2 subnetworks*
255.192.0.0	*Class A network, 4 subnetworks*
255.224.0.0	*Class A network, 8 subnetworks*
255.255.0.0	*Standard Class B network mask*
255.255.128.0	*Class B network, 2 subnetworks*
255.255.192.0	*Class B network, 4 subnetworks*
255.255.224.0	*Class B network, 8 subnetworks*
255.255.255.0	*Standard Class C network mask*
255.255.255.128	*Class C network, 2 subnetworks*
255.255.255.192	*Class C network, 4 subnetworks*
255.255.255.224	*Class C network, 8 subnetworks*

Subnet mask	*IP AddressNetworkIdent*	*Host Ident*
255.255.255.0	*192.9.200.100*	*192.9.200.0100*
	192.9.200.200	*192.9.200.0200*
255.255.255.128	*192.9.200.200*	*192.9.200.0200*
255.255.255.128	*192.9.200.100*	*192.9.200.0100*
	192.9.200.200	*192.9.200.12872*
255.255.255.192	*192.9.200.100*	*192.9.200.6436*
	192.9.200.200	*192.9.200.1928*

Field	Description
Interface	Indicates the routing interface type, i.e., GDC LAN Port, GDC WAN Port, LAN/WAN Port.
Next Hop	Specifies the IP Address of the next Metroplex 6000.
Route Type Direct Indirect	Selects one of the following routing types: Signifies that the target device is on the same segment. Signifies that the target device is not on the same segment.

- SNMP IP Routing

In the IP group of MIB-II there is an IP Routing Table containing an entry for each route known to the Metroplex 6000. The main function of the table is to equate each out-going IP packet with a route that provides the physical interface port. The routing table can be built via SNMP, if there is an existing IP connection to one of the ports, and is stored in volatile memory, but is lost if the Metroplex 6000 is powered up again.

Adding an IP Route

To add an IP Route:

1. Click in the `Destination` field and enter the appropriate address.
2. Click in the `Mask` field and enter the mask.

3. Click on the `Interface` field and select the interface type.

4. Click in the `Next Hop` field and enter the address of the next hop.

5. Select the appropriate route type from the `Route Type` field.

6. Click on the `Add` button.

Editing an IP Route

To edit an IP Route:

1. In the `IP Destination Table` select the item that you want to edit.

   The IP Routing information of the selected item appears in the `Selected Entry Criteria` fields.

2. Perform the desired changes.

3. Click on the `Replace` button.

Deleting an IP Route

To delete an IP Route:

1. In the `IP Destination Table` select the item that you want to delete.

2. Click on the `Delete` button.

Metroplex 6000 Community Name Options

See Figure 5-28. The Metroplex 6000 `Community Name Options` window enables you to define the SNMP Community Names that access the Metroplex 6000 and, through it, to the units in the Metroplex 6000 shelf.

Each Community Name, which is really a password, has an access level associated with it, one that you assign. If another user supplies the proper Community Name to the Metroplex 6000, that user is granted access associated with the name. For example, if a Community Name of `Public` has an access level of `Read Only`, then a user supplying this name can only read the MIBs.

The window is divided into three areas:

Community Option	Description
Community Name Access Criteria	Contains the `Secret Community Name` input field and the `Read Table` button; this is a security feature and its use is described below.
Community Name Table	Displays Community Names and access levels.
Selected Entry Criteria	This is a workspace where you create, edit, or delete Community Names.

Figure 5-28 Community Names Options Configuration Window or Screen (6001)

SNMP uses Community Names to restrict access to an agent. There are three access levels to MIB variables:

`Read/Write`

`Read`

`No Access`

Through its MIB, the Metroplex 6000 lets you add, delete, and view Community Names in a table. The Metroplex 6000 can store up to five Community Names, each with its associated access and current status. Access for the Metroplex 6000 can be defined as read-only, read-write, or no-access. A SuperUser Community Name is required to add and delete entries in the table. It acts as a super-user Community Name and can be used to read or write any MIB Object. Factory default for this SuperUser Community Name is `SYSTEM`. When the Metroplex 6000 is initially installed and powered up, it has one default Community Name, `public`, with read-only access. You can change both default Community Names.

The SuperUser Community Name can be changed only through the local management terminal interface, using the `TERM`, `DIAL`, or `SNMP` port. If you choose the SNMP port, you can use Telnet. By entering the `System Utilities->Password` screen and thus changing `Monitor`, `Diagnose`, and `Configure` selection, you can save a new SuperUser Community name.

At least one Community Name with read-write access must be set in the Community Name Table before other MIB objects can be established using the Metroplex 6000. Use the SuperUser Community Name to set the first privileged Community Name, then employ that privileged Community Name to set all other MIB objects.

- Community Name MIB Description

In the GDCCMN-MIB there is a Community Name group. The maximum number of Community Names at any one time can be determined by reading the MIB variable `cmnCommunityNumber`. The Metroplex 6000 Community Name Table is in non-volatile RAM and need not be recreated each time the Metroplex 6000 is powered up. When replacing an Metroplex 6000 you must manually delete unneeded entries.

The following information is defined in the Community Name Table:

Community Term	Definition
Community Name	String of up to 31 characters holds the Community Name; if you enter more than 31 characters, the Metroplex 6000 ignores those in excess of 31
Access	Access associated with the Community Name (read-write, read-only, no-access)

- Configuration Procedures

Access Criteria

As a security measure access to the Metroplex 6000 Community Name Options configuration window requires a password procedure. When the window first appears, the `Community Name Table` is blank, and both it and the `Selected Entry Criteria` area are grayed out.

To gain access to the window:

1. Click in the `Secret Community Name` entry field.
2. Type in the super-user Community Name and press the `Enter` key.
3. Click on the `Read Table` button. The application then displays the currently configured Community Names in the Community Name Table and you can proceed.

Note *Super-user Community Name is set via the term port on the front panel of the platform card. Refer to the Local Management Manual (086R605-001).*

Adding a Community Name

To add a Community Name:

1. Click in the `Community Name` field of the `Selected Entry Criteria` area.
2. Type in the new Community Name.
3. Click on the `Access` field and select the type of access permitted.
4. Click on the `Add` button.

Editing a Community Name

To edit a Community Name in the display:

1. Click on the `Community Name` that you want to edit in the Community Name Table.

2. The name and access permission of the selected Community Name appear in the appropriate `Selected Entry Criteria` fields.
3. Perform the desired changes.
4. Click on the `Replace` button.

Deleting a Community Name

To delete a Community Name from the display:

1. Click on the Community Name that you want to delete in the Community Name Table.
2. Click on the `Delete` button.

Reset/Restore

See Figure 5-29. The Metroplex 6001 Reset menu has two options: `Reset to Factory Defaults`, which lets you restore the user configuration to the original set-up configured by the manufacturer (factory defaults), and `Perform Software Reset`, which is the power-up sequence.

Figure 5-29 Reset/Restore Screen (6001)

Messages	
Do You Want to Continue? (OK/Cancel)	Displayed if you selected Default Configuration. If you press `Y` the card is removed or set to default. If you press `N` you return to the screen.

Fault

Platform Card Diagnostics Menu

See Figure 5-30 and refer to Table 5-16. The Platform Diagnostic menu is used to access the diagnostics for the LIU A and LIU B, and the card self-test for the card. Below figure illustrates a typical screen.

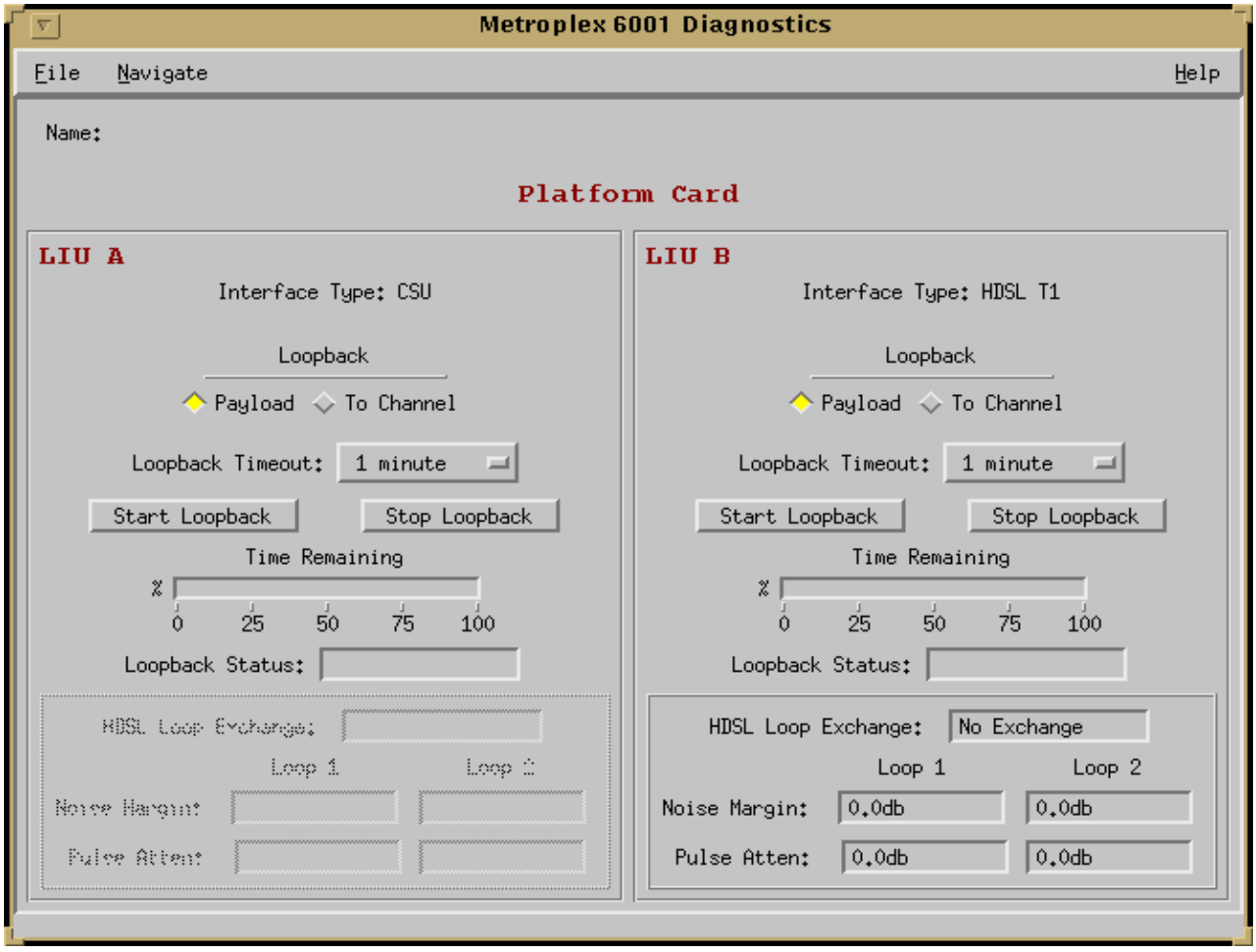


Figure 5-30 Platform Diagnostics Menu Screen (6001)

Table 5-16 Platform LIU Diagnostic Selections and Messages (6001)

Field	Selection	Description
`LIU A` with `Interface Type: CSU` and `LIU B` with `Interface Type: HDSL E1`		
Loopback	None, To Channel, Payload, Line	Specifies the possible loopbacks available. This selection is also a status field if the current active diagnostics is not a user selectable option. To Channel - this loopbacks all data to the channels and sends an AIS to the network. Payload - this loopback can be either a manager-initiated loopback or can be started through the FDL. When started through the FDL, it cannot be changed. Line - this is a read-only network-initiated loopback.
Loopback Timeout (in minutes) (See Figure 5-33 and Table 5-18.)	1-255	Timeout used on manager-initiated tests. Default is 10 minutes.
Stop Loopback		Performs the selected test on the card. This selection disrupts data.
Start Loopback		Stops the test that is in progress.
Time Remaining		Time that is left to complete the current test.
Loopback Status		The pass or fail results of the `Loop Status`, identified on the diagnostics platform card, are displayed on the screen.
Notes: 1. Dashes indicate the channel is not present. An option card may be missing. 2. A Network-initiated test overrides a manager-initiated test. 3. A Network-initiated T1 test overrides all Network-initiated channel tests. 4. See Figure 5-33 and Table 5-18 for active fields during HDSL interfacing.		

File->Exit

Exits the application. See Figure 5-31.

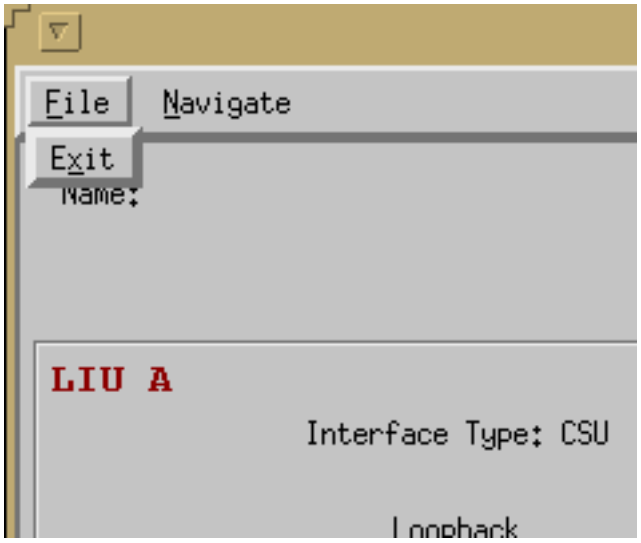


Figure 5-31 Exits the Application Screen (6001)

Navigate->History

Displays the history window. See Figure 5-32 and refer to Table 5-17.

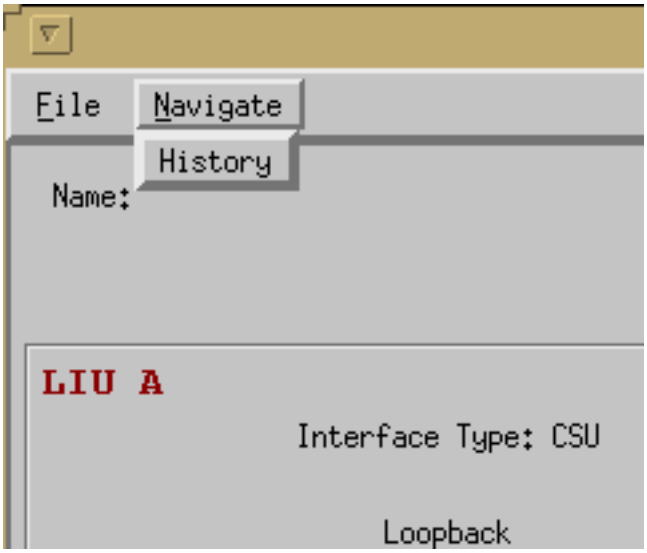


Figure 5-32 Navigate->History Screen (6001)

Table 5-17 History (6001)

Field	Description
Name	Identifies the 6001 application that is currently connected to by displaying the user-configured shelf name, followed by the CSU or DSX1 slot number, and the user-configured device name.
Interface Type (read-only)	Displayed are either CSU, DSX1, E1, HDSL E1, or HDSL T1.
Loopback	Specifies the possible loopbacks available.

Loopback Timeout

Specifies the duration of the selected loop. See Figure 5-33 and refer to Table 5-18.

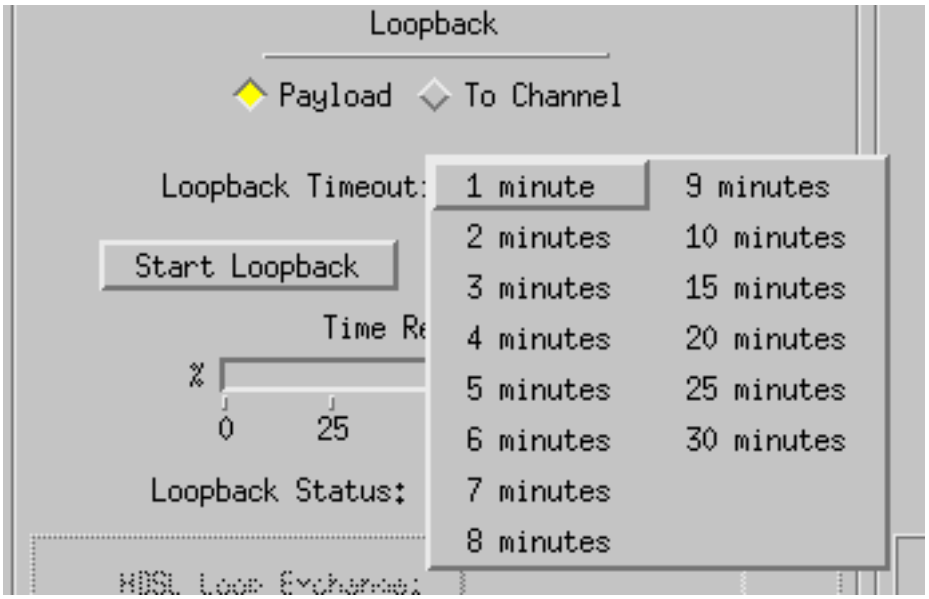


Figure 5-33 Loopback Times-Out Screen (6001)

Table 5-18 Loopback Timeout

Field	Description
Start Loopback	Starts the selected loopback test.
Stop Loopback	Displayed are either CSU, DSX1, E1, HDSL E1, or HDSL T1.
Time Remaining	Time that is left to complete the current test
Loopback Status	The current loopback condition.

Table 5-18 Loopback Timeout (Continued)

Field	Description
The following fields are continuously updated only if an HDSL interface exists:	
HDSL Loop Exchange	No Exchange or Loops Exchanged.
Noise Margin	This is the noise margin for an HDSL loop (in db).
Pulse Atten	This is the pulse attenuation for an HDSL loop (in db).

History Window

This window gives you the diagnostics history for the card. See Figure 5-34.

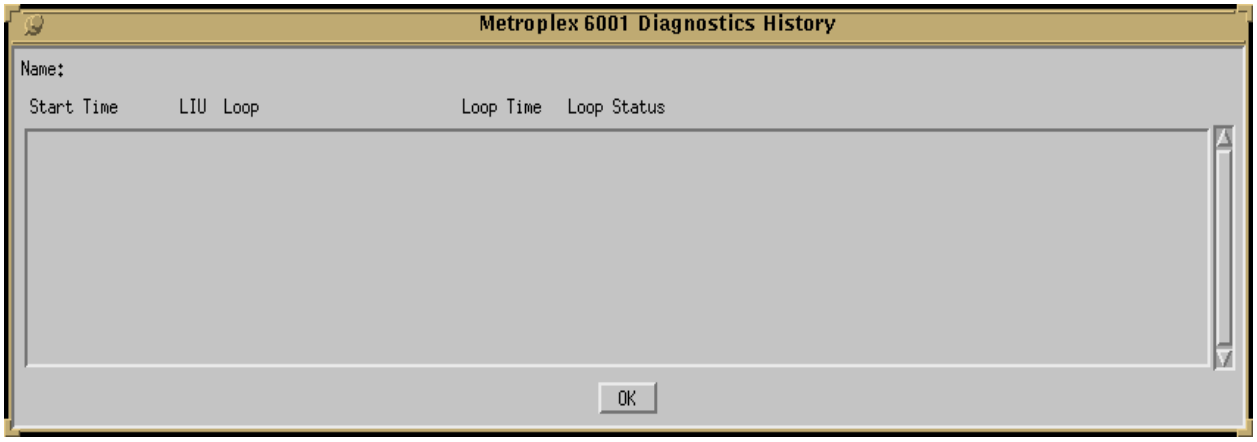


Figure 5-34 Diagnostic History Window (6001)

Chapter 6: Flexi-Voice Card

Introduction

The Flexi-Voice Plus basecard, MP6360, provides various voice and four-wire data channels. It accepts one, two or three dual-channel option cards, providing up to six channels. Option card types are Originate Battery (OB), configurable for FXS or DPO; Terminate Battery (TB), configurable for FXO or DPT; 4-wire E&M, 4-wire Transport Only (4W TO), OCU-DP, and G. 703.

Flexi-Voice Card (6360)

Performance

You can choose from the main menu bar or the front panel select button.

Flexi-Voice Alarm Details Menu

Alarm detail selection brings you the following screen. The alarm detail screen is going to vary according to the option cards installed on the base card. See Figure 6-1 and refer to Table 6-1.

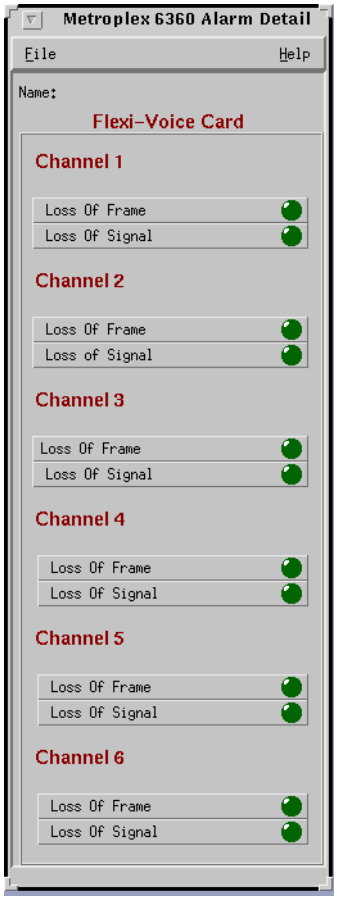


Figure 6-1 Alarm Detail Screen for Six Channels on Flexi-Voice Plus Screen (6360--G.703 and OCU-DP only)

There are two alarms for the six channels, given in Table 6-1. Figure 6-1 shows you this screen.

LIU Alarm States (6360)

Table 6-1 LIU Alarm States (6360)

Alarm Fields	LED Indications
Loss of Frame Loss of Signal	Specifies the current alarm states of Channels 1 through 6. Loss of Signal – occurs when the LIU detects an absence of network signal. Absence of signal for a time equivalent to 175 bits (± 75) is considered no signal. Loss of Frame – occurs when the LIU misses two out of four framing bits in the signal coming from the network. The count for this alarm increments by one each time framing is lost, regardless of the number of frames affected.

Configuration

This Configuration Application gives you access to unit level parameters by SNMP queries when windows are displayed or refreshed. You use the SNMP set commands to make changes to the unit. This application lets you copy configurations to other units. Configuration data is stored permanently and you can get at the stored data easily.

An expanded Configuration Library lets you store device configurations such that they are saved in flat file formats as templates. Thus, with template support, you use action buttons `Save`, `Load`, and `Compare` which are accessed through the `File` menu, and you specify the file name of the template by way of a dialog window.

Configuration

You can choose from the main menu bar or the front panel select button. Main Configuration Window is Read-Only Display.

From the 6360 Flexi-Voice Card Configuration Menu screen, you can select Channel Configurations for any of the following channel cards, providing the correct option card is in place: `OCU`, `G. 703`, `4WE&M`, `FXS/LS`, `FXS/GS`, `DPO`, `4WTO`, `FXO/LS`, `FXO/GS`, and `DPT`. Figure 6-2 illustrates a typical screen.

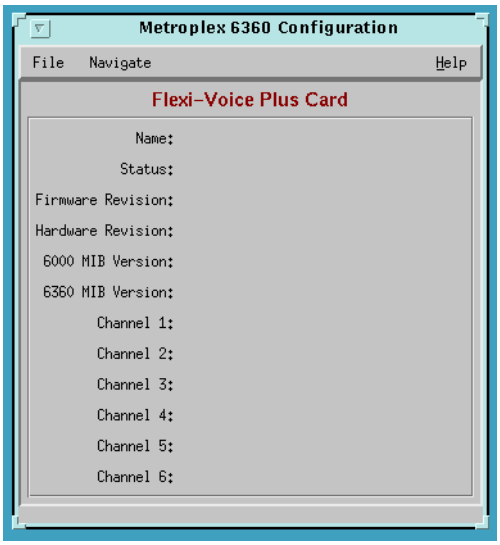


Figure 6-2 Typical Flexi-Voice Configuration Menu Screen (6360)

The Main Configuration window displays the following read-only items:

Name:	Symbol label corresponding to chosen slot symbol from shelf map
Status:	Unit status: `Okay`, `Fail`, `Test`, `Standby`, `Diverse`, `Alarm`
Firmware Revision:	Revision code of unit firmware: `--`, `A-`,... `AA`,... `ZZ`
Hardware Revision:	Revision code of unit hardware: `--`, `A-`,... `AA`,... `ZZ`
6000 Mib Version:	6000 mib version of unit: `1.00`...
6360 Mib Version:	6360 mib version of unit: `1.00`...
Channels 1-6:	Displays either `Not Installed`, `Unknown`, `Originate Battery`, `Terminate Battery`, `4 Wire E & M`, `Transmission Only`, `OCU - Data Port`, or `G.703`. Indicates the type of channel card installed.

On the title bar is the application name, `Metroplex 6360 Configuration`. The menu bar has `File` for file operations, `Navigation` for navigating through subordinate screens, and your basic `Help` info. In the lower right of the screen appear status messages giving you updates on the performance of the application, that is, feedback on reading, writing, saving to template, and so forth.

Mandatory for all systems, the information in this group is read by the management station to know where elements exists in a shelf.

The following steps describe how to use the configuration application, and illustrate the functions of the 6360 Configuration window menus.

1. Access the 6360 Configuration window, either from the submap menu bar or from the 6360 Front Panel display. The application reads the current 6360 configuration from the platform card when you open the Main window.

   You can select to base your configuration changes on either the current configuration or a stored configuration template. In either case, the channel continues to operate using its un-changed current configuration.

   The `Refresh` selection on the Main window `File` menu causes the application to read the current configuration from the channel. All changes to all configuration windows that have not previously been saved to the channel or a template are lost when you select `Refresh`.

2. To edit the current configuration of the channel, proceed directly to the `Navigate` menu as described below.

   To edit a template, select `Load Template` from the `File` menu and select a template from the resulting list.

Click on the `Navigate` button to display a menu of the 6360 configuration windows, and select the one in which you intend to make changes.

Make changes as needed in the configuration window. When you click on the input field for an option, a window opens to display all the values the field can be set to. Click the mouse on the value you select. When you change the value or setting of an option, the application displays the option name and the new value in white, rather than black, type. They remain white until you either save the changes to the channel or a template by means of the Main window `File` menu, or restore the option to its last stored value or setting.

You can discard changes to a 6360 configuration window and return all its fields to their stored values in two ways:

Click on the `Reset` button to discard changes while keeping the window open

Click on the `Cancel` button to discard changes and close the window.

You can close a 6360 configuration window without losing changes by clicking on either the `OK` button or the `pushpin icon`, which is located in the upper left corner of the window.

You can keep multiple configuration windows open on-screen and move between them by clicking the mouse on the one in which you intend to operate. The 6360 Main Configuration window remains on-screen throughout the configuration process.

When you have accessed all the configuration windows that you need to and made all of your changes, click on the `File` menu button of the 6360 Main Configuration window. From that menu you can select `Save to Unit` to save the new configuration in the channel, or select `Save to Template` to save it as a template in the workstation.

When you select `Save to Unit`, the changed configuration becomes the current configuration for the channel.

When you select `Save to Template`, a window appears containing a list of existing templates and a field for entering a new template name. You can select an existing template to be overwritten with the new configuration, or enter a name to create a new template. A stored template is available to be loaded by the application and then saved, with or without further modification, to any Team 6000 channel.

Menu Buttons	Menu Selections	Results in:	Further Selections
File			
	Refresh	Reading all options from unit and losing any outstanding edits.	
	Save to Unit	Sending all outstanding edits to unit.	
	Load Template...	Letting you apply the edits of an existing Metroplex MP6360 template to the current application. These template changes are done when you use the `File->Save to Unit` command.	dialog window
	Save to Template...	Saving configuration data as a particular template.	dialog window
	Compare to Template..	Comparing configuration data with a particular template.	dialog window
	Exit	First discarding outstanding edits, then terminating application.	

Menu Buttons	Menu Selections	Results in:	Further Selections
Navigate			
	Channels, 1 -- 6 Options...	Displaying the `Metroplex MP6360 Channel Options` window.	options for each
	All Screens...	Displaying all subordinate application windows.	
Help			
	Displaying help information.		

- Flexi-Voice Channel Configurations

There are two types of screens: 4-wire data, which are digital type channel cards, and FXS/LS, which is a VF type channel card.

This screen changes depending on the option card installed. Figure 6-3 illustrates a typical digital type Channel Configuration screen and Table 6-2 explains each digital type option, where as Figure 6-4 illustrates a typical VF FXS/LS Channel Configuration screen and Table 6-3 explains each VF type option.

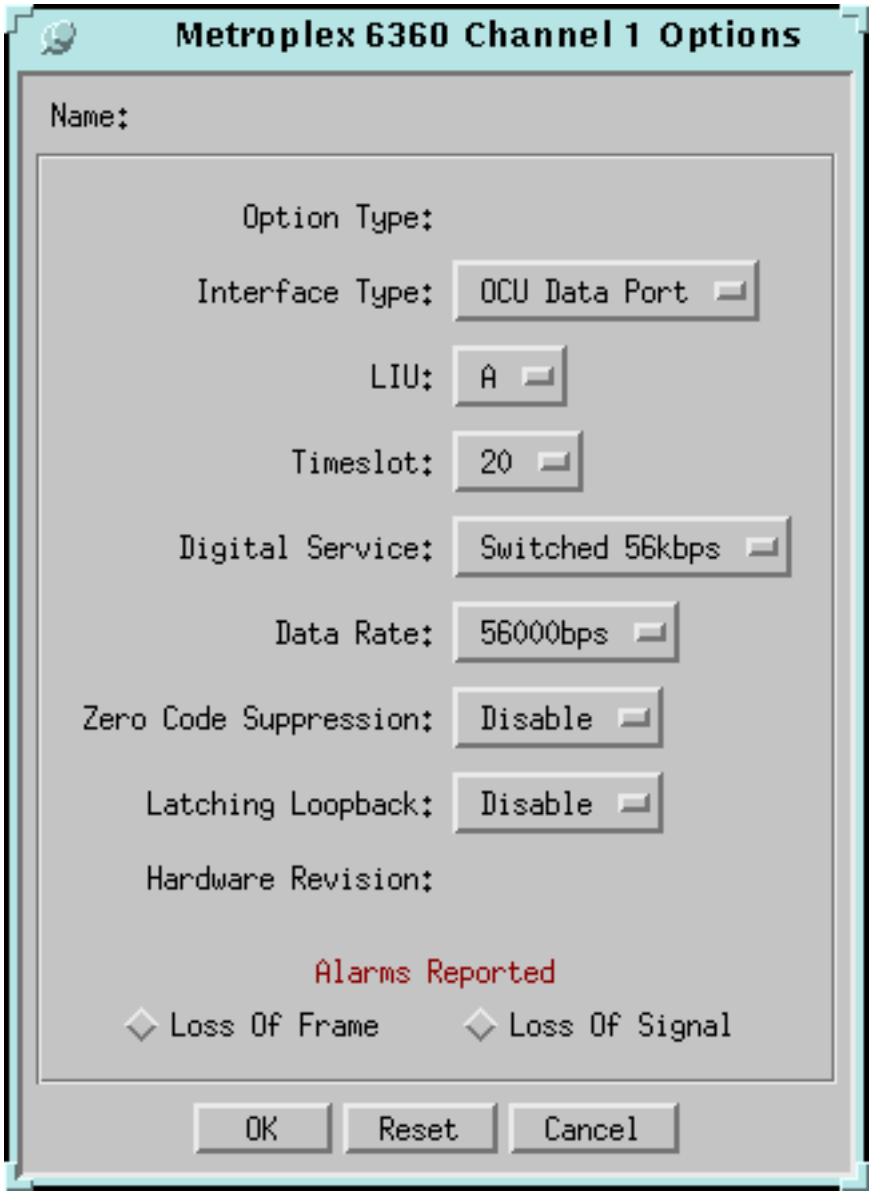


Figure 6-3 Channel 1 Digital Type, Data Port Interface Screen (6360)

Table 6-2 Flexi-Voice Channel OCU and G. 703 Configuration Selections and Messages

Field	Selection	Description
Option Type:	(Read Only) OCU-Data Port G.703	Specifies option type read from card. • When the Option Type field is designated as OCU - Data Port, the Interface Type field is inactive (grayed-out) and must select OCU - Data Port. • When the Option Type field designates G.703, Interface Type field is inactive (grayed-out) and must select G.703 with Data Rate being grayed-out.
Interface Type:	OCU-Data Port G.703	The interface type (how the channel is operating) is associated with this field. • When the Option Type field is designated as OCU - Data Port, Interface Type field is inactive (grayed-out) and must select OCU - Data Port. • When the Option Type field is designated as G.703, Interface Type field is inactive (grayed-out) and must select G.703.
LIU:	**A**,B	Allows you to select the LIU where a channel is assigned. The timeslots are skipped if used somewhere else. When the LIU interface is set to Diverse Link, the LIU interface is grayed out, forcing the interface to Selection A. Both A and B cause the Timeslot to be either grayed or un-grayed, depending on the available time slots specified in the SNMP object mp6000LIUMap. When modified and thus its typed characters whitened, the Timeslot, by necessity, shows a change and is included in the SNMP set-request.
Timeslot:	**`Off`**, `1`, `2`,...., `31`	Depending on the allocation for the time slot when you choose an LIU, this field is grayed or is un-grayed. Timeslot shows a change (shown in white) if LIU is modified. If CAS is on and Digital Service is Switched, Timeslot is disabled and is in the `Off` mode. If CAS is on, Selection 16 is grayed-out.
Digital Service:	**DDS**, DDS-SC, Switched 56Kbps, and N/A	This is the service supported on the channel. N/A is always grayed-out. • When the Digital Service field is designated as DDS - SC, the 64K bps Data Rate field is grayed-out. • When the Digital Service field is designated as Switched 56K, the Data Rate field is disabled (grayed-out) and must show 56K bps. • When you choose Switched 56Kbps, Data Rate field is disabled (grayed-out) and forced to 56Kbps. • Digital Service field is inactive (grayed-out) and must become N/A when Option Type field is G.703.
Data Rate:	2.4 Kbps 4.8 Kbps 9.6 Kbps 19.2 Kbps **56 Kbps** 64 Kbps	Data rates are supported at the channel interface. • If the Option Type field is designated as G.703, the Data Rate field is grayed-out. • If the Digital Service field is designated as Switched 56K, the Data Rate field is grayed-out and has to be 56K bps. • If the Digital Service field is designated as DDS-SC, 64K bps is grayed-out.
Zero Code Suppression:	Enable, **Disable**, N/A.	This specifies whether or not zero code suppression is used on the channel. The Zero Code Suppression field is inactive (grayed-out) and is set to N/A, if Option Type field is designated as G.703. N/A is always grayed-out.

Table 6-2 Flexi-Voice Channel OCU and G. 703 Configuration Selections and Messages

Latching Loopback:	Enable, **Disable**, N/A.	Support Latching DDS loopbacks. This can be enabled at all data rates. Latching Loopback field is inactive (grayed-out) when Option Type field is G.703. N/A is always grayed-out.
Hardware Revision:	(Read-0nly) - -, A-,... AA,... ZZ	Gives you the hardware revision of the channel card.
Loss Of Frame		This field allows you to configure the OCU Data Port and G.703 alarm reporting.
Loss Of Signal		This field allows you to configure the OCU Data Port and G.703 alarm reporting. When Option Type is G.703, this field is disabled (grayed-out).
Action Buttons		
Ok	Dismisses the window with current edits intact, which is the same as pin-pull (clicking on the pin located at the upper left-hand corner of the screen).	
Reset	Undoes pending or tentative edits since the last `File->Save to Unit` command.	
Cancel	Same as Reset, it dismisses the screen.	
Note: Defaults in bold.		

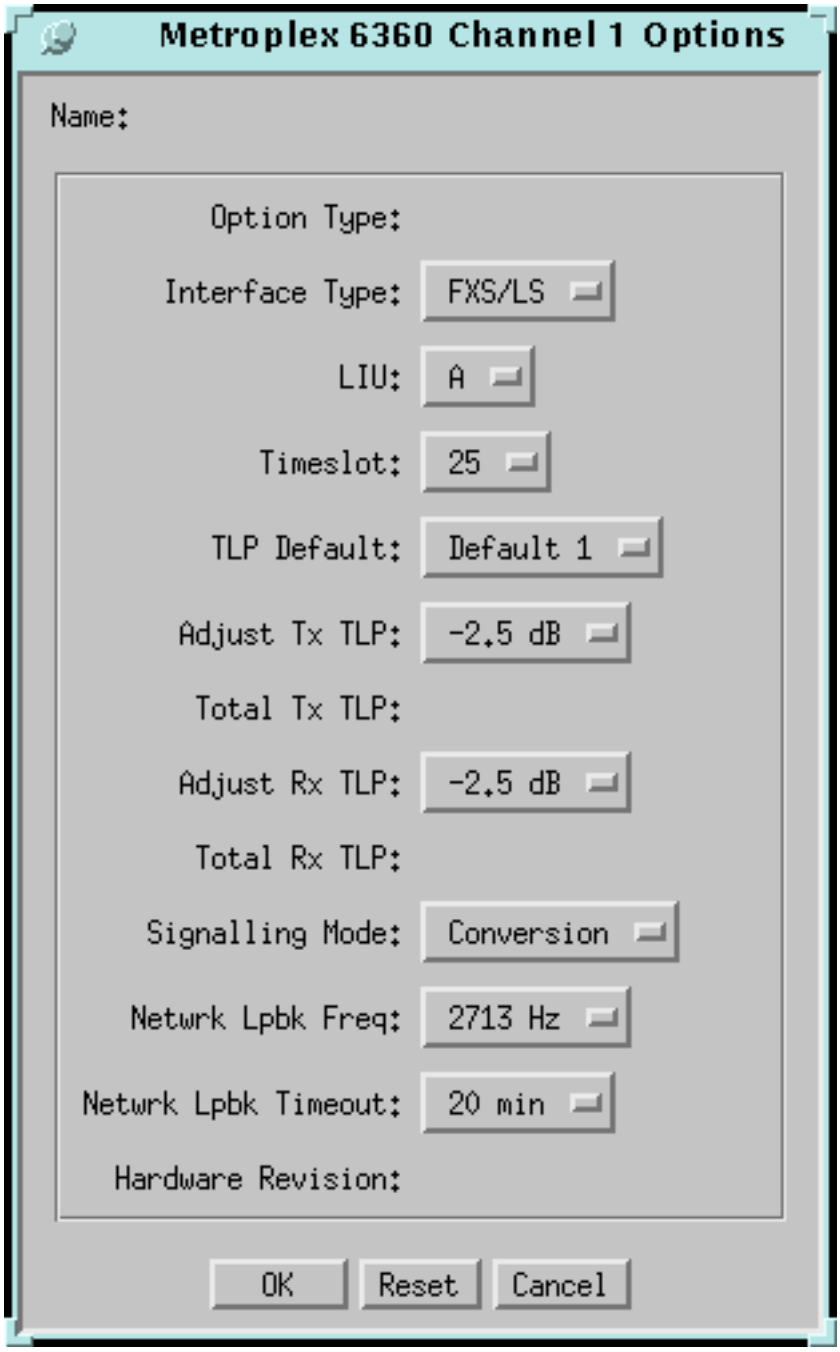


Figure 6-4 Channel 1 VF Type, FXS/LS Interface Screen (6360)

FXS/L Interface VF type channel options are presented below in Table 6-3.

Table 6-3 Flexi-Voice Channel FXS/LS Configuration Selections and Messages (6360)

Field	Selection	Description
Option Type	(Read-Only) Originate Battery, Terminate Battery, 4-Wire E & M, Transmission Only OCU-DP, and G.703	Indicates type of channel card installed. • If the Option Type field is Originate Battery, the Interface Type field shows these selections grayed-out: FXO-Loop Start, FXO-Ground Start, DPT, E and M, 4 Wire TO, OCU-Data Port, and G.703. • If the Option Type field is Terminate Battery, the Interface Type field has these selections grayed-out: FXS-Loop Start, FXS-Ground Start, DPO, E and M, 4 Wire TO, OCU-Data Port, and G.703. • If the Option Type field is 4 Wire E & M, the Interface Type field is inactive (grayed-out) and must select E and M. • If the Option Type field is Transmission Only, Interface Type field is inactive (grayed-out) and must select 4 Wire TO.
Interface Type:	**FXS-Loop Start**, FXS-Ground Start, DPO, FXO-Loop Start, FXO-Ground Start, DPT, E and M, 4 Wire TO, OCU-Data Port, and G.703	The interface type (how the channel is operating) is associated with the option type. Selections OCU - Data Port and G.703 are always seen as grayed-out on the screen. • If the Option Type field is Originate Battery, FXO-Loop Start, FXO-Ground Start, DPT, E and M, and 4 Wire TO are grayed-out. • If the Option Type field is Terminate Battery, FXS-Loop Start, FXS-Ground Start, DPO, E and M, and 4 Wire TO are grayed-out. • If the Option Type field is Transmission Only, the Interface Type field is grayed-out and must select E and M. • If the Option Type field is 4 Wire E and M, Interface Type field is grayed-out and must select 4 Wire TO. • If you set the Interface Type field to FXS-Ground Start, you gray-out PLAR in the Signalling Mode field. • If you set the Interface Type field to DPO, you gray-out Signalling Mode field and make it select Standard.
LIU:	**A**, B	This allows you to select LIU where a channel is assigned. The time slots are skipped if used somewhere else. When the LIU interface is set to Diverse Link, the LIU interface is grayed out, forcing the interface to Selection A. Both A and B cause the Timeslot to be either grayed or un-grayed, depending on the available time slots specified in the SNMP object mp6000LIUMap. When modified and thus its typed characters whitened, the Timeslot, by necessity, shows a change and is included in the SNMP set-request.
Timeslot:	**Off**, 1, 2,...., 31	Depending on the allocation for the time slot when you choose an LIU, this option is grayed or is un-grayed. Timeslot shows a change (shown in white) if LIU is modified. This field is disabled and forced to off if CAS is off and interface is not Type 4 Wire TO. If CAS is on, Selection 16 is grayed-out.

Table 6-3 Flexi-Voice Channel FXS/LS Configuration Selections and Messages (6360)

TLP Default:	`Default 1`, `Default 2`, `Default 3`	When set, the data displayed in Total Tx TLP and in Total Rx TLP is recalculated. When modified, this option is shown in white and Adjust Tx TLP and Adjust Rx TLP indicate that they have been changed.
Adjust Tx TLP:	In dBs: `-6.0`, `-5.9`, `-5.8`..., `5.9`, and `6.0` (intervals of +/-0.1)	Choose any dB and the data then displayed in Total Tx TLP is re-calculated. If modified, the TLP Default indicates that it has been changed. As a result, this mib object is included in an SNMP set-request when the TLP Default is sent.
Total Tx TLP:	(Read-Only)	Data is calculated when the values of Adjust Tx TLP and TLP Default are added together.
Adjust Rx TLP:	In dBs: `-6.0`, `-5.9`, `-5.8`..., `5.9`, and `6.0` (intervals of +/-0.1)	Choose any dB and the data then displayed in Total Rx TLP is re-calculated. If modified, TLP Default indicates that it has been changed. As a result, the mib object is included in an SNMP set-request when the TLP Default is sent.
Total Rx TLP:	(Read-Only)	Data is calculated when the values of Adjust Rx TLP and TLP Default are added together.
Signalling Mode:	`No Signalling` `Standard`, `Conversion`, and `PLAR`	• If the Interface Type field is FXS-Loop Start, the No Signalling field is disabled. • If the Interface Type field is FXS-Ground Start, both the No Signalling field and PLAR are disabled. • If the Interface Type field is DPO, or if the Option Type field is either Terminate Battery or 4 Wire E & M, the Signalling Mode field is grayed-out and must select Standard. • If the Option Type field is Transmission Only, the Signalling Mode field is grayed-out and must select No Signalling.
Hardware Revision:	(Read-0nly) `--`, `A-`,... `AA`,... `ZZ`	Gives you the hardware revision of the channel card.
Action Buttons		
Ok	Dismisses the window with current edits intact, which is the same as pin-pull (clicking on the pin located at the upper left-hand corner of the screen).	
Reset	Undoes pending or tentative edits since the last `File->Save to Unit` command.	
Cancel	Same as Reset, it dismisses the screen.	
Note: Defaults in bold.		

For each channel, there is an option type defined (Table 6-4). Refer to *Hardware Manual (086R603-001)* for other option types, configuration, and definitions.

Table 6-4 Option Type (6360)

Option Type	Card Identification
UNKNOWN	Unknown
0B	Originate Battery
TB	Terminate Battery
4WE&M	4-Wire E & M
TO	Transmission Only
OCU-Data Port	OCU - Data Port
G. 703	G. 703

The Total Receive TLP (Transmission Level Point) specifies the value for the voice channels. The interface types depend on the option types (Table 6-5):

Table 6-5 Interface Type (6360)

Option Type	Interface Type
Unknown	
0B	FXS-Loop Start, FXS-Ground Start, DPO
TB	FXO-Loop Start, FXO-Ground Start, DPT
4WE&M	EANDM
TO	TO
OCU-Data Port	OCU-Data Port
G. 703	G. 703

Reset

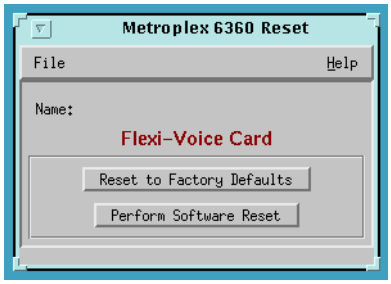


Figure 6-5 Reset/Restore Screen (6360)

The Metroplex 6360 Reset menu has two options: `Reset to Factor Defaults`, which lets you restore the user configuration to the original set-up configured by the manufacturer (factory defaults), and `Perform Software Reset`, which is the power-up sequence. See Figure 6-5 and refer to Table 6-6.

Table 6-6 Flexi-Voice Card Configuration Messages (6360)

Messages	
Do You Want to Continue? (OK/Cancel)	Displayed if you selected Default Configuration. If you press Y the card is removed or set to default. If you press N you return to the screen.

Fault

Flexi-voice Card Diagnostics Menu

The Flexi-Voice Diagnostic menu is used to access the diagnostics for the channels. Figure 6-6 illustrates a typical screen. Table 6-7 presents selections and messages for these channels (See screens for diagnostic tests in hardware manuals).

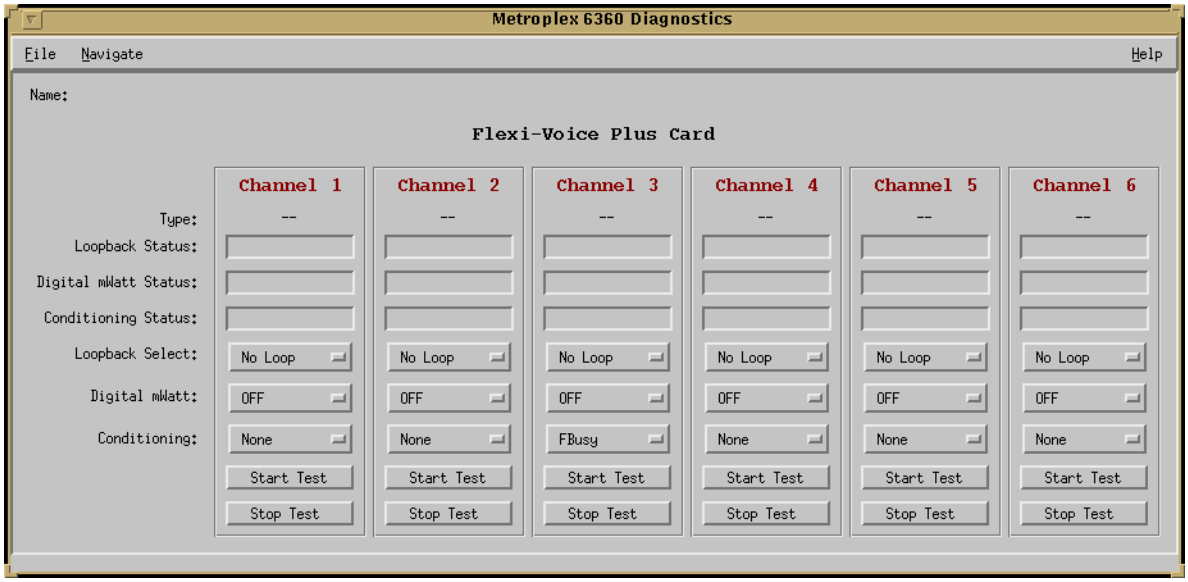


Figure 6-6 Flexi-Voice Plus Diagnostics Menu Screen (6360)

Table 6-7 Flexi-Voice Channel Diagnostic Selections and Messages (6360)

Field	Selection	Description
Loopback Status	Read-Only	Shows any currently active loops on the channel. No TimeSlot indicates timeslot is not assigned to channel and therefore the loop-back cannot be started. [Comm Error], [Comm Timeout] indicates communications problems with the platform card.
Digital mWatt Status	Read-Only	Shows the current digital milli-watt status for the channel.
Conditioning Status	Read-Only	Shows the current conditioning status for the channel.

Table 6-7 Flexi-Voice Channel Diagnostic Selections and Messages (6360) (Continued)

Local Loopback	To Network, None, Network	Specifies the available loopbacks. The VF path is looped, but not the signaling. This selection is also a status field if the current active diagnostic is not a user selectable option. ToNet loops the received signal back towards the network. Network - this is a read-only network-initiated loopback for the 4WTO interface type.
Dig. mWatt (Digital Millwatt)	OFF, ON	Allows you to inject a 1000 Hz test tone at a 0 dBm level into the receive time slot towards the channel card interface. It appears on the channel interface as a 1000 Hz receive signal at a level equal to the assigned TLP level. If the channel interface is also put into loopback, this signal is looped back into the transmit timeslot. Disabled for E1 LIU.
Conditioning	FBNI, FIdle, FBusy, None	Conditions the channel and network interface to a known state. FBNI - Force Busy Next Idle, forces the channel busy after it goes to an idle state. FIdle - Force Idle, immediately conditions the channel to idle. FBusy - Force Busy, immediately conditions the channel to busy. None - performs no conditioning
Notes: 1. Dashes in the interface type indicate the channel is not present. An option card may be missing. When the interface type is displayed, but the selections contain dashes, the option type cannot be tested through the current screen. 2. Digital Milli-watt can only be performed on a voice channel over T1 service. This test terminates after a 10-minute timeout. 3. Local Loopback, Dig. mWatt and Conditioning are not available on unconfigured channels.		

Misc

Flexi-Voice Voice/Four-Wire Data Monitor Menus

The Flexi-Voice and Voice/Four-Wire menu are used to access the monitor screen for the Flexi-Voice and Voice/Four-Wire channels. Figure 6-7 illustrates a typical screen.

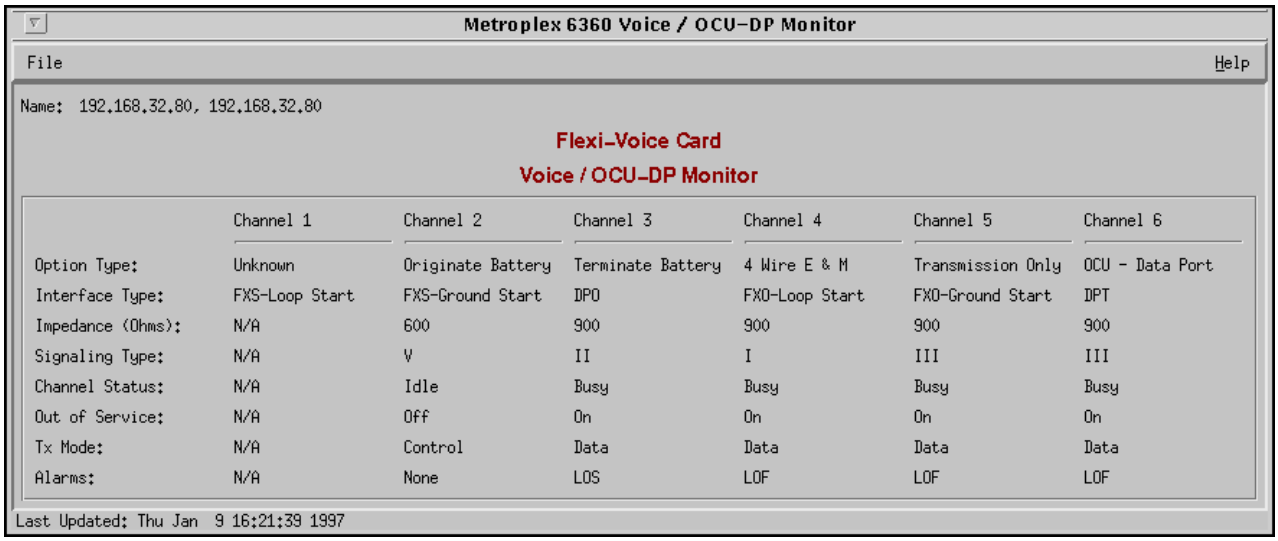


Figure 6-7 Flexi-Voice and Voice/Four-Wire Channel Monitor Screen (6360)

- OCU-DP Channel Monitor

The OCU-DP Channel monitor screen shows configuration, diagnostics, and alarm information for the OCU-DP channels on the Flexi-Voice card. Refer to Table 6-8 for the monitored selections.

Table 6-8 OCU-DP Channel (6360)

Field	Values	Description
Impedance	600, 900, N/A	Indicates the value read from the option card. 600 or 900 Ohms is read from the jumper set on the TB option card. All other option card types read N/A.
Signaling Type	I, II, III, V, N/A	Indicates the value read from the option card. I, II, III, V signaling type is read from the jumper set on the E&M option card. All other option card types read N/A.
Channel Status	Idle, Busy	Indicates the current status of the channel. Busy means the channel is currently being used. Idle indicate the channel is available for use.
Out of Service	Off, On, N/A, -	Network Out Of Service code received from the network. N/A is displayed when the channel is not configured or is running at 64kbps.
Tx Mode	Control, Data, N/A, -	Indicates whether the channel is transmitting data or control information from the DSU. N/A is displayed when the channel is not configured, when an alarm is active or when a ToNet or OCU loopback is active.
Alarms	None, LOS, LOF, N/A, -	Specifies the current alarm state of the channel. LOS - Loss of signal detected. LOF - Loss of Frame detected. N/A is displayed when the channel is not configured.

Chapter 7: Flexi-Data Card

Introduction

The Flexi-Data basecard, MP6441, provides up to four single-channel data interfaces. Each channel supports rates of 9.6, 56 and 64K b/s, and is fully DDS-compatible. Option card types available are EIA-232AS, EIA232, V.35, and 422/V.11. (For descriptions of the front panel LEDS, refer to the hardware manual. Note also that flashing LEDs are not supported.)

Flexi-Data Card (6441)

Performance

The Flexi-Data (6441) card does not have a performance selection from the front panel select button.

Configuration

Configuration

You can choose from the main menu bar or the front panel select button (Figure 7-1).

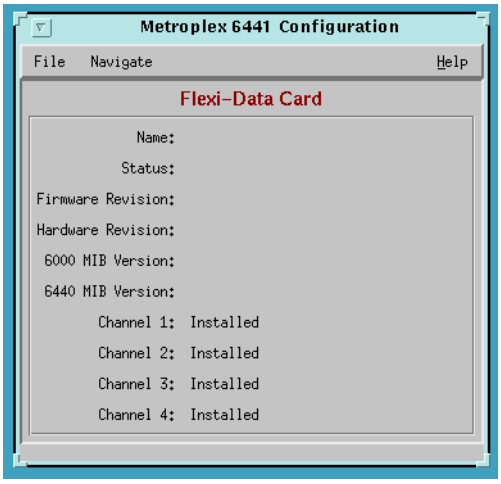


Figure 7-1 Configuration - Flexi-Data (Main) Screen (6441)

The Main Configuration window displays the following read-only items:

Name:	user-configured name for the LIU
Status:	Okay or Fail
Firmware Revision:	revision level of the LIU operating code
Hardware Revision:	revision level of the LIU hardware
6000 MIB Version:	revision level of the MIB files that enable Team 6000 control
6441 MIB Version:	revision level of the MIB files that enable 6441 card control
Channel 1-4:	Display either `Not Installed` or option type for the channel plug-in. card.

The following steps describe how to use the configuration application, and illustrate the functions of the 6441 Configuration window menus (See Figure 7-1).

1. Access the 6441 Configuration window, either from the submap by clicking on `Configuration---->Configuration` or from the 6441 Front Panel display by clicking on the select button on the front panel `Configuration---->Configuration`. The application reads the current 6441 configuration from the LIU when you open the Main window.

   You can select to base your configuration changes on either the current configuration or a stored configuration template. In either case, the LIU continues to operate using its unchanged current configuration.

   The `Refresh` selection on the Main window `File` menu causes the application to read the current configuration from the LIU. All changes to all configuration windows that have not previously been saved to the LIU or a template are lost when you select `Refresh`.

2. To edit the current configuration of the LIU, proceed directly to the `Navigate` menu as described below.

   To edit a template, select `Load Template` from the `File` menu and select a template from the resulting list.

3. Click on the `Navigate` button to display a menu of the 6441 configuration windows, and select the channel to be modified.

4. Make changes as needed in the configuration window. When you click on the input field for an option, a window opens to display all the values the field can be set to. Click the mouse on the value you select. When you change the value or setting of an option, the application displays the option name and the new value in white, rather than black, type. They remain white until you either save the changes to the LIU or a template by means of the Main window `File` menu, or restore the option to its last stored value or setting.

   You can discard changes to a 6441 configuration window and return all its fields to their stored values in two ways:

   Click on the `Reset` button to discard changes while keeping the window open

   Click on the `Cancel` button to discard changes and close the window.

   You can close a 6441 configuration window without losing changes by clicking on either the `OK` button or the `pushpin icon`, which is located in the upper left corner of the window.

   You can keep multiple configuration windows open on-screen and move between them by clicking the mouse on the one in which you intend to operate. The 6441 Main Configuration window remains on-screen throughout the configuration process.

5. When you have accessed all the configuration windows that you need to and made all of your changes, click on the `File` menu button of the 6441 Main Configuration window. From that menu you can select `Save to Unit` to save the new configuration in the LIU, or select `Save to Template` to save it as a template in the workstation.

   When you select `Save to Unit`, the changed configuration becomes the current configuration for the LIU.

6. When you select `Save to Template`, a window appears containing a list of existing templates and a field for entering a new template name. You can select an existing template to be overwritten with the new configuration, or enter a name to create a new template. A stored template is available to be loaded by the application and then saved, with or without further modification, to any Team 6000 LIU.

Menu Buttons	Menu Selections	Further Selections
File		
	Refresh	
	Save to Unit	
	Load Template...	dialog window
	Save to Template...	dialog window
	Compare to Template...	dialog window
	Exit	
Navigate		
	Channel 1 Options	
	Channel 2 Options	
	Channel 3 Options	
	Channel 4 Options	
	All Screens...	

- Flexi-Data Channel Configurations

When you click the mouse on the entry field for a configuration item, a window opens containing all the values that are permitted for that configuration item. Hold down the mouse button until the highlight is on the value you intend to configure, then release the button. The newly selected value appears in the entry field for the configuration item. There are four types of channel cards available: EIA-232AS, EIA232, V.35, and 422/V.11. Refer to Table 7-1 and Figure 7-2.

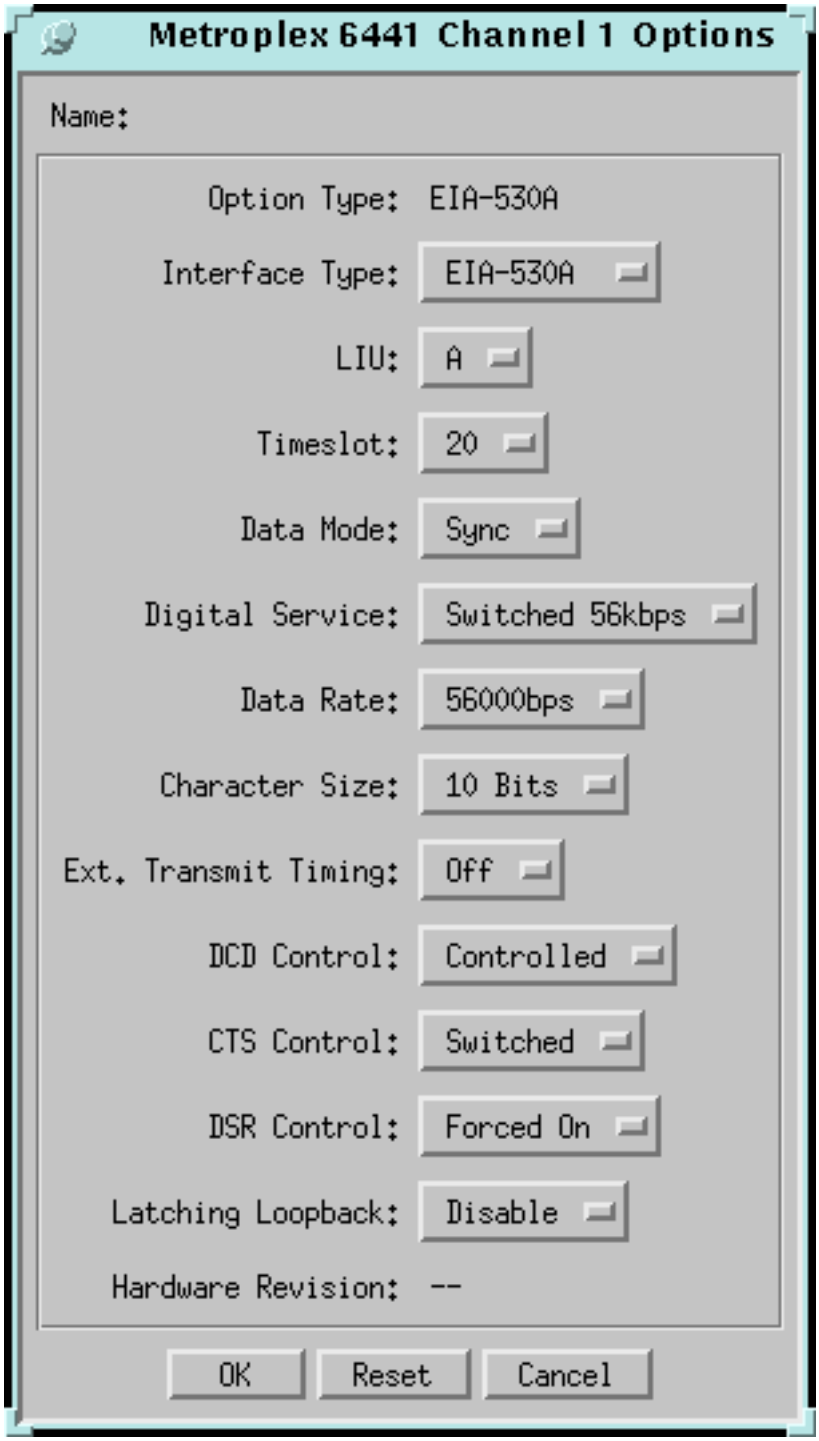


Figure 7-2 Flexi-Data Channel Configuration Screen (6441)

Table 7-1 Flexi-Data Configuration Selections and Messages (6441)

Field	Selection	Description
Option Type (read only)	422/V.11, V.35, EIA530A, Unknown	Specifies Option Type read from card. Unknown indicates Platform card does not recognize Option Type. Check revision compatibility.
Interface Type	X.21, **EIA530A**, V.36	The interface type (how the channel is operating) is associated with the option type. X.21, EIA530A, V.36 are available with the 422/V.11 option card.
	V.35	V.35 is available with the V.35 card.
	EIA232	EIA232 is available with the EIA232 card.
	EIA232AS	EIA232AS is available with the EIA232AS card.
LIU	**A**,B	Displays the LIU used and allows you to select the LIU to which a channel is assigned. If LIU B is not present only A is available.
Timeslot	1-24 and **Off**	Displays the plug-in cards by timeslot and allows you to select the timeslot to which a channel is assigned. The timeslots are skipped if used somewhere else. '0' (zero) can be used to specify Off. This field is disabled (grayed-out) and forced to off if CAS is off and Digital Service is Switched 56Kbps. Selection 16 is grayed-out if CAS is on.
Digital Service	**DDS**, Switched 56K	The service supported on the channel. DDS - compatible with DDS service. Sw56 - Switched 56Kbps data service. When you choose Switched 56Kbps, Data Rate is disabled (grayed-out) and forced to 56Kbps. Selection Switched 56Kbps is grayed-out when CAS is off.
Data Mode	Sync, Async	Sync: disables the data rate selections, 1.2Kbps and 1.8Kbps. Async: disables the data rate selections, 5.6Kbps and 6.4Kbps.
Data Rate	1.2Kbps, 1.8Kbps, 2.4Kbps, 9.6Kbps, 19.2Kbps, 56Kbps, and 64Kbps	The data rate supported at the channel interface. Default data rate for EIA232 and EIA 232 ASYNC is 9.6Kbps, all other option types default is 56Kbps. When Digital Service is Switched 56k, data rate is disabled (grayed-out) and forced to 56Kbps. Selections 64Kbps and 56Kbps are disabled (grayed-out) when Data Mode is Async. Selections 1.8Kbps and 1.2Kbps are disabled (grayed-out) when data mode is Sync.
Ext. Transmit Timing	**Off**, On	Off - Data channel uses internal timing to clock in transmit data from the DTE. On - Timing provided by the DTE on the External Timing lead used to clock in transmit data. External Timing must be synchronous to the Metroplex 6000 internal timing. This field is disabled (grayed-out) when data mode is Async.
DCD Control	Force-on, **Controlled**	This controls the DCD control lead to the local DTE interface. The setting depends on the equipment connected to the interface. At 64Kbps, the interface is forced-on.
CTS Control	Force-on, **Switched,** N/A	This controls the CTS control lead to the local DTE interface. The setting depends on the equipment connected to the interface. At 64Kbps, the interface is forced-on. Displays N/A for Interface Type of X.21.
DSR Control	Force-on, **Controlled,** N/A	This controls the DSR control lead to the local DTE interface. The setting depends on the equipment connected to the interface. At 64Kbps, the interface is forced-on. Displays N/A for Interface Type of X.21.

Table 7-1 Flexi-Data Configuration Selections and Messages (6441) (Continued)

Latching Loopback	Enable, **Disable**	Support Latching DDS loopbacks. This can only be enabled at 64Kbps data rate.
Character Size	Bits: 8, 9, 10, and 11	This feature is disabled when Data Mode is Sync.
Hardware Revision	(Read-0nly) - -, A-,... AA,... ZZ	Gives you the hardware revision of the option card.
Messages		
Application Has Pending Edits (OK/Cancel)		Displayed if you made a change on the screen but did not select save first. If you select `Cancel`, the screen becomes active and you can then select the save option. If you select `OK`, the screen is exited and the configuration changes are lost.
Notes: 1. Some configuration parameters are not changeable when an LIU is in a diagnostic test, which displays on the screen an SNMP general error. 2. Defaults in bold.		

Reset

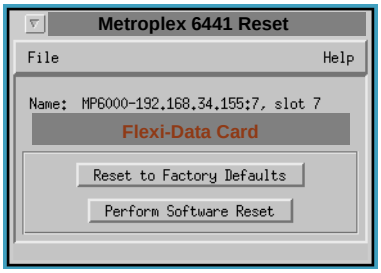


Figure 7-3 Reset/Restore Screen (6441)

The Metroplex 6441 Reset menu has two options: `Reset to Factor Defaults`, which lets you restore the user configuration to the original set-up configured by the manufacturer (factory defaults), and `Perform Software Reset`, which is the power-up sequence. See Figure 7-3.

Fault

Flexi-Data Card Diagnostics Menu

For the TEAM 6000, the 6441 Flexi-Data Card initiates a loopback towards any of the four channels by way of test equipment. The loopback test verifies the intergroup of the option card and the cable. DCD, CTS, and DSR on the channel interface are all set to Off during this loopback when the channel is configured for DCD: Normal, CTS: Switched, and DSR: Normal. The timing option for this card, which is called the `External Transmit Timing Off` or `On`, is clocked into the Flexi-Data card and is responsible for system and loop timing. The screen in Figure 7-4 shows the options for Channel 1 for a particular interface. Refer to Table 7-2.

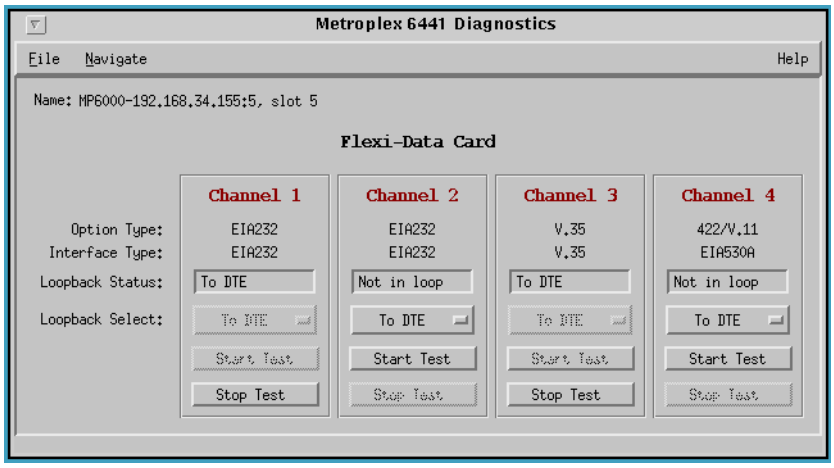


Figure 7-4 Channel 1 EIA-530A Diagnostics Screen (6441)

Table 7-2 Flexi-Data Channel Diagnostic Selections and Messages (6441)

Field	Selection	Description
Loopback Status	Read-Only	Shows any currently active loops on the channel. No TimeSlot indicates timeslot is not assigned to channel and therefore the loopback cannot be started. [Comm Error], [Comm Timeout] indicates communications problems with the platform card.
Local Loopback	ToDTE, To Network, OCU, CSU, DSU, None.	Specifies the available loopbacks. ToDTE loops data towards the channel and can be used on an unconfigured channel. ToNet loops received data from the network towards the network. OCU, CSU, DSU are read-only and indicate the presence of a network-initiated loopback. If any of these are in effect, you cannot perform a manager-initiated loopback on that channel. (See screens for diagnostic tests in hardware manuals)
Notes: 1. Dashes indicate the channel is not present. An option card may be missing. 2. All Local Loopback selections, except ToDTE, are not available on unconfigured channels. 3. DDS network-initiated loopbacks are stopped if a T1 network loopback is initiated.		

Misc

Flexi-Data Card Monitor Menu

The Flexi-Data Monitor menu is used to access the monitor screen for selected channels. Figure 7-5 illustrates this screen.

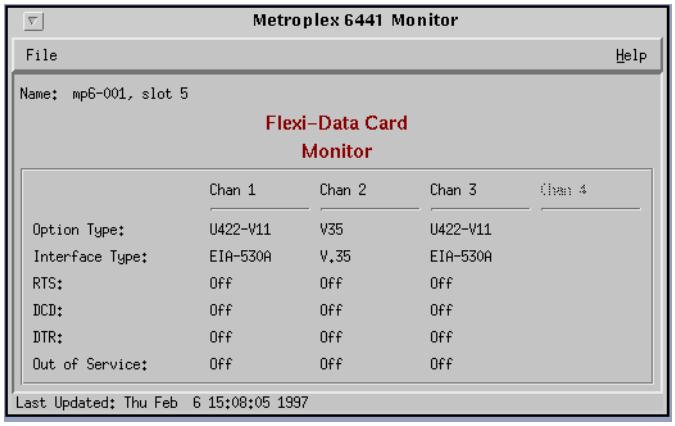


Figure 7-5 Flexi-Data Monitor Menu Card Screen (6441)

- Channel Monitor

The channel monitor screen shows configuration and diagnostics information for the channels on the Flexi-Data card. Refer to Table 7-3.

Table 7-3 Channel Status Values (6441 Card)

Field	Description
Option Type	Option cards for Channels 1, 2, 3, and 4. Channels are supported in a single timeslot at 56k or 64k - DS0A format.
Interface Type	Interfaces are EIA-232AS, EIA232, V.35, X.21 (byte timing is not supported), EIA-530-A, and V.36.
RTS	Received-to-Send - On = local DTE in Data Mode, Off = local DTE in Control Mode
DCD	Data Carrier Detect - On = remote DTE in Data Mode, Off = remote DTE in Control Mode, can be forced On
DTR	Data Terminal Ready - displays the current status of local DTE interface.
Out of Service	Network Out Of Service code received from the network. N/A is displayed when the channel is not configured or is running at 64Kbps.

Chapter 8: Frac-Data Card

Introduction

The Frac-Data basecard, MP6520, provides one or two high-speed data channels, at rates of N x 56kb/s or N x 64 kb/s. Option card types available are V.35, 422/V.11 and DSX-1. (For descriptions of the front panel LEDS, refer to the hardware manual. Note also that flashing LEDs are not supported.)

Frac-Data Card (6520)

Performance

You can choose from the main menu bar or the front panel select button.

Frac-Data Alarm Details Menu

Alarm detail selection brings you the following screen. The alarm detail screen is going to vary according to the option cards installed on the base card. See Figure 8-1 and refer to Table 8-1.

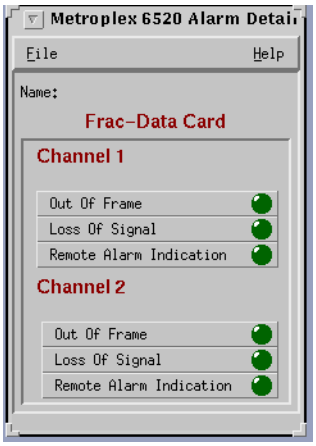


Figure 8-1 Frac-Data Card Alarm Detail Screen (6520 Card)

Table 8-1 Alarm Detail States (6520 Card)

Alarm Fields	LED Indications
Channel 1 and Channel 2 Out Of Frame and Loss of Signal	Specifies the current alarm states of Channel 1 and Channel 2. LOS (Loss of Signal) or OOF (Out of Frame) is detected as defined in TR 62411.
Remote Alarm Indication	RAI (Remote Alarm Indication) is being received from the network.

Configuration 6520

Configuration

Selection from the main menu bar or the front panel select switch. Main Configuration Window is Read-Only Display.

From the 6520 Frac-Data Card Configuration Menu screen, you can select N x 56/64k Channel Configuration for V.35, EIA-530A, etc. channels, and DSX-1 Channel Configuration for DSX-1 channels. Figure 8-2 illustrates a typical screen.

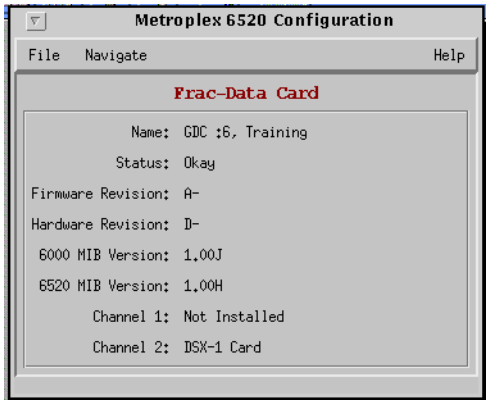


Figure 8-2 Frac-Data Configuration Menu Screen (6520 Card)

The Main Configuration window displays the following read-only items:

Name:	user-configured name for the LIU
Status:	On Line or Off Line
Firmware Revision:	revision level of the LIU operating code
Hardware Revision:	revision level of the LIU hardware
6000 MIB Version:	revision level of the MIB files that enable Team 6000 control
6520 MIB Version:	revision level of the MIB files that enable 6520 card control
Channels 1 and 2:	Display either `Not Installed` or option type for the channel plug-in card.

Mandatory for all systems, the information in this group is read by the management station to know where elements exists in a shelf.

The following steps describe how to use the configuration application, and illustrate the functions of the 6520 Configuration window menus (*See Figure 8-2*).

1. Access the 6520 Configuration window, either from the submap menu bar or from the 6520 Front Panel display. The application reads the current 6520 configuration from the LIU when you open the Main window.

   You can select to base your configuration changes on either the current configuration or a stored configuration template. In either case, the LIU continues to operate using its unchanged current configuration.

   The `Refresh` selection on the Main window `File` menu causes the application to read the current configuration from the LIU. All changes to all configuration windows that have not previously been saved to the LIU or a template are lost when you select `Refresh`.

2. To edit the current configuration of the LIU, proceed directly to the `Navigate` menu as described below.

   To edit a template, select `Load Template` from the `File` menu and select a template from the resulting list.

3. Click on the `Navigate` button to display a menu of the 6520 configuration windows, and select the one in which you intend to make changes.

4. Make changes as needed in the configuration window. When you click on the input field for an option, a window opens to display all the values the field can be set to. Click the mouse on the value you select. When you change the value or setting of an option, the application displays the option name and the new value in white, rather than black, type. They remain white until you either save the changes or a template by means of the Main window `File` menu, or restore the option to its last stored value or setting.

   You can discard changes to a 6520 configuration window and return all its fields to their stored values in two ways:

   Click on the `Reset` button to discard changes while keeping the window open

   Click on the `Cancel` button to discard changes and close the window.

   You can close a 6520 configuration window without losing changes by clicking on either the `OK` button or the `pushpin icon`, which is located in the upper left corner of the window.

   You can keep multiple configuration windows open on-screen and move between them by clicking the mouse on the one in which you intend to operate. The 6520 Main Configuration window remains on-screen throughout the configuration process.

5. When you have accessed all the configuration windows that you need to and made all of your changes, click on the `File` menu button of the 6520 Main Configuration window. From that menu you can select `Save to Unit` to save the new configuration in the LIU, or select `Save to Template` to save it as a template in the workstation.

   When you select `Save to Unit`, the changed configuration becomes the current configuration for the LIU.

6. When you select `Save to Template`, a window appears containing a list of existing templates and a field for entering a new template name. You can select an existing template to be overwritten with the new configuration, or enter a name to create a new template. A stored template is available to be loaded by the application and then saved, with or without further modification, to any Team 6000 LIU.

Menu Buttons	Menu Selections	Further Selections
File		
	Refresh	
	Save to Unit	
	Load Template...	dialog window
	Save to Template...	dialog window
	Compare to Template...	dialog window
	Exit	
Navigate		
	Channels, 1 and 2	

Menu Buttons	Menu Selections	Further Selections
	All Screens...	

- Frac-Data Channel Configurations

There are two types of screens: DSX-1 and Nx56/64k.

This screen changes depending on the option card installed. Figure 8-3 illustrates a typical DSX-1 Channel 1 Configuration screen. Figure 8-4 illustrates a typical V.35 Channel Configuration screen. Refer to and Table 8-3, which follow the screen figures below.

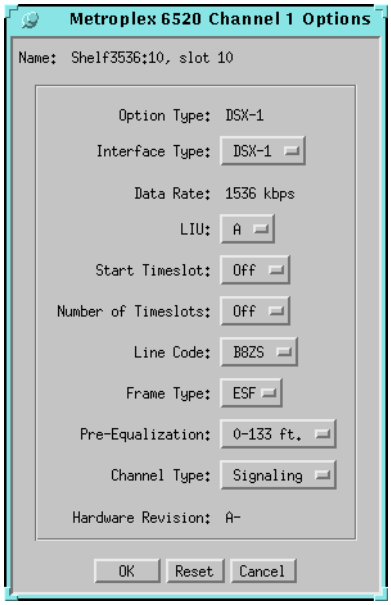


Figure 8-3 Frac-Data DSX-1 Channel 1 Configuration Screen (6520 Card)

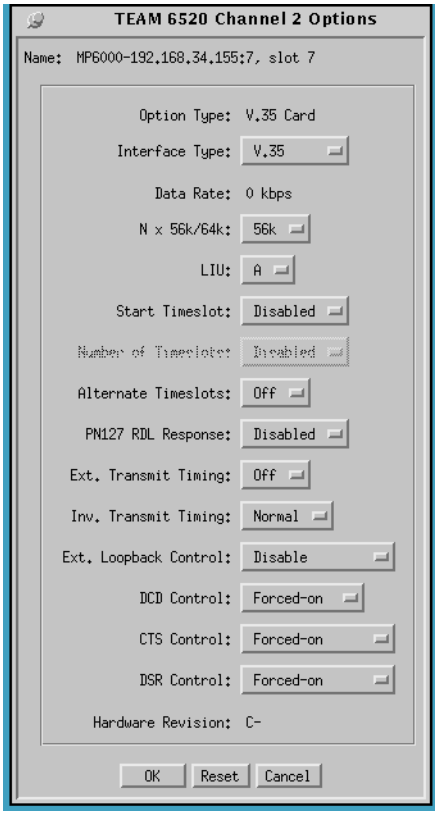


Figure 8-4 Frac-Data V.35 Channel Configuration Screen (6520 Card)

Table 8-2 Frac-Data DSX-1 Channel Configuration Selections and Messages (6520 Card)

Field	Selection	Description
Option Type (read only)	DSX-1, Unknown	Specifies Option Type read from card. Unknown indicates Platform card does not recognize Option Type. Check revision compatibility.
Data Rate	N x 64k	This specifies the channel rate. N = number of timeslots dedicated to the channel.
Interface Type	DSX-1	The interface type is DSX-1.
LIU	**A**,B	Allows you to select the LIU to which a channel is assigned. If LIU B is not present only A is available.
Start Timeslot	1-24 and **Off**	Allows you to select the start timeslot to which a channel is assigned. The timeslots are skipped if used somewhere else. `0` (zero) can be used to specify Off.
Number of Timeslots	**0** and 1-24	Allows you to select the number of timeslots for the channel. Maximum number of timeslots may be less than 24 if timeslots are used somewhere else.
Line Code	**B8ZS**, AMI	Allows you to select either B8ZS or AMI as the line code for the channel.
Frame Type	**ESF**, D4	Allows you to select either ESF or D4 as the framing format for the channel.

Table 8-2 Frac-Data DSX-1 Channel Configuration Selections and Messages (6520 Card)

Pre-Equalization	0 - 133 ft 133 - 266 ft 266 - 399 ft 399 - 533 ft 533 - 655 ft	Allows you to select the pre-equalization which corresponds to the line length used.
Channel Type	**Clear,** Signaling	Select Signaling for voice channels or Switched 56 data channels which require robbed-bit signaling. Otherwise select Clear which passes all eight bits of the timeslot.
Messages		
Application Has Pending Edits (OK/Cancel)		Displayed if you made a change on the screen, but did not select save first. If you select `OK` the screen becomes active again and you can then select the save option. If you select `Cancel`, the screen is exited and the configuration changes are lost.
Notes: 1. Dashes in the option type indicate the channel is not present. An option card may be missing. When the option type is displayed, but the selections contain dashes, the option type cannot be configured through the current screen. 2. Some configuration parameters are not changeable when an LIU is in a diagnostic test, which displays on the screen an SNMP general error 3. When Communication Error, Channel Card Not Changed appears on the screen, the Platform card had problems communicating to the specified channel card. This could be due to a missing channel card. If the channel card is not missing from the shelf, check the firmware revisions. 4. Defaults in bold.		

Table 8-3 Frac-Data N x 56/64k Channel Configuration Selections and Messages (6520 Card)

Field	Selection	Description
Option Type (read only)	422/V.11, V.35, EIA232, Unknown	Specifies Option Type read from card. Unknown indicates Platform card does not recognize Option Type. Check revision compatibility.
N x 56k /64k	56k, 64k	This specifies a single timeslot rate.
Interface Type	X.21, **EIA530A**, V.36	The interface type (how the channel is operating) is associated with the option type. X.21, EIA530A, V.36 are available with the 422/V.11 option card.
	V.35	V.35 is available with the V.35 card.
LIU	**A**,B	Allows you to select the LIU to which a channel is assigned. If LIU B is not present only A is available.
Start Timeslot	1-24 and **Off**	Allows you to select the start timeslot to which a channel is assigned. The timeslots are skipped if used somewhere else. '0' (zero) can be used to specify Off.
Number of Timeslots	**0** and 1-24	Allows you to select the number of timeslots for the channel. Maximum number of timeslots may be less than 24 if timeslots are used somewhere else.
Alternate Timeslots	**Off**, On	Allows you to select the use of alternate timeslots. This may be required to satisfy One's Density requirement (Density requirement of Numeric `1`). Off - Only the Number of Timeslots is used. On - Two times the Number of Timeslots specified are used. The alternate timeslots are filled with the idle code to the network and do not carry customer data. If not enough timeslots are available, this option is not be available.

Table 8-3 Frac-Data N x 56/64k Channel Configuration Selections and Messages (6520 Card)

PN127 (RmtLp-bk) Response	Enable, **Disable**	Enable - Allows the channel to detect PN127 loop up codes (ANSI T1.403-1995) Disable - Data channel does not go into network loopback if the PN127 loop up code is received.
Ext. Transmit Timing	**Off**, On	Off - Data channel uses internal timing to clock in transmit data from the DTE. On - Timing provided by the DTE on the External Timing lead used to clock in transmit data. External Timing must be synchronous to the Metroplex 6000 internal timing.
Invert Transmit Timing	**Normal**, On	Normal - Leaves the transmit timing in its normal state. On - Used to invert the transmit timing from the DTE. This may be beneficial when using high data rates and long cables.
Ext. Loopback Control	Enable, **Disable**, N/A	Enable - allows the channel to use the V.54 control leads to cause a local loopback (LL) or a remote loopback (RL) Disable - Data channel does not go into a loopback with the request from the V.54 control leads. Displays N/A for Interface Type of X.21.
DCD Control	**Forced-on**, Controlled	This controls the DCD control lead to the local DTE interface. The setting depends on the equipment connected to the interface. At 64kbps, the interface is forced-on.
CTS Control	**Forced-on**, Switched, N/A	This controls the CTS control lead to the local DTE interface. The setting depends on the equipment connected to the interface. At 64kbps, the interface is forced-on. Displays N/A for Interface Type of X.21.
DSR Control	**Forced-on**, Controlled, N/A	This controls the DSR control lead to the local DTE interface. The setting depends on the equipment connected to the interface. At 64kbps, the interface is forced-on. Displays N/A for Interface Type of X.21.
Messages		
Application Has Pending Edits (OK/ Cancel)		Displayed if you made a change on the screen, but did not select save first. If you select `OK` the screen becomes active again and you can then select the save option. If you select `Cancel`, the screen is exited and the configuration changes are lost.

Notes:

1. Dashes in the option type indicate the channel is not present. An option card may be missing. When the option type is displayed, but the selections contain dashes, the option type cannot be configured through the current screen.
2. Some configuration parameters are not changeable when a channel is in a diagnostic test.
3. When Communication Error, Channel Card Not Changed appears on the screen, the Platform card had problems communicating to the specified channel card. This could be due to a missing channel card. If the channel card is not missing from the shelf, check the firmware revisions.
4. Defaults in bold.

Reset/Restore

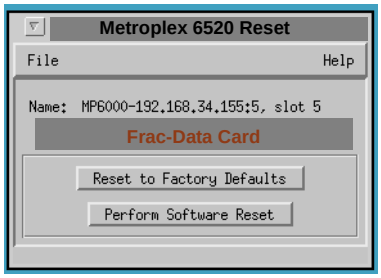


Figure 8-5 Reset/Restore Screen (6520 Card)

The Metroplex 6520 Reset menu has two options: `Reset to Factor Defaults`, which lets you restore the user configuration to the original set-up configured by the manufacturer (factory defaults), and `Perform Software Reset`, which is the power-up sequence. See Figure 8-5.

Messages are listed in Table 8-4.

Table 8-4 Frac-Data Card Configuration Messages (6520 Card)

Messages	
Do You Want to Continue? (OK/Cancel)	Displayed if you selected Default Configuration. If you press `Y` the card is removed or set to default. If you press `N` you return to the screen.

Fault

Frac-Data Card Diagnostics Menu

The Frac-Data Diagnostic menu is used to access the diagnostics for the N x 56/64k channels, DSX-1 channels and the card selftest for the card. Figure 8-6 illustrates a typical screen. Table 8-5 and present selections and messages for N x 56/64k channels.

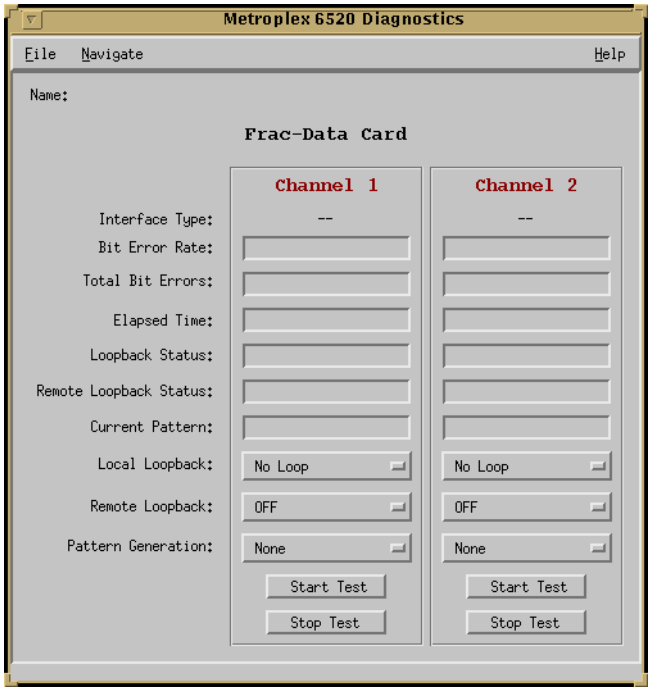


Figure 8-6 Frac-Data Diagnostics Menu Screen (6520 Card)

N x 56/64K Channel diagnostics (6520 Frac-Data Card)

Table 8-5 Frac-Data N x 56/64k Channel Diagnostic Selections and Messages (6520 Card)

Field	Selection	Description
Bit Error Rate	These values are not selectable by the user.	This read-only field is used to indicate the bit error rate when Pattern Generation is started.
Total Bit Errors	These values are not selectable by the user.	This read-only field is used to indicate the total number of errors for the elapsed time.
Elapsed Time	These values are not selectable by the user.	This read-only field specifies the elapsed time since the Pattern Generation was started and the pattern has been synchronized. Off - when Pattern Generation is set to None. NoSync - when Pattern Generation is set to 511 or 2047, but the pattern is not currently being detected. Elapsed Time - is displayed in italics since the actual value indicates days, hours, minutes and seconds.
Loopback Status	Read-Only	Shows any currently active loops on the channel. No TimeSlot indicates timeslot is not assigned to channel and therefore the loop-back cannot be started. [Comm Error], [Comm Timeout] indicates communications problems with the platform card.

Table 8-5 Frac-Data N x 56/64k Channel Diagnostic Selections and Messages (6520 Card)

Remote Loopback Status	Read-Only	Shows current remote loopback status for the channel.
Current Pattern	Read-Only	Shows current remote loopback status for the channel.
Local Loopback	ToChan, ToNet, None, DTE-LL, DTE-RL, PN127Loop	Specifies the available local loopbacks. ToChan loops the data back to the channel interface. ToNet loops the data back towards the network. DTE-LL, DTE-RL and PN127Loop are read-only and indicate the presence of a network-initiated or DTE-initiated loopback. If any of these are in effect, a manager-initiated loopback cannot be started on that channel.
Remote Loopback	Off, On	Allows you to send a PN127 Loop-up pattern into the network. If a Local Loopback is active, a Remote Loopback cannot be performed
Pattern Generation	None, 511, 2047	Allows a test pattern to be sent to the network. If both the Remote Loopback and Pattern Generation are started at the same time. the Remote Loopback is sent first and then the Pattern is sent. If a Local Loopback is active, Pattern Generation cannot be started.

Notes:

1. Dashes in the interface type indicate the channel is not present. An option card may be missing. When the interface type is displayed, but the selections contain dashes, the option type cannot be tested through the current screen.
2. Local Loopback, Remote Loopback and Pattern Generation are not available on unconfigured channels.
3. If a network loopback is started on a channel while in the diagnostics screen, the user must try to select a Local Loopback to see the loopback. Remote Loopback and Pattern Generation indicates that the network loopback is active but does not update the Local Loopback selection. (See screens for diagnostic tests in hardware manuals)

DSX-1 Channel Diagnostics (6520 Frac-Data Card)

The DSX-1 Channel Diagnostic selections are shown in , which presents diagnostic selections.

Table 8-6 Frac-Data DSX-1 Channel Diagnostic Selections and Messages (6520 Card)

Field	Selection	Description
Local Loopback	ToChan, ToNet, None	Specifies the available loopbacks. ToChan loops the data back to the channel interface. ToNet loops the data back towards the network.

Misc

Frac-Data Card Monitor Menu

The Frac-Data Monitor menu is used to access the monitor screen for the DSX-1 and Nx56/64k channels. Figure 8-7 illustrates a typical screen.

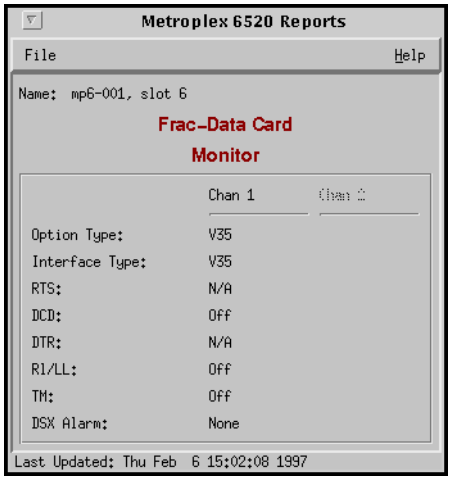


Figure 8-7 Frac-Data Card Monitor Menu Screen (6520 Card)

- DSX-1 Channel Monitor

DSX-1 Channel monitor screen shows configuration, diagnostics, and alarm information for the DSX-1 channels on the Frac-Data card. Refer to for the monitored selections.

Table 8-7 DSX-1 Channel Alarm Values (6520 Card)

Field	Values	Description
Alarms	Channel 1 and Channel 2 Out Of Frame and Loss of Signal Remote Alarm Indication	Specifies the current alarm states of Channel 1 and Channel 2. LOS (Loss of Signal) or OOF (Out of Frame) is detected as defined in TR 62411. RAI (Remote Alarm Indication) is being received from the network.
	None	No alarms

- N x 56/64k Channel Monitor

N x 56/64k Channel monitor screen shows the configuration, diagnostics, alarm and status information for the N x 56/64k channels on the Frac-Data card. Table 8-8 describes additional status values.

Table 8-8 N x 56/64k Channel Status Values (6520 Card)

Field	Values	Description
TX(RTS)	Off, On	Displays the current status of the local DTE interface RTS lead.
RX(DCD)	Off, On	Displays the current status of the local DCD lead.
DTR	Off, On	Displays the current status of the local DTE interface DTR lead.
RL/LL	Off, RL, LL	Displays the current status of the local RL and LL leads.
TM	Off, TM	Displays the current status of the TM lead.

Chapter 9: FXS Octet Card

Introduction

The FXS Octet card, MP6380, provides eight channels of FXS-type voice, similar to the Dual OB Option card on the Flexi-Voice Plus card. The FXS Octet does not accept any option card nor provide any other, except FXS Loop Start, FXS Ground Start, or DPO. (For descriptions of the front panel LEDS, refer to the hardware manual. Note also that flashing LEDs are not supported.)

FXS Octet Card (MP6380)

Configuration MP6380

Configuration

You can access the Metroplex 6380 Configuration window from the HPOV Map Configuration Menu, that is, select from the main menu bar or the front panel select switch. Main Configuration Window, which is read-only, is made up of pop-up menus and eight channel windows or screens for working with your unit. Figure 9-1 shows the Metroplex 6380 Configuration screen (FXS `Octet Card`).

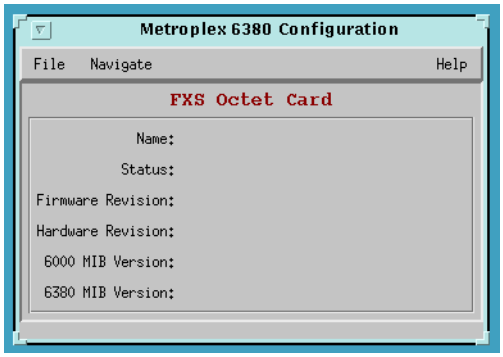


Figure 9-1 FXS Octet Configuration Menu Screen (MP6380)

The Main Configuration window displays the following read-only items:

Name:	Symbol label corresponding to chosen slot symbol from shelf map
Status:	Unit status: `Okay`, `Fail`, `Test`
Firmware Revision:	Revision code of unit firmware: `--`, `A-`,... `AA`,... `ZZ`
Hardware Revision:	Revision code of unit hardware: `--`, `A-`,... `AA`,... `ZZ`
6000 Mib Version:	6000 mib version of unit: `1.00`...
6380 Mib Version:	6380 mib version of unit: `1.00`...

On the title bar is the application name, `Metroplex 6380 Configuration`. The menu bar has `File` for file operations, `Navigation` for navigating through subordinate screens, and your basic `Help` info. In the lower right of the screen appear status messages giving you updates on the performance of the application, that is, feedback on reading, writing, saving to template, and so forth.

How to Use the MP6380 Configuration

The following steps describe how to use the configuration application and illustrate the functions of the MP6380 Configuration window menus.

1. Access the MP6380 Configuration window, either from the submap menu bar or from the MP6380 Front Panel display. The application reads the current MP6380 configuration from the platform card when you open the Main window.

   You can select to base your configuration changes on either the current configuration or a stored configuration template. In either case, the channel continues to operate using its unchanged current configuration.

   The `Refresh` selection on the Main window `File` menu (Figure 9-2) causes the application to read the current configuration from the platform card. All changes to all configuration windows that have not previously been saved to the channel or a template are lost when you select `Refresh`.

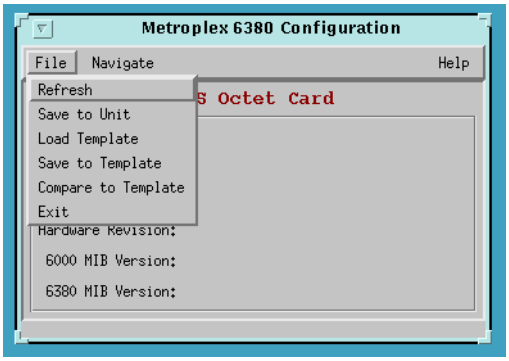


Figure 9-2 FXS Octet Configuration, Main File Screen (MP6380)

2. To edit the current channel configuration, go directly to the `Navigate` menu described below.

   To edit a template, select `Load Template` from the `File` menu and select a template from the resulting list.

3. Click on the Navigate button to display a list of eight MP6380 option windows and an option window for All Screens... Then, choose an option window for making changes to a specific channel by clicking it with the mouse (Figure 9-3).

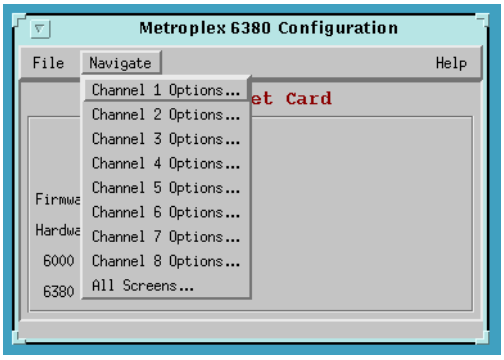


Figure 9-3 FXS Octet Configuration, Main Navigation Screen (MP6380)

4. Make changes as needed in the configuration window. When you click on the input field for an option, a window opens to display all the values the field can be set to. (Refer to *FXS/LS Octet Channel Configuration Options* for the MP6380 following this section). Click the mouse on the value you select. When you change the value or setting of an option, the application displays the option name and the new value in white, rather than in black, type. New values remain in white type until you either save the changes to a template by means of the Main window File menu, or you restore the option to its last stored value or setting.

   You can discard changes to a MP6380 configuration window and return all its fields to their stored values in two ways:

   Click on the Reset button to discard changes while keeping the window open

   Click on the Cancel button to discard changes and close the window.

   You can close a MP6380 configuration window without losing any changes by clicking on either the OK button or the pushpin icon, which is located in the upper left corner of the window.

   You can keep multiple configuration windows open on the screen and be able to move among them so that you can choose a window to work with by clicking the mouse on it. The MP6380 Main Configuration window remains on-screen throughout the configuration process.

5. When you have finally accessed all the configuration windows that you wanted and made all of your changes, click on the File menu button of the MP6380 Main Configuration window. From that menu you can select Save to Unit to retain the new configuration in the channel, or else select Save to Template to save it as a template in the workstation.

   When you select Save to Unit, the changed configuration is now the new or latest configuration for the channel.

6. When you select Save to Template, a window appears having a list of existing templates and a field for entering a new template name. You can select an existing template to be overwritten with the new configuration, or enter a name to create a new template. A stored template is available to be loaded by the application and then saved, with or without further modification.

Below is a summary of the menu buttons for doing any configuring.

Menu Buttons	Menu Selections	Results in:	Further Selections
File			
	Refresh	Reading all options from unit and losing any outstanding edits.	
	Save to Unit	Sending all outstanding edits to unit.	
	Load Template...	Letting you apply the edits of an existing Metroplex MP6380 template to the current application. These template changes are done when you use the `File->Save to Unit` command.	dialog window
	Save to Template...	Saving configuration data as a particular template.	dialog window
	Compare to Template...	Comparing configuration data with a particular template.	dialog window
	Exit	First discarding outstanding edits, then terminating application.	
Navigate			
	Channels, 1 -- 8 Options...	Displaying the `Metroplex MP6380 Channel Options` window.	options for each
	All Screens...	Displaying all subordinate application windows.	
Help			
	Displaying help information.		

- FXS Octet Card Channel Options

You access this screen when you click on `Navigate->Channel 1, 2,...,8 Options`. Figure 9-4, showing you a channel FXS/LS interface, uses the Channel 1 Options screen as an example. For definitions or functions for the fields on the screen, refer to Table 9-1 following Figure 9-4.

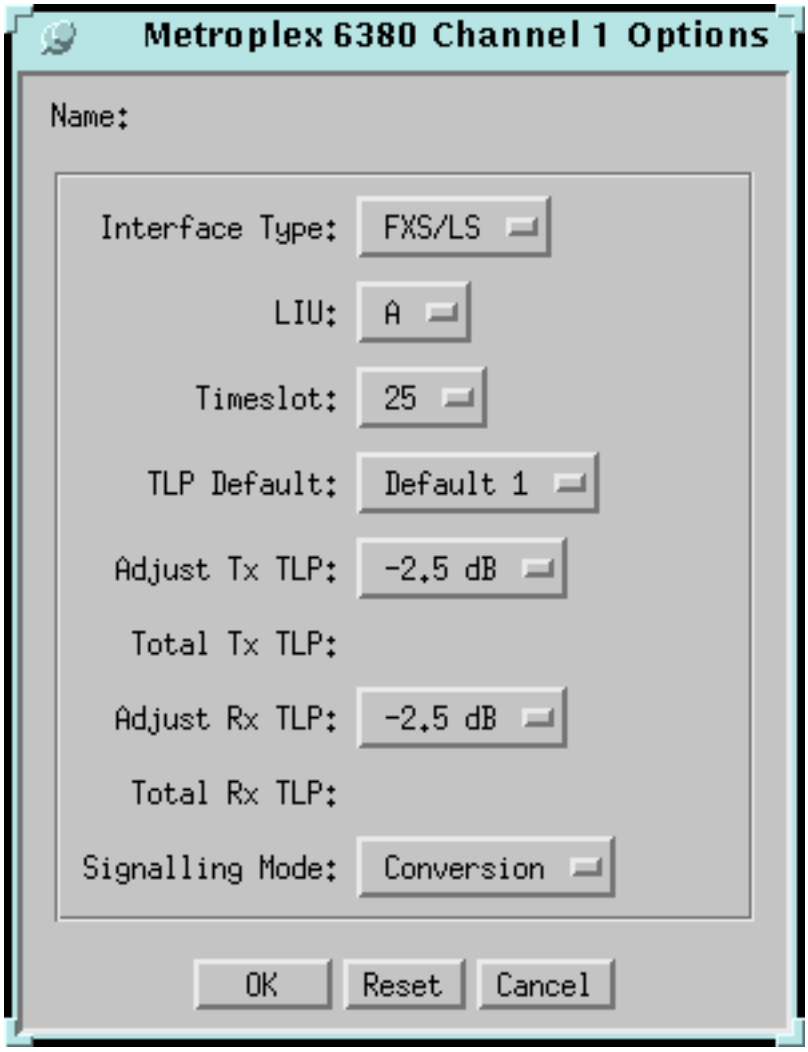


Figure 9-4 FXS/LS Octet Channel 1 Options Screen (MP6380)

Table 9-1 FXS/LS Octet Channel Configuration (MP6380)

Field	Selection	Description
Interface Type:	**FXS-Loop Start**, FXS-Ground Start, DPO	Set to FXS-Ground Start grays the selection PLAR in Signalling Mode. Set to DPO grays Signalling Mode, forcing Signalling Mode to Standard.
LIU:	**A**, B	When the LIU interface is set to Diverse Link, the LIU interface is grayed out, forcing the interface to Selection A. Both A and B cause the Timeslot to be either grayed or un-grayed, depending on the available time slots specified in the SNMP object mp6000LIUMap. When modified and thus its typed characters whitened, the Timeslot, by necessity, shows a change and is included in the SNMP set-request.

Table 9-1 FXS/LS Octet Channel Configuration (MP6380) (Continued)

Timeslot:	**Off**,1,2,....,31	Depending on the allocation for the time slot when you choose an LIU, this option is grayed or is un-grayed. Timeslot shows a change (shown in white) if LIU is modified. This field is disabled and forced to off if CAS is off. Selection 16 is grayed-out if CAS is on.
TLP Default:	**Default 1**, Default 2, Default 3	When set, the data displayed in Total Tx TLP and in Total Rx TLP is recalculated. When modified, this option is shown in white and Adjust Tx TLP and Adjust Rx TLP indicate that they have been changed.
Adjust Tx TLP:	In dBs: -6.0, -5.9, -5.8, **0.0**, ..., 5.9, and 6.0 (intervals of +/-0.1)	Choose any dB and the data then displayed in Total Tx TLP is recalculated. If modified, the TLP Default indicates that it has been changed. As a result, this mib object is included in an SNMP set-request when the TLP Default is sent.
Total Tx TLP:	Read-only	Data is calculated when the values of Adjust Tx TLP and TLP Default are added together.
Adjust Rx TLP:	In dBs: -6.0, -5.9, -5.8, **0.0**, ..., 5.9, and 6.0 (intervals of +/-0.1)	Choose any dB and the data then displayed in Total Rx TLP is recalculated. If modified, TLP Default indicates that it has been changed. As a result, the mib object is included in an SNMP set-request when the TLP Default is sent.
Total Rx TLP:	Read-only	Data is calculated when the values of Adjust Rx TLP and TLP Default are added together.
Signalling Mode:	**Standard**, Conversion, and PLAR	• If the Interface Type is FXS-Ground Start, PLAR is disabled. • If the Interface Type is DPO, Signalling Mode is grayed and becomes Standard.
Action Buttons		
Ok	Dismisses the window with current edits intact, which is the same as pin-pull (clicking on the pin located at the upper left-hand corner of the screen).	
Reset	Undoes pending or tentative edits since the last File->Save to Unit command.	
Cancel	Same as Reset, it dismisses the screen.	
Note: Defaults in bold.		

Reset/Restore

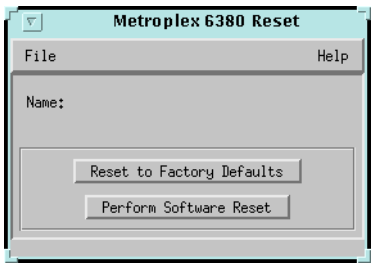


Figure 9-5 Reset/Restore Screen (FSX Octet Card)

The Metroplex 6380 Reset menu has two options: Reset to Factor Defaults, which lets you restore the user configuration to the original set-up configured by the manufacturer (factory defaults), and Perform Software Reset, which is the power-up sequence. See Figure 9-5.

Messages are listed in Table 9-2.

Table 9-2 FSX Octet Configuration Messages (FSX Octet Card)

Messages	
Do You Want to Continue? (OK/Cancel)	Displayed if you selected Default Configuration. If you press Y the card is removed or set to default. If you press N you return to the screen.

Fault

FXS Octet Card Diagnostics Menu

You can access the Metroplex 6380 Diagnostics window from the HPOV Map Fault Menu, that is, select from the main menu bar or the front panel select switch. The application, made up of only one main window and one transient window that gives you a diagnostic history of each channel. Figure 9-6 shows the Metroplex 6380 Diagnostics screen (`FXS Octet Card`) and Figure 9-7 typifies the diagnostic history screen for the eight channels. Regarding the diagnostics history screen, note that the displayed data is not retained in memory and becomes lost as soon as you exit the diagnostic application. The application name is on the title bar, and on the menu bar, you find basic help, file access, and navigation through subordinate screens. Each of the eight channels has its own diagnostics test information. Refer to Table 9-3 for functions of the eight-channel diagnostics tests and to Table 9-4 for history data on channel diagnostic tests.

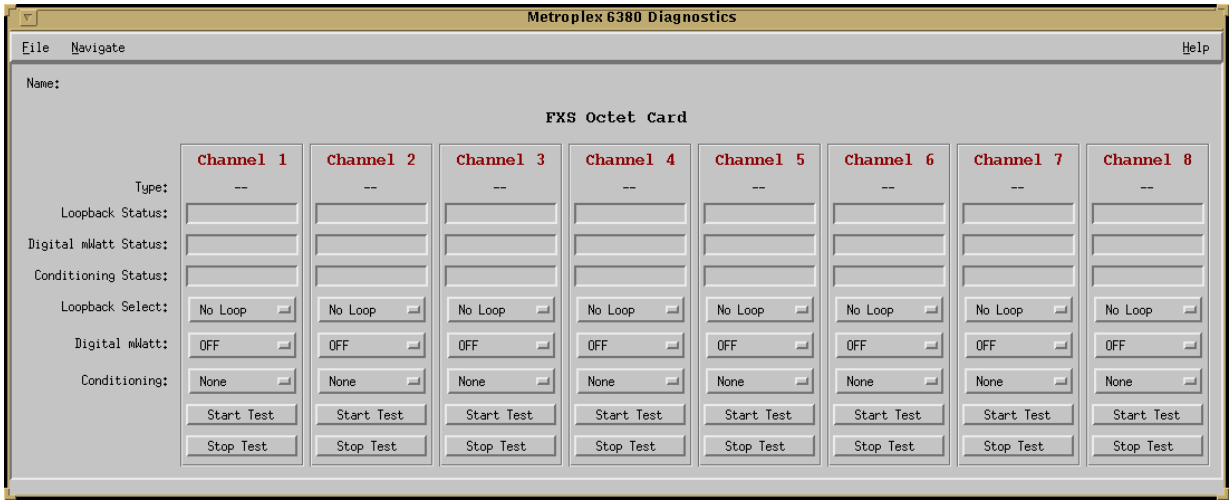


Figure 9-6 FXS Octet Diagnostics Menu Screen (MP6380)

Below is a summary of the menu button functions for diagnostic tests.

Menu Buttons	Menu Selections	Results in:
File->		
	Exit	Terminating the application.
Navigate		
	History	Displaying the MP6380 Diagnostics history window.
Help		
	Displaying help information.	

Table 9-3 FXS Octet Channel Diagnostic Selections and Messages (MP6380)

Field	Selection	Description
Loopback Status	Read-Only	Shows any currently active loops on the channel. No TimeSlot indicates timeslot is not assigned to channel and therefore the loopback cannot be started. [Comm Error], [Comm Timeout] indicates communications problems with the platform card.
Digital mWatt Status	Read-Only	Shows the current digital milliwatt status for the channel.
Conditioning Status	Read-Only	Shows the current conditioning status for the channel.
Local Loopback	To Network, None, Network	Specifies the available loopbacks. The VF path is looped, but not the signaling. This selection is also a status field if the current active diagnostic is not a user selectable option. ToNet loops the received signal back towards the network. Network - this is a read-only network-initiated loopback for the 4WTO interface type.
Dig. mWatt (Digital Millwatt)	OFF, ON	Allows you to inject a 1000 Hz test tone at a 0 dBm level into the receive time slot towards the channel card interface. It appears on the channel interface as a 1000 Hz receive signal at a level equal to the assigned TLP level. If the channel interface is also put into loopback, this signal is looped back into the transmit timeslot. Disabled for E1 LIU

Table 9-3 FXS Octet Channel Diagnostic Selections and Messages (MP6380) (Continued)

Conditioning	FBNI, FIdle, FBusy, None	Conditions the channel and network interface to a known state. FBNI - Force Busy Next Idle, forces the channel busy after it goes to an idle state. FIdle - Force Idle, immediately conditions the channel to idle. FBusy - Force Busy, immediately conditions the channel to busy. None - performs no conditioning
Notes: 1. Dashes in the interface type indicate the channel is not present. An option card may be missing. When the interface type is displayed, but the selections contain dashes, the option type cannot be tested through the current screen. 2. Digital Milli-watt can only be performed on a voice channel over T1 service. This test terminates after a 10-minute timeout. 3. Local Loopback, Dig. mWatt and Conditioning are not available on unconfigured channels. (See screens for diagnostic tests in hardware manuals)		

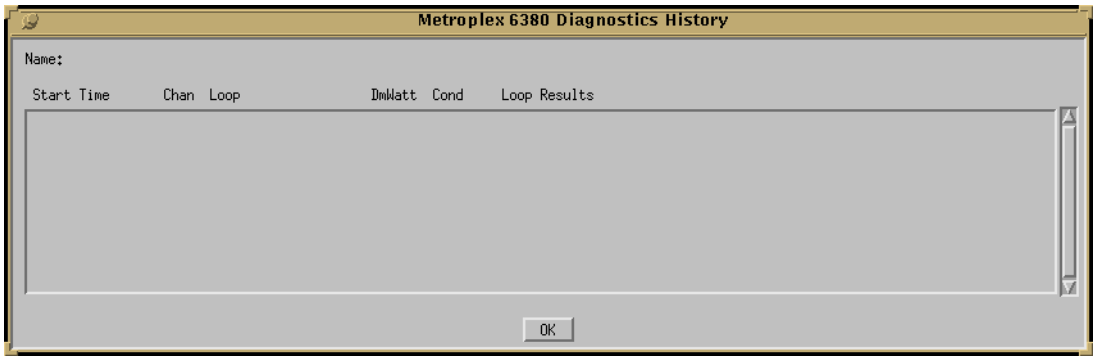


Figure 9-7 FXS Octet Diagnostics History Screen for the Channels (MP6380)

Table 9-4 FXS Octet Channel Diagnostic Selections and Messages (MP6380)

Field	Selection	Description
Start Time:	Read-only	When the testing was done
Chan:	Read-only	Channel that was tested
Loop:	Read-only	Loopback that was used (if any)
DmWatt:	Read-only	Digital milliwatt setting that was used (if any)
Cond:	Read-only	Conditioning selected (if any)
Loop Results:	Read-only	First response returned after start of operation
Action Button		
Ok	Dismisses the window with current edits intact, which is the same as pin-pull (clicking on the pin located at the upper left-hand corner of the screen).	

Misc

FXS Octet Card Monitor Menu

You can access the Metroplex 6380 Monitor window from the HPOV Map Misc Menu, that is, select from the main menu bar or the front panel select switch. The application, made up of only one screen, monitors eight channels. Figure 9-8 shows the Metroplex 6380 Monitor screen (`FXS Octet Card`). The application name is on the title bar, and on the menu bar, you find basic help and file access. Arrayed in eight columns are channel data, with each of the eight channels displaying its own interface type and status.

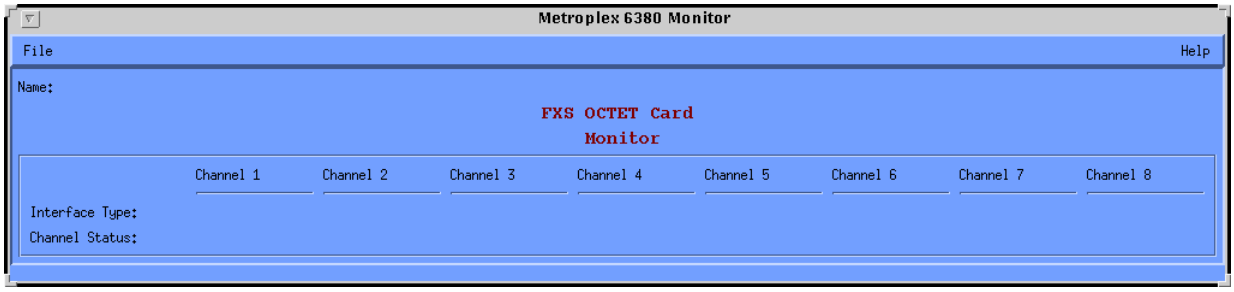


Figure 9-8 FXS Octet Card Monitor Menu Screen (MP6380)

At the footer (bottom of the screen) is the status message area, where you can read the state and current activity of the monitor application. Also, displayed there are messages describing unit interaction and giving you the time when the screen was last refreshed with data. Thus, being consistent with other TEAM applications, the format for this footer is constantly updated such as, `Last Update: Tue June 25 09:59:53 1996`.

Below is a summary of the menu button functions for monitoring. Also, refer to Table 9-5.

Menu Buttons	Menu Selections	Results in:
File		
	Refresh	Polling the unit for new data.
	Exit	Terminating the application.
Help		
	Displaying manual for the TEAM 6000 application.	

Table 9-5 FXS Octet Channel Monitoring (MP6380)

Field	Selection	Description
Channel Status:	`Idle` or `Busy`	Busy means that the channel is now in use. Idle means that the channel is now available.

Chapter 10: Frac-Data Card

Introduction

The Frac-Data basecard, MP6521, provides one or two high-speed data channels, at rates of N x 56kb/s or N x 64 kb/s. Option card types available are V.35, 422/V.11, DSX-1, and Frac E1. (For descriptions of the front panel LEDS, refer to the hardware manual. Note also that flashing LEDs are not supported.)

Frac-Data Card (6521)

Performance

You can choose from the main menu bar or the front panel select button.

Frac-Data Alarm Details Menu

Alarm detail selection brings you the following screen. The alarm detail screen is going to vary according to the option cards installed on the base card. Alarms that are not applicable are removed from the screen and the screen is reduced in size vertically. See Figure 10-1 and refer to Table 10-1.

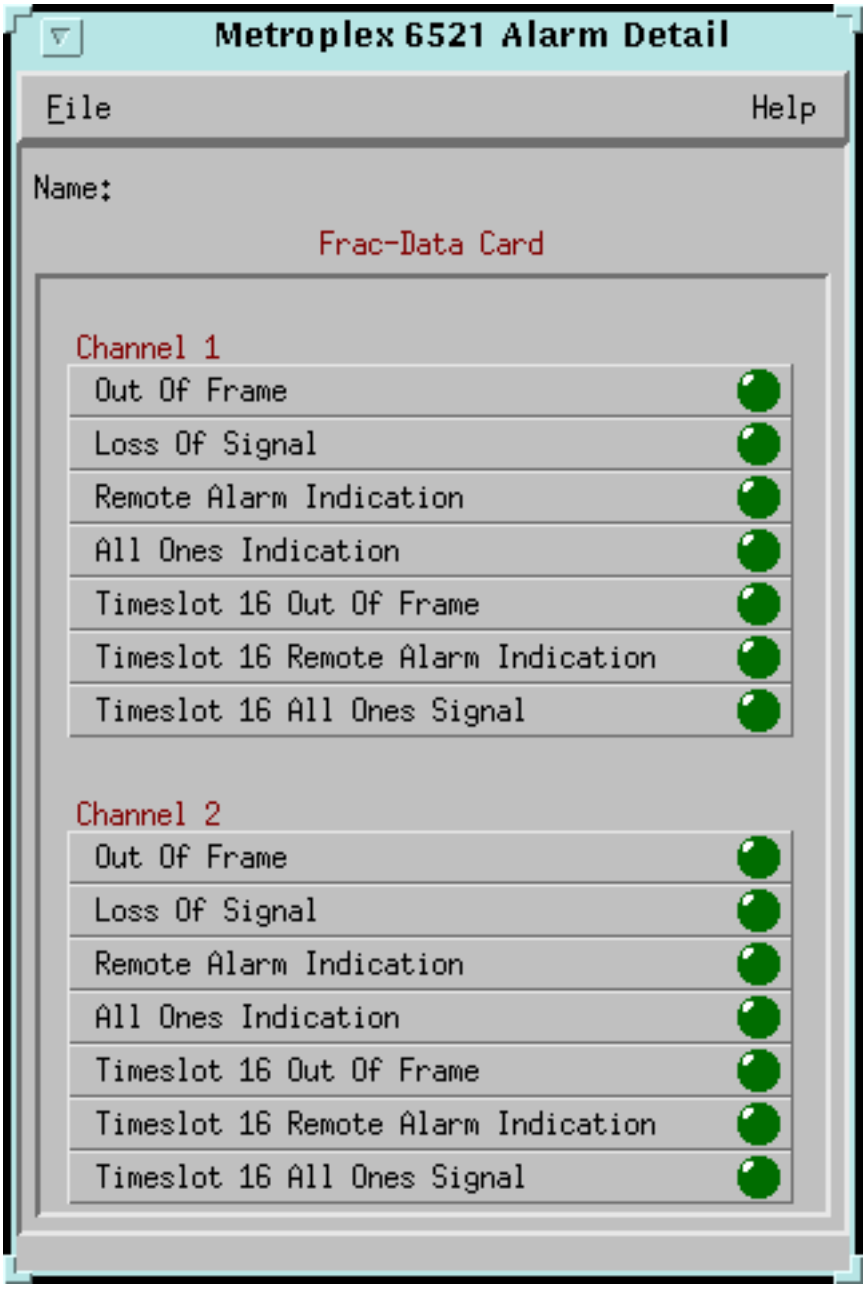


Figure 10-1 Frac-Data Card Alarm Detail Screen (6521)

Table 10-1 Alarm Detail States (6521)

Alarm Fields	LED Indications
Channel 1 and Channel 2 Out Of Frame Loss of Signal Remote Alarm Indication All Ones Indication Timeslot 16 Out Of Frame[1] Timeslot 16 Remote Alarm Indication[1] Timeslot 16 All Ones Signal[1]	Specifies the current alarm states of the Channel 1, the Channel 2. LOS (Loss of Signal) or OOF (Out of Frame) is detected as defined in TR 62411. RAI (Remote Alarm Indication) is being received from the network. AIS (Alarm Indication Signal) is being received from the network.
Notes: [1]Only applicable when `mp6520OptionType` is E1.	

Configuration 6521

Configuration

Selection from the main menu bar or the front panel select switch. Main Configuration Window is Read-Only Display.

From the 6521 Frac-Data Card Configuration Menu screen, you can select N x 56/64k Channel Configuration for V.35, EIA-530A, etc. channels, and DSX-1 Channel Configuration for DSX-1 channels. Figure 10-2 illustrates a typical screen.

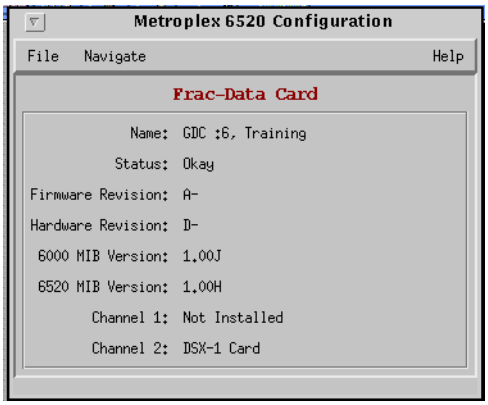


Figure 10-2 Frac-Data Configuration Menu Screen (6521)

The Main Configuration window displays the following read-only items:

Name: user-configured name for the LIU

Status: On Line or Off Line

Firmware Revision: revision level of the LIU operating code

Hardware Revision: revision level of the LIU hardware

6000 MIB Version: revision level of the MIB files that enable Team 6000 control

6521 MIB Version:	revision level of the MIB files that enable 6521 card control
Channels 1 and 2:	Display either `Not Installed` or option type for the channel plug-in card.

Mandatory for all systems, the information in this group is read by the management station to know where elements exists in a shelf.

The following steps describe how to use the configuration application, and illustrate the functions of the 6521 Configuration window menus (See Figure 10-2).

1. Access the 6521 Configuration window, either from the submap menu bar or from the 6521 Front Panel display. The application reads the current 6521 configuration from the LIU when you open the Main window.

   You can select to base your configuration changes on either the current configuration or a stored configuration template. In either case, the LIU continues to operate using its unchanged current configuration.

   The `Refresh` selection on the Main window `File` menu causes the application to read the current configuration from the LIU. All changes to all configuration windows that have not previously been saved to the LIU or a template are lost when you select `Refresh`.

2. To edit the current configuration of the LIU, proceed directly to the `Navigate` menu as described below.

   To edit a template, select `Load Template` from the `File` menu and select a template from the resulting list.

3. Click on the `Navigate` button to display a menu of the 6521 configuration windows, and select the one in which you intend to make changes.

4. Make changes as needed in the configuration window. When you click on the input field for an option, a window opens to display all the values the field can be set to. Click the mouse on the value you select. When you change the value or setting of an option, the application displays the option name and the new value in white, rather than black, type. They remain white until you either save the changes or a template by means of the Main window `File` menu, or restore the option to its last stored value or setting.

   You can discard changes to a 6521 configuration window and return all its fields to their stored values in two ways:

   Click on the `Reset` button to discard changes while keeping the window open

   Click on the `Cancel` button to discard changes and close the window.

   You can close a 6521 configuration window without losing changes by clicking on either the `OK` button or the `pushpin icon`, which is located in the upper left corner of the window.

   You can keep multiple configuration windows open on-screen and move between them by clicking the mouse on the one in which you intend to operate. The 6521 Main Configuration window remains on-screen throughout the configuration process.

5. When you have accessed all the configuration windows that you need to and made all of your changes, click on the `File` menu button of the 6521 Main Configuration window. From that menu you can select `Save to Unit` to save the new configuration in the LIU, or select `Save to Template` to save it as a template in the workstation.

   When you select `Save to Unit`, the changed configuration becomes the current configuration for the LIU.

6. When you select `Save to Template`, a window appears containing a list of existing templates and a field for entering a new template name. You can select an existing template to be overwritten with the new configuration, or enter a name to create a new template. A stored template is available to be loaded by the application and then saved, with or without further modification, to any Team 6000 LIU.

Menu Buttons	Menu Selections	Further Selections
File		
	Refresh	
	Save to Unit	
	Load Template...	dialog window
	Save to Template...	dialog window
	Compare to Template...	dialog window
	Exit	
Navigate		
	Channels, 1 and 2	
	All Screens...	

- Frac-Data Channel Configurations

There are two types of screens: DSX-1 and Nx56/64k.

This screen changes depending on the option card installed. Figure 10-3 illustrates a typical interface type `DSX-1` configuration screen for Channel 1. Figure 10-4 illustrates another typical configuration screen for Channel 1, whose option is `E1` and interface type is `EIA-530A`. Refer to Table 10-2 and Table 10-3, which follow the screen figures below.

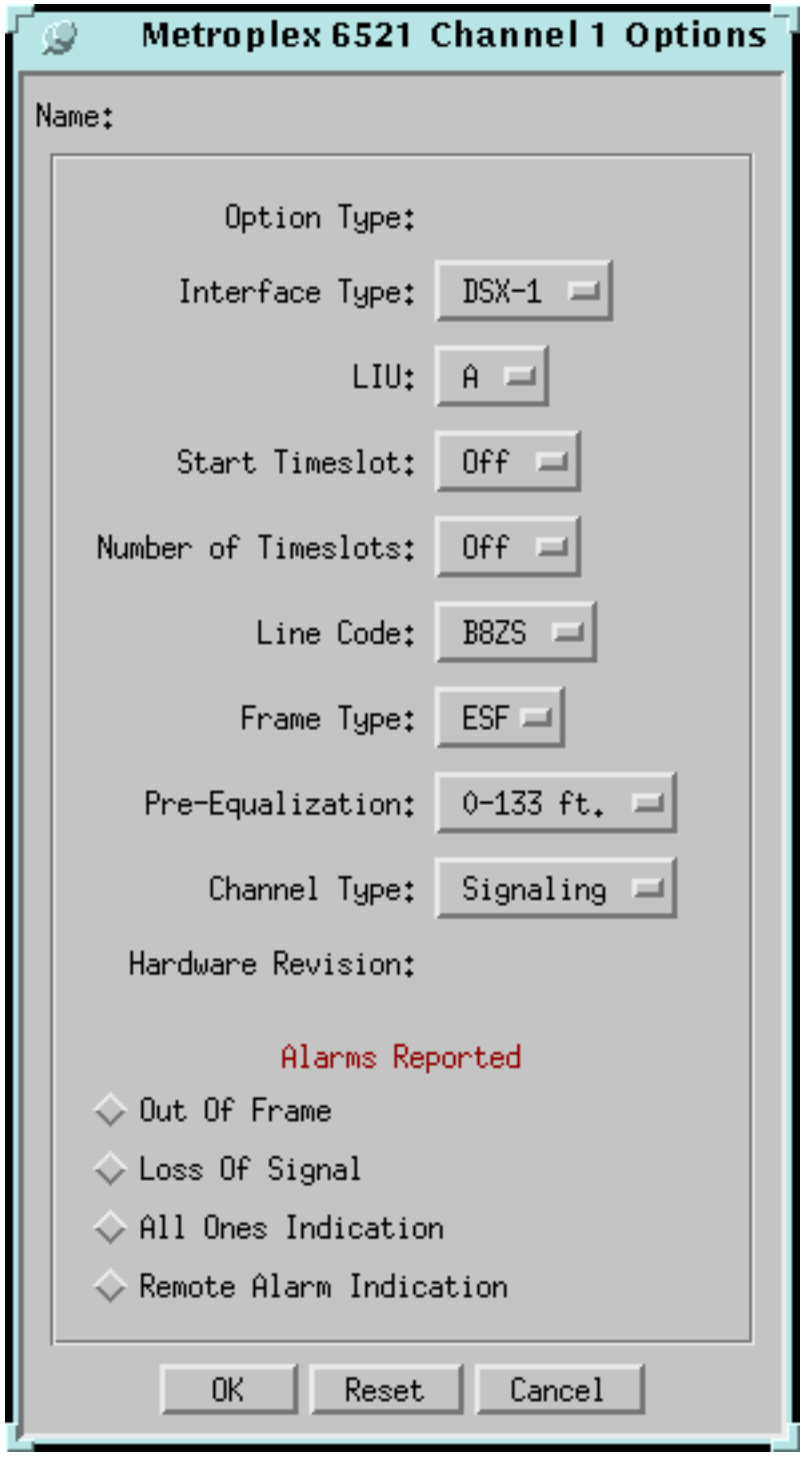


Figure 10-3 Frac-Data `Interface` Type `DSX-1` Configuration Screen (6521)

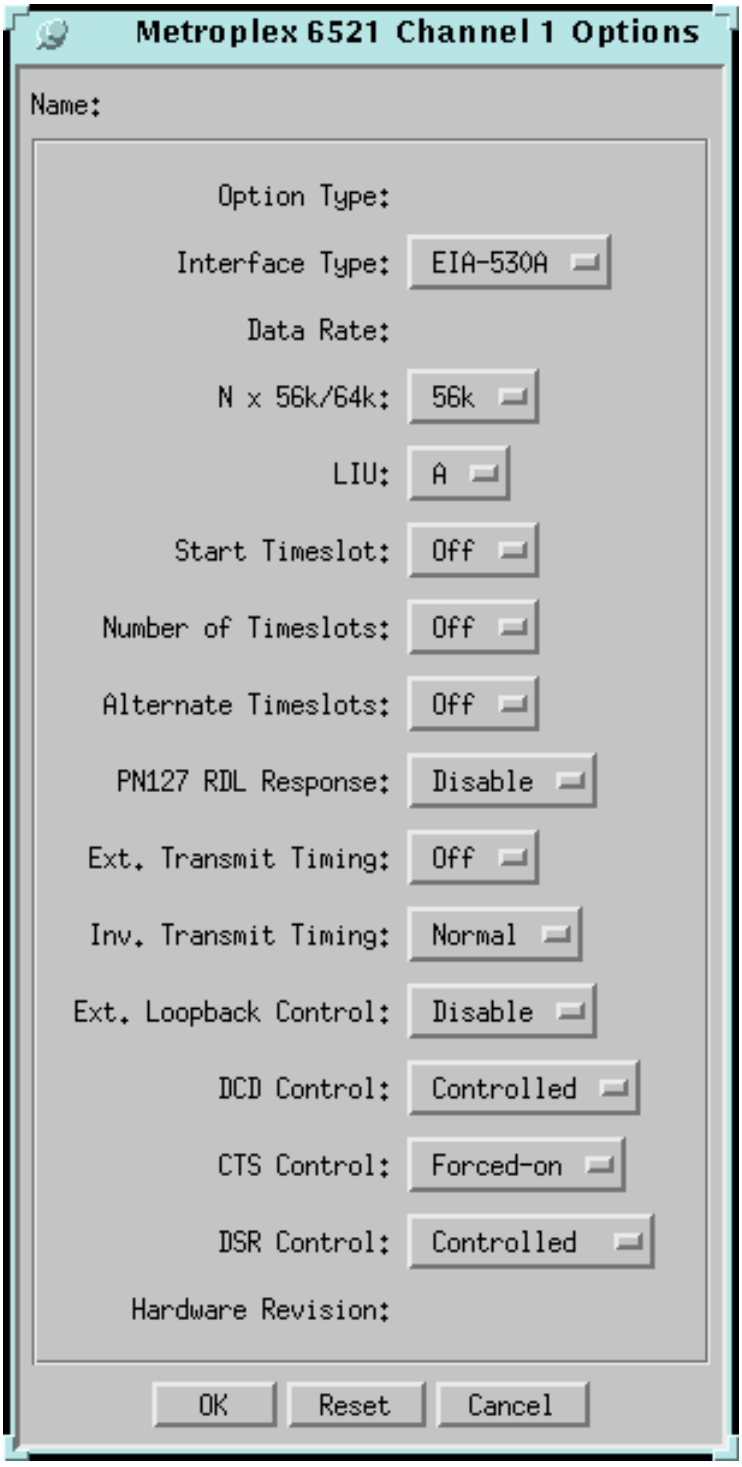


Figure 10-4 Frac-Data T1 Interface Type EIA-530A Configuration Screen (6521)

Table 10-2 Frac-Data DSX-1 Channel Selections and Messages (6521 Card)

Field	Selection	Description
Option Type (read only)	DSX-1, Unknown	Specifies Option Type read from card. Unknown indicates Platform card does not recognize Option Type. Check revision compatibility.
Interface Type	DSX-1	The interface type is DSX-1.
LIU	**A**,B	Allows you to select the LIU to which a channel is assigned. If LIU B is not present only A is available.
Start Timeslot	1-31 and **Off**	Allows you to select the start timeslot to which a channel is assigned. The timeslots are skipped if used somewhere else. `0` (zero) can be used to specify Off. The selections for this feature are grayed-out/not grayed-out based on the time slot allocation for the selection for the LIU. This feature is forced to indicate a change (displayed in white) when an LIU is modified. When this selection is off, Number Of Timeslots is disabled (grayed-out) and forced to off. Selection 16 is grayed-out if CAS is on.
Number of Timeslots	**0** and 1-31	Allows you to select the number of timeslots for the channel. Maximum number of timeslots may be less than 31 if timeslots are used somewhere else. This feature is disabled (grayed-out) when Start Timeslot is off. This feature is forced to indicate a change (displayed in white) when the LIU is modified.
Line Code	**B8ZS**, AMI	Allows you to select either B8ZS or AMI as the line code for the channel.
Frame Type	**ESF**, D4	Allows you to select either ESF or D4 as the framing format for the channel.
Pre-Equalization	0 - 133 ft 133 - 266 ft 266 - 399 ft 399 - 533 ft 533 - 655 ft	Allows you to select the pre-equalization which corresponds to the line length used.
Channel Type	**Clear,** Signaling	Select Signaling for voice channels or Switched 56 data channels which require robbed-bit signaling. Otherwise select Clear which passes all eight bits of the timeslot.
Alarms Reported		
Out Of Frame Loss Of Signal	None, OOF, LOS, N/A, - where the red LED lights up if there is an alarm condition.	OOF (Out of Frame) is detected as defined in TR 62411. LOS (Loss of Signal) is detected as defined in TR 62411.
All Ones Indication	An unframed, all ones signal Minor Alarm: on=yellow, off=dark green.	AIS (Alarm Indication Signal) is being received from the network.
Remote alarm Indication	None, LOS, LOF, N/A, - where the red LED lights up if there is an alarm condition.	RAI (Remote Alarm Indication) is being received from the network.

Table 10-2 Frac-Data DSX-1 Channel Selections and Messages (6521 Card) (Continued)

Messages	
Application Has Pending Edits (OK/ Cancel)	Displayed if you made a change on the screen, but did not select save first. If you select `OK` the screen becomes active again and you can then select the save option. If you select `Cancel`, the screen is exited and the configuration changes are lost.
Notes: 1. Dashes in the option type indicate the channel is not present. An option card may be missing. When the option type is displayed, but the selections contain dashes, the option type cannot be configured through the current screen. 2. Some configuration parameters are not changeable when an LIU is in a diagnostic test, which displays on the screen an SNMP general error 3. When Communication Error, Channel Card Not Changed appears on the screen, the Platform card had problems communicating to the specified channel card. This could be due to a missing channel card. If the channel card is not missing from the shelf, check the firmware revisions. 4. Defaults in bold.	

Table 10-3 Frac-Data EIA-530A T1 Configuration Selections (6521 Card)

Field	Selection	Description
Option Type (read only)	422/V.11, V.35, EIA232, Unknown	Specifies Option Type read from card. Unknown indicates Platform card does not recognize Option Type. Check revision compatibility.
Interface Type	X.21, **EIA530A**, V.36	The interface type (how the channel is operating) is associated with the option type. X.21, EIA530A, and V.36 (available with the 422/V.11 option card).
	V.35	V.35 is available with the V.35 card.
Data Rate	N x 56k/64k Kbps (Kilobytes per second)	These are the terminal communications parameters: data rate = 9600 bps 4character format = 1 start bit 8 data bits no parity 1 stop bit
LIU	**A**,B	Allows you to select the LIU to which a channel is assigned. If LIU B is not present, only LIU A is available.
Start Timeslot	1-31 and **Off**	Allows you to select the start timeslot to which a channel is assigned. The timeslots are skipped if used somewhere else. `0` (zero) can be used to specify `Off`. The selections for this feature are grayed-out/not grayed-out based on the time slot allocation for the selection for the LIU. This feature is forced to indicate a change (displayed in white) when an LIU is modified. When this selection is off, Number Of Timeslots is disabled (grayed-out) and forced to off. Selection 16 is grayed-out if CAS is on.
Number of Timeslots	**Off** and 1-31	Allows you to select the number of timeslots for the channel. Maximum number of timeslots may be less than 31 if timeslots are used somewhere else. This feature is disabled (grayed-out) when Start Timeslot is off. All selections that cannot provide contiguous timeslots, based on the setting of Start Timeslot, are disabled (grayed-out). However, when Timeslot 16 is used for timing (CAS is on), and therefore not available, straddling of this timeslot is permitted. This feature is forced to indicate a change (displayed in white) when the LIU is modified.

Table 10-3 Frac-Data EIA-530A T1 Configuration Selections (6521 Card) (Continued)

Alternate Timeslots	**Off**, On	Allows you to select the use of alternate timeslots. This may be required to satisfy One's Density requirement (Density requirement of Numeric `1`). Off - Only the Number of Timeslots is used. On - Two times the Number of Timeslots specified are used. The alternate timeslots are filled with the idle code to the network and do not carry customer data. If not enough timeslots are available, this option is not be available. This feature is disabled (grayed-out) when `mp6001InterfaceType` is `E1`.
PN127 RDL Response	Enable, **Disable**	Enable - Allows the channel to detect PN127 loop up codes (ANSI T1.403-1995). Disable - Data channel does not go into network loopback if the PN127 loop up code is received.
Ext. Transmit Timing	**Off**, On	Off - Data channel uses internal timing to clock in transmit data from the DTE. On - Timing provided by the DTE on the External Timing lead used to clock in transmit data. External Timing must be synchronous to the Metroplex 6000 internal timing.
Invert Transmit Timing	**Normal**, On	Normal - Leaves the transmit timing in its normal state. On - Used to invert the transmit timing from the DTE. This may be beneficial when using high data rates and long cables.
Ext. Loopback Control	Enable, **Disable**, N/A	Enable - allows the channel to use the V.54 control leads to cause a local loopback (LL) or a remote loopback (RL) Disable - Data channel does not go into a loopback with the request from the V.54 control leads. Displays N/A for Interface Type of X.21.
DCD Control	**Forced-on**, Controlled	This controls the DCD control lead to the local DTE interface. The setting depends on the equipment connected to the interface. At 64kbps, the interface is forced-on.
CTS Control	**Forced-on**, Switched, N/A	This controls the CTS control lead to the local DTE interface. The setting depends on the equipment connected to the interface. At 64kbps, the interface is forced-on. Displays N/A for Interface Type of X.21.
DSR Control	**Forced-on**, Controlled, N/A	This controls the DSR control lead to the local DTE interface. The setting depends on the equipment connected to the interface. At 64kbps, the interface is forced-on. Displays N/A for Interface Type of X.21.
Messages		
Application Has Pending Edits (OK/Cancel)		Displayed if you made a change on the screen, but did not select save first. If you select `OK` the screen becomes active again and you can then select the save option. If you select `Cancel`, the screen is exited and the configuration changes are lost.
Notes: 1. Dashes in the option type indicate the channel is not present. An option card may be missing. When the option type is displayed, but the selections contain dashes, the option type cannot be configured through the current screen. 2. Some configuration parameters are not changeable when a channel is in a diagnostic test. 3. When Communication Error, Channel Card Not Changed appears on the screen, the Platform card had problems communicating to the specified channel card. This could be due to a missing channel card. If the channel card is not missing from the shelf, check the firmware revisions. 4. Defaults in bold.		

Figure 10-5 and Table 10-4 cover the attributes of the fractional E1 channel options screen below. This screen is shown when `Navigate->Channel n Options` is selected and the `mp6520 OptionType` is `E1`. This screen allows configuration of the channel options applicable to this type of channel.

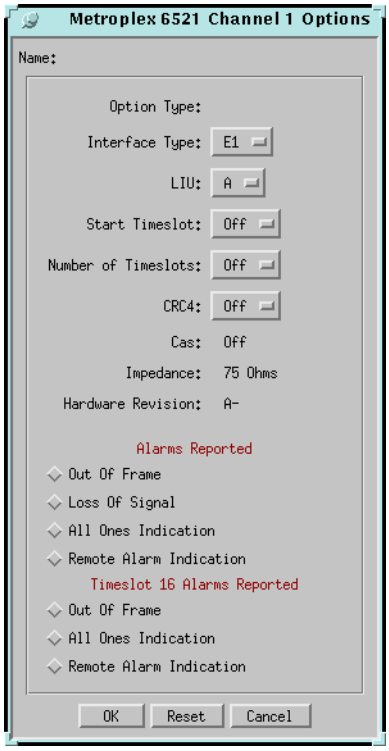


Figure 10-5 Frac-Data `E1 Interface Type` Configuration Screen (6521)

Table 10-4 Frac-Data E1 Configuration Selections and Messages (6521)

Field	Selection	Description
Name	Read-Only	This field is read-only and contains the ‘Symbol Label’ of the selected slot symbol from the shelf map.
Option Type (read-only)	E1 Card	This field is read-only and specifies the particular 6000 option installed.
Interface Type (read only)	E1	This feature is always disabled (grayed-out).
LIU	**A**,B	Allows you to select the LIU to which a channel is assigned. If LIU B is not present, only LIU A is available.
Start Timeslot	1-31 and **Off**	Allows you to select the start timeslot to which a channel is assigned. The timeslots are skipped if used somewhere else. `0` (zero) can be used to specify `Off`. The selections for this feature are grayed-out/not grayed-out based on the time slot allocation for the selection for the LIU. This feature is forced to indicate a change (displayed in white) when an LIU is modified. When this selection is off, Number Of Timeslots is disabled (grayed-out) and forced to off. Selection 16 is grayed-out if CAS is on.

Table 10-4 Frac-Data E1 Configuration Selections and Messages (6521) (Continued)

Field	Selection	Description
Number of Timeslots	**Off** and 1-31	Allows you to select the number of timeslots for the channel. Maximum number of timeslots may be less than 31 if timeslots are used somewhere else. This feature is disabled (grayed-out) when Start Timeslot is off. All selections that cannot provide contiguous timeslots, based on the setting of Start Timeslot, are disabled (grayed-out). However, when Timeslot 16 is used for timing (CAS is on), and therefore not available, straddling of this timeslot is permitted. This feature is forced to indicate a change (displayed in white) when the LIU is modified.
CRC4	**On** or Off	When Frame Type is D4, ESF Mode is disabled (grayed-out).
(CAS) Channel Associated Signal	Read-only	This turns Channel Associated Signaling on or off.
Impedance (read-only)	75 Ohms, 120 Ohms, or Jumper Error	Specifies the Line Impedance.
Hardware Rev (read-only)	--, A-,..., AA,... ZZ	Current hardware version.
Alarms Reported		
Loss Of Frame and Loss Of Signal	None, LOS, LOF, N/A, - where the red LED lights up if there is an alarm condition.	Specifies the current alarm state of the channel. LOS - Loss Of Signal detected. LOF - Loss Of Frame detected. (OCU-DP only) N/A is displayed when the channel is not configured or the following diagnostics are active on an OCU-DP channel: ToNet, OCU-LL, OCU-NLL.
All Ones Signal	An unframed, all ones signal Minor Alarm: on=yellow, off=dark green.	AIS (Alarm Indication Signal) is being received from the channel.
Remote Alarm Indication	Reception of remote alarm indication signal on the T1/E1 interface Minor Alarm: on=yellow, off=dark green.	RAI (Remote Alarm Indication) is being received from the channel.
Timeslot 16 Alarms Reported		
Out Of Frame All Ones Signal	Red LED lights up if there is an alarm condition.	Specifies the current alarm state of Timeslot 16 on the Frac E1 option type. OOF (Out Of Frame) is detected. AIS (Alarm Indication Signal) is being received from the channel. The alarm condition results when there is no T1 signal.

Table 10-4 Frac-Data E1 Configuration Selections and Messages (6521) (Continued)

Field	Selection	Description
Remote Alarm Indication	Reception of remote alarm indication signal on the T1/E1 interface Minor Alarm: on=yellow, off=dark green.	RAI (Remote Alarm Indication) is being received from the channel.
Messages		
Application Has Pending Edits (OK/Cancel)		Displayed if you made a change on the screen but did not select save first. If you select `Cancel`, the screen becomes active and you can then select the save option. If you select `OK`, the screen is exited and the configuration changes are lost.
Notes: 1. Some configuration parameters are not changeable when an LIU is in a diagnostic test, which displays on the screen an SNMP general error. 2. Defaults in bold.		

Reset/Restore

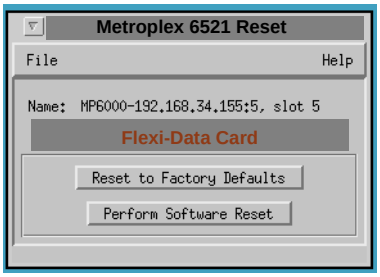


Figure 10-6 Reset/Restore Screen (6521 Card)

The Metroplex 6521 Reset menu has two options: `Reset to Factor Defaults`, which lets you restore the user configuration to the original set-up configured by the manufacturer (factory defaults), and `Perform Software Reset`, which is the power-up sequence. See Figure 10-6.

Messages are listed in Table 10-5.

Table 10-5 Frac-Data Card Configuration Messages (6521)

Messages	
Do You Want to Continue? (OK/Cancel)	Displayed if you selected Default Configuration. If you press `Y` the card is removed or set to default. If you press `N` you return to the screen.

Fault

Frac-Data Card Diagnostics Menu

The Frac-Data Diagnostic menu is used to access the diagnostics for the N x 56/64k channels, DSX-1 channels and the card selftest for the card. Figure 10-7 illustrates a typical screen. Table 10-6 and present selections and messages for N x 56/64k channels.

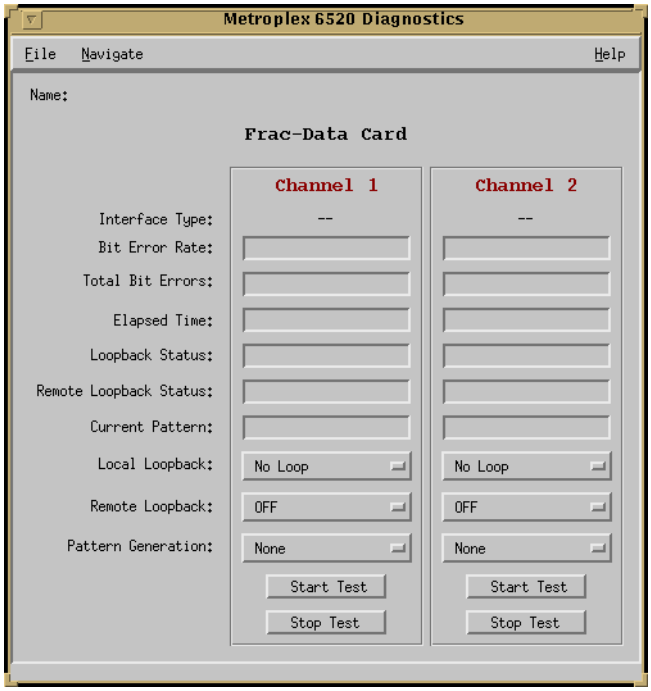


Figure 10-7 Frac-Data Diagnostics Menu Screen (6521)

N x 56/64K Channel diagnostics (6521 Frac-Data Card)

Table 10-6 Frac-Data N x 56/64k Channel Diagnostic Selections and Messages (6521)

Field	Selection	Description
Bit Error Rate	These values are not selectable by the user.	This read-only field is used to indicate the bit error rate when Pattern Generation is started.
Total Bit Errors	These values are not selectable by the user.	This read-only field is used to indicate the total number of errors for the elapsed time.
Elapsed Time	These values are not selectable by the user.	This read-only field specifies the elapsed time since the Pattern Generation was started and the pattern has been synchronized. Off - when Pattern Generation is set to None. NoSync - when Pattern Generation is set to 511 or 2047, but the pattern is not currently being detected. Elapsed Time - is displayed in italics since the actual value indicates days, hours, minutes and seconds.
Loopback Status	Read-Only	Shows any currently active loops on the channel. No TimeSlot indicates timeslot is not assigned to channel and therefore the loop-back cannot be started. [Comm Error], [Comm Timeout] indicates communications problems with the platform card.
Remote Loop-back Status	Read-Only	Shows current remote loopback status for the channel.

Table 10-6 Frac-Data N x 56/64k Channel Diagnostic Selections and Messages (6521)

Current Pattern	Read-Only	Shows current remote loopback status for the channel.
Local Loopback	ToChan, ToNet, None, DTE-LL, DTE-RL, PN127Loop	Specifies the available local loopbacks. ToChan loops the data back to the channel interface. ToNet loops the data back towards the network. DTE-LL, DTE-RL and PN127Loop are read-only and indicate the presence of a network-initiated or DTE-initiated loopback. If any of these are in effect, a manager-initiated loopback cannot be started on that channel.
Remote Loopback	Off, On	Allows you to send a PN127 Loop-up pattern into the network. If a Local Loopback is active, a Remote Loopback cannot be performed
Pattern Generation	None, 511, 2047	Allows a test pattern to be sent to the network. If both the Remote Loopback and Pattern Generation are started at the same time. the Remote Loopback is sent first and then the Pattern is sent. If a Local Loopback is active, Pattern Generation cannot be started.
Notes: 1. Dashes in the interface type indicate the channel is not present. An option card may be missing. When the interface type is displayed, but the selections contain dashes, the option type cannot be tested through the current screen. 2. Local Loopback, Remote Loopback and Pattern Generation are not available on unconfigured channels. 3. If a network loopback is started on a channel while in the diagnostics screen, the user must try to select a Local Loopback to see the loopback. Remote Loopback and Pattern Generation indicates that the network loopback is active but does not update the Local Loopback selection.		

DSX-1 Channel Diagnostics (6521 Frac-Data Card)

The DSX-1 Channel Diagnostic selections are shown in Table 10-7, which presents diagnostic selections.

Table 10-7 Frac-Data DSX-1 Channel Diagnostic Selections and Messages (6521)

Field	Selection	Description
Local Loopback	ToChan, ToNet, None	Specifies the available loopbacks. ToChan loops the data back to the channel interface. ToNet loops the data back towards the network.

Misc

Frac-Data Card Monitor Menu

The Frac-Data Monitor menu is used to access the monitor screen for the DSX-1 and Nx56/64k channels. Figure 10-8 illustrates a typical screen.

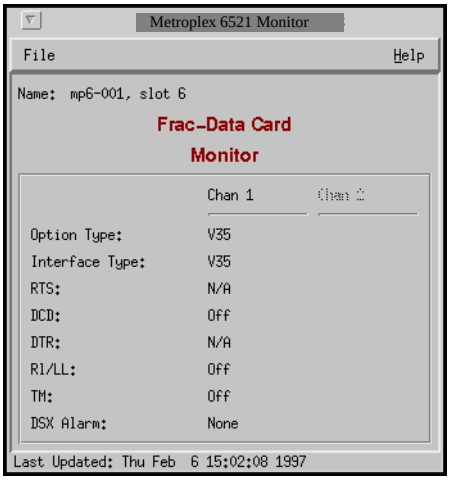


Figure 10-8 Frac-Data Card Monitor Menu Screen (6521)

- DSX-1 Channel Monitor

DSX-1 Channel monitor screen shows configuration, diagnostics, and alarm information for the DSX-1 channels on the Frac-Data card. Refer to Table 10-8 for the monitored selections.

Table 10-8 DSX-1 Channel Alarm Values (6521)

Field	Values	Description
Alarms	LOS	Red alarm, Loss of Signal Detected
	OOF	Red alarm detected
	Yellow	Yellow alarm detected
	None	No alarms

- N x 56/64k Channel Monitor

N x 56/64k Channel monitor screen shows the configuration, diagnostics, alarm and status information for the N x 56/64k channels on the Frac-Data card. Table 10-9 describes additional status values.

Table 10-9 N x 56/64k Channel Status Values (6521)

Field	Values	Description
TX(RTS)	Off, On	Displays the current status of the local DTE interface RTS lead.
RX(DCD)	Off, On	Displays the current status of the local DCD lead.
DTR	Off, On	Displays the current status of the local DTE interface DTR lead.
RL/LL	Off, RL, LL	Displays the current status of the local RL and LL leads.
TM	Off, TM	Displays the current status of the TM lead.

Index

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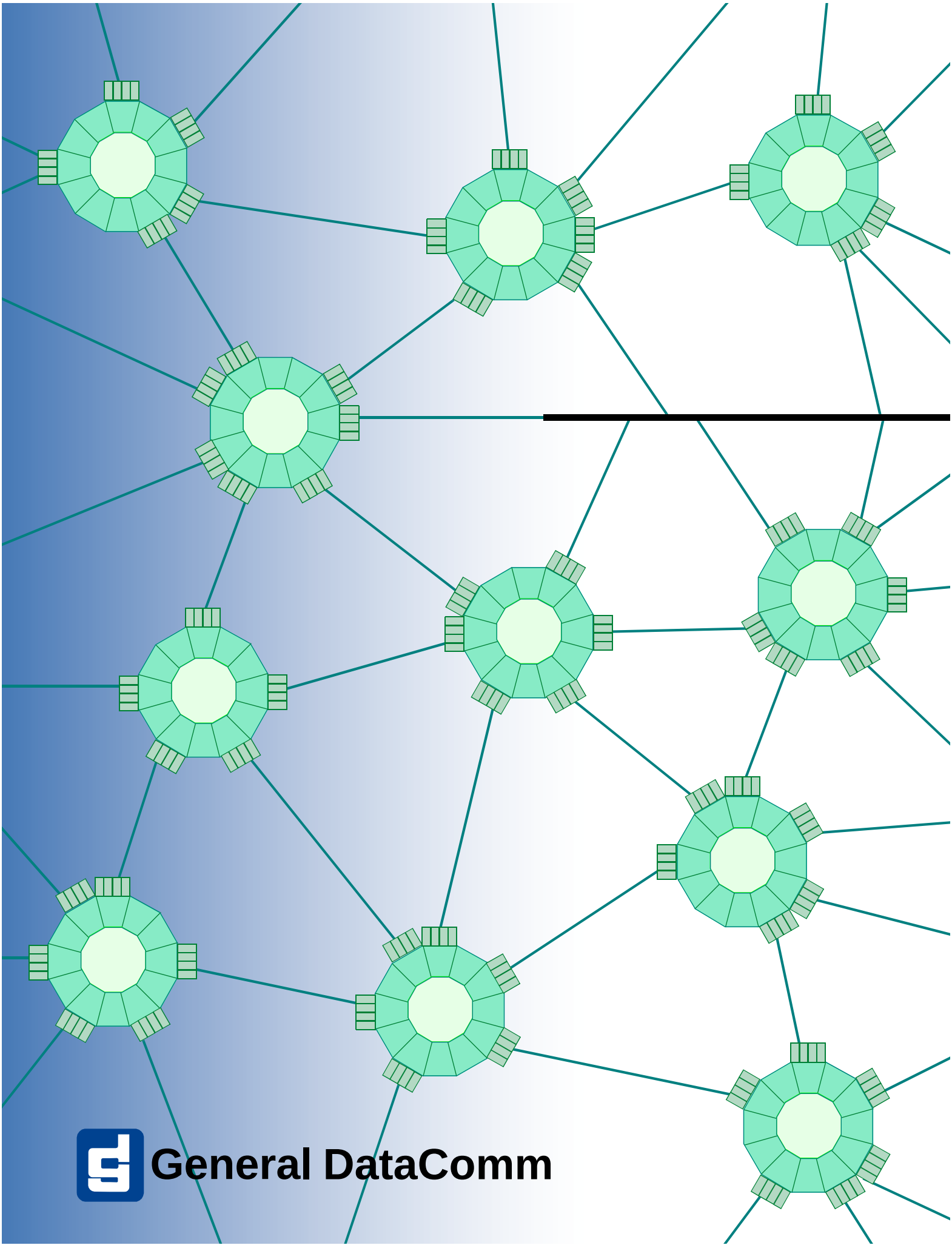
General DataComm