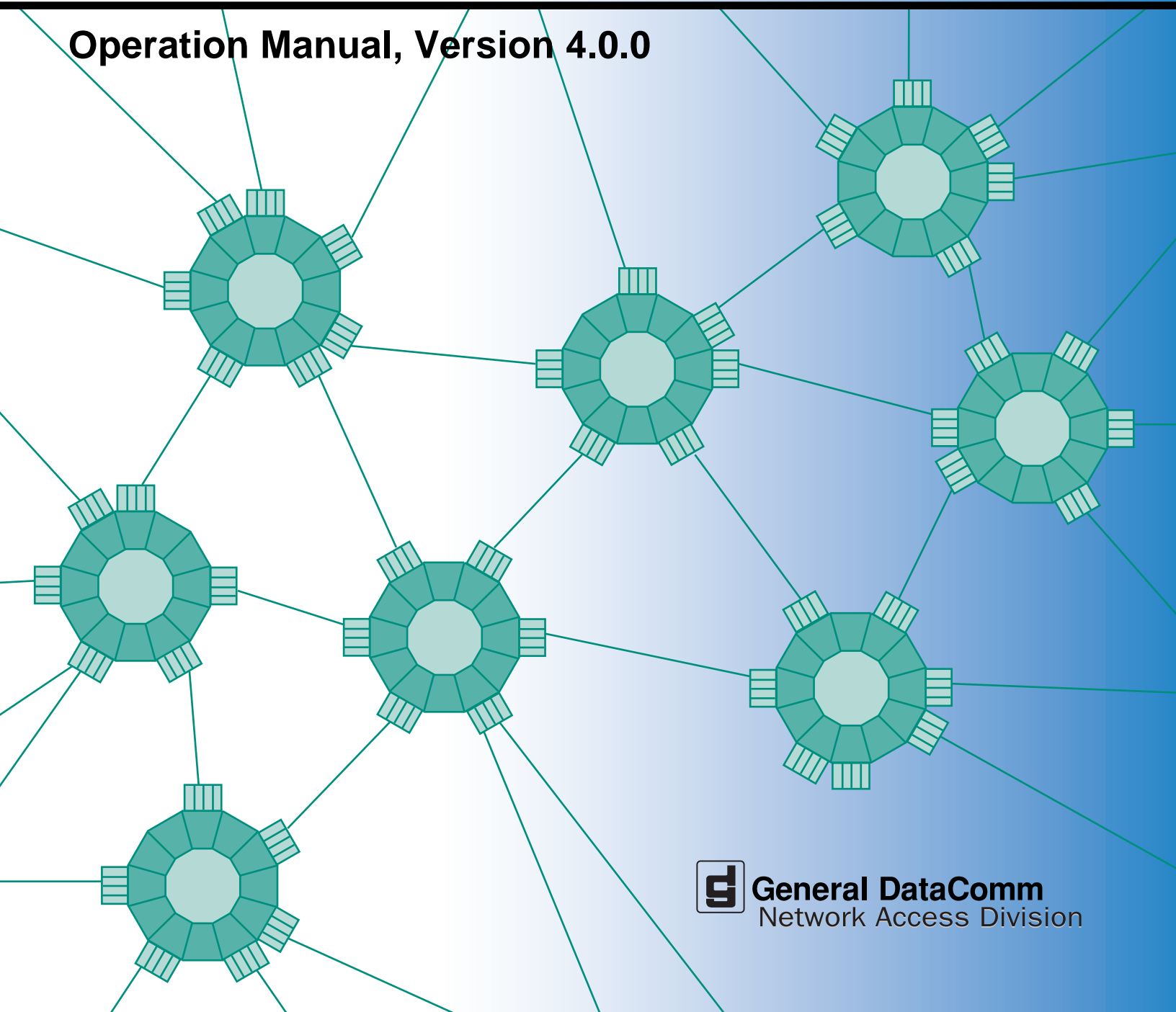


TEAM 7700 for Unix[®]

Operation Manual, Version 4.0.0



087R709-V400
Issue 1
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TEAM 7700 for Unix[®]

Operation Manual, Version 4.0.0

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Documentation

Revision History

Issue Number	Date	Description of Change
01	December 2000	Added UAS 7723-MR unit to TEAM 7700 management

Related Publications

A listing of related user manuals is provided below. In addition to the hardware and software manuals, always read the software System Release Notes supplied with your product.

Publication Name	Publication Number*
SpectraComm Manager Card Installation & Operation Manual	048R303-REV
TEAM 7000 for UNIX Operation Manual	087R705-VREF
TEAM 7000 Release Notes	087R904-VREF
TEAM Core Operation Manual	058R720-VREF
TEAM Core RElease Notes	058R957-VREF

* For publications numbers, **REV** is the hardware manual revision (for example, -000, -001, etc.) **VREF** (if listed) is the software revision (for example, -V120 would read, Version 1.2) and corresponds to the most current revision.

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Preface

Scope

This manual describes the operation of the Team 7700 Unix application for the Solaris/HPOV SNMP (Simple Network Management Protocol). You should be familiar with HP Open View in order to use this manual effectively. 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, it is possible that information may not be current. Contact General DataComm for updated information on this or other General DataComm products.

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About This Manual

This manual should be read in its entirety and all procedures completely understood before installing or operating the unit. The notes that appear throughout this manual must be read prior to any installation or operating procedure. Examples of notes used in this manual are shown below.

Chapter 1 provides an overview to TEAM 7700 management, the user interfaces, and an introduction to common application components.

Chapter 2 describes in detail the following TEAM 7700 applications:

- Front Panel Application
- Status Application
- Information Application

The more extensive applications are described in subsequent chapters:

- Chapter 2: Configuration and Alarms Applications
- Chapter 3: Reports Application
- Chapter 4: Diagnostics and Maintenance Applications

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.*

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Chapter 1: Introduction to TEAM 7700

Introduction to the TEAM 7700

TEAM 7700 software consists of integrated applications on the HP OpenView Network Management platform. The applications use Simple Network Management Protocol (SNMP) to configure and control the operation of Universal Access System units (UAS). The content of this manual is presented with the assumption that the user is familiar with these systems and units.

Theory of Operation

The TEAM 7700 application communicates with the UAS 7722 and UAS 7723 MR cards through a SpectraComm Manager (SCM) card that shares the same shelf. The TEAM 7700 software also controls remote units connected to the DIUs under local control. The workstation that runs the TEAM 7700 application must also be running the TEAM CORE application for managing the SCM. The TEAM 7700 applications use SNMP to perform the following management functions:

- Configure UAS 7722 and 7723 MR DIU cards in the system.
- Monitor DIU operation by means of an Alarm Detail and a DTE Interface Status display.
- Represent the front panel LED indicators on the physical unit via the Front Panel display.
- Diagnose suspected problems using local tests, remote loopbacks and internally generated test patterns.

All of the TEAM Controller application interfaces use the HP OpenView Application Programmer Interfaces to integrate with HP OpenView Windows and other network management applications. Menu items are accessed via pulldown menus from the appropriate HP OpenView submap or from the Front Panel toolbar. The TEAM Controller GUI screens meet HP OpenView premier partner requirements.

SpectraComm Manager Card

TEAM 7700 applications operate in conjunction with a SpectraComm Manager (SCM) card to provide comprehensive network management capabilities using the Simple Network Management Protocol (SNMP). The SCM acts as the SNMP agent through which TEAM management applications communicate with the 7722, the 7723 MR and other compatible equipment.

All management communications are directed to the SCM card Internet Protocol (IP) address. The SCM card relays commands and responses between management applications and hardware components, using a slot addressing scheme to communicate over the SpectraComm shelf backplane with the other components. The SCM is transparent to the applications, which operate as though they were communicating directly with the hardware units. The SCM card is managed by the TEAM Core application, which is also responsible for the Discovery and Mapping functions of TEAM Applications within the HP OpenView framework.

TEAM 7700 Management

The following UAS cards are managed by TEAM 7700 software:

- The UAS 7722 card is the drop-side interface unit (DIU) for the UAS 7002 or 7022 network interface units (NIUs) and is the interface between the HDSL (two copper loops) and the Mini Star backplane.
- The UAS 7723 MR is the drop-side multi-rate interface unit (DIU) for the UAS 7001, 7002 or 7022 network interface units (NIUs) and is the interface between the SDSL (two copper loops) and the SpectraComm/UAS shelf backplane. With this product you may use selected bit rates to provide extended range.

Unit Type	Description
Master Units	Universal Access System units installed in a SpectraComm shelf and accommodating up to two remote units (DIUs)
Master Units w/Loops	Universal Access System units installed in the SpectraComm shelf operational with one or both loops enabled.
Remote Units	Universal Access System units used in multi-point configurations.

TEAM 7000 Shelf Configuration

By means of the TEAM 7000 management, the SCM card relays commands and responses between TEAM applications and hardware components, using a slot addressing scheme to communicate with other UAS 7700 components over the SpectraComm/UAS shelf backplane. Specifically, the TEAM 7000 E1 Shelf Configuration and the TEAM 7000 T1 Shelf Configuration applications select time slot allocation, set service states and define circuit names.

- The E1 Shelf Configuration application applies to both the 7722 and the 7723 MR.
- The T1 Shelf Configuration application applies to the 7723 MR only.

Note Refer to the *TEAM 7000 Operation Manual* for specific procedures on E1 Shelf Configuration and T1 Shelf Configuration for the aforementioned 7000 series units.

The TEAM 7700 Applications

TEAM 7700 management includes the following applications: Front Panel Display, Status, Poll Rate, Information, Configuration, Reports, Diagnostics, Maintenance applications and Note Pad. Applications can be accessed from either the HPOV menu bar or from each managed unit's Front Panel display. The following paragraphs describe these interface methods and illustrate the typical selection elements and content found in application windows.

The HPOV Menu Bar Interface

All TEAM 7700 applications appear on the HPOV menu bar interface, as depicted in the table below. Note that the HPOV menu bar may include additional selections besides TEAM 7700 applications. Select the TEAM 7700-managed unit you intend to work with by clicking once on its icon in the shelf slot. Then make the desired menu and TEAM application selections.

Menu Selection	TEAM 7700 Applications	Description
Performance	Front Panel...	Displays front panel LEDs of a DIU.
	Alarms...	Provides information about specific alarm states.
	Status...	Provides status information on signals at Loop 1 and Loop 2.
	Reports...	Displays statistical reports on errors occurring at the at the loops.
Configuration	Configure...	Allows the user to configure a selected DIU.
	Circuit Configuration...	Allows the user to configure DS0s (time slots) on the selected DIU and its remotes.
	Maintenance...	Allows the user to reset specific unit attributes.
Fault	Diagnose...	Allows the user to run diagnostic tests on a selected DIU.
Misc	Information	Displays revision level information on the TEAM 7700 software.

Note *The Note Pad and the Front Panel Poll Rate applications in the Misc menu are not available via the Front Panel Select button menu.*

The Front Panel Application/Interface

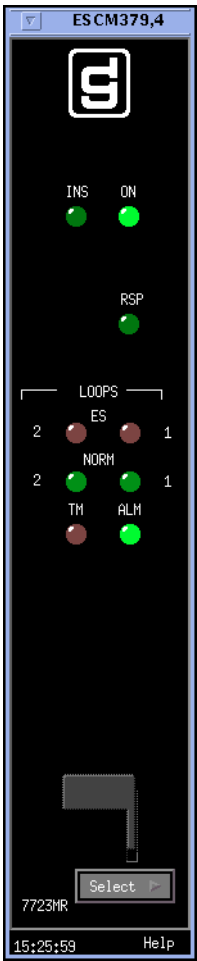
The Front Panel application monitors conditions at the selected DIU by means of colored LED status indicators. The Front Panel is also an additional interface for accessing most of the other TEAM 7700 applications via a Select button menu. [Table 1-1](#) describes the LEDs and icons on a typical UAS 7722 or UAS 7723 MR display. To access TEAM applications via the Front Panel display, use one of the following methods:

- Select any 7700-managed shelf icon, then select **Front Panel** on the Performance menu of the HPOV menu bar.
- Double-click on a boxed shelf icon at the bottom of a shelf slot to access the Front Panel of an unlinked unit (without a remote).
- Double-click on an unboxed icon at the bottom of a shelf slot to access the shelf map, then double-click on the desired linked master.

Note A boxed slot icon indicates no associated remotes. An unboxed icon indicates an associated remote.

Note Double-clicking on a slot icon with a remote opens another submap with icons of the unit connected to its remote, indicating a link. Double-click on the icon in this link submap to access the Front Panel display.

Table 1-1 7723 MR Front Panel Selections and Indicators

Front Panel Display	LEDs / Icons	Description	Details
	GDC logo	Displays revision level information on the TEAM software by accessing the Information Application.	
	INS LED	In Service indicator	Green - On when the card is transmitting and receiving data.
	ON LED	Power On/Off	Green - On when you apply power
	RSP LED	Management Response	Green - Flashes when the card is responding to a management request
	ES	Errored seconds on the loop.	ES Off and NORM On indicates Normal operation.
	NORM	Normal operation on any given loop or E1/T1 lines.	ES On and NORM On indicates errored seconds on the loop. ES On and NORM Off indicates a LOS (Loss of Signal) condition is detected on the loop.
	TM LED	Test Mode	RED - Test Mode indicates the unit is performing a diagnostic test. During a test, a double-headed arrow indicates errors detected.
	ALM LED	Indicates a major alarm condition.	RED - On indicates a self-test failure. RED - Blinks with LOS, LOSW (Loss of Sync Word) or UAS (unavailable second) detected on either loops.
	Select Button application menu.	Performance...	Accesses the Alarm, Status, and Reports applications.
		Configuration...	Accesses the Configure, Circuit Configuration and Maintenance applications.
Fault...		Accesses the main Diagnostics window.	
Demand Poll		Polls the unit on demand, updating the LED states. At the bottom of the display, the time of the last Autopoll is displayed in white. A yellow display indicates auto polling is disabled.	
Auto Poll		Sets the polling interval: 15, 30, 60 seconds or Disable	
Exit		Dismisses the Front Panel display.	
Message Area	Displays messages describing application activity and unit interactions.		

Common TEAM Application Window Features

The example screens below describe the window features that are common to all TEAM 7700 application windows and their subordinate windows. More information on a specific application or for a specific UAS product card is provided later in this and subsequent chapters.

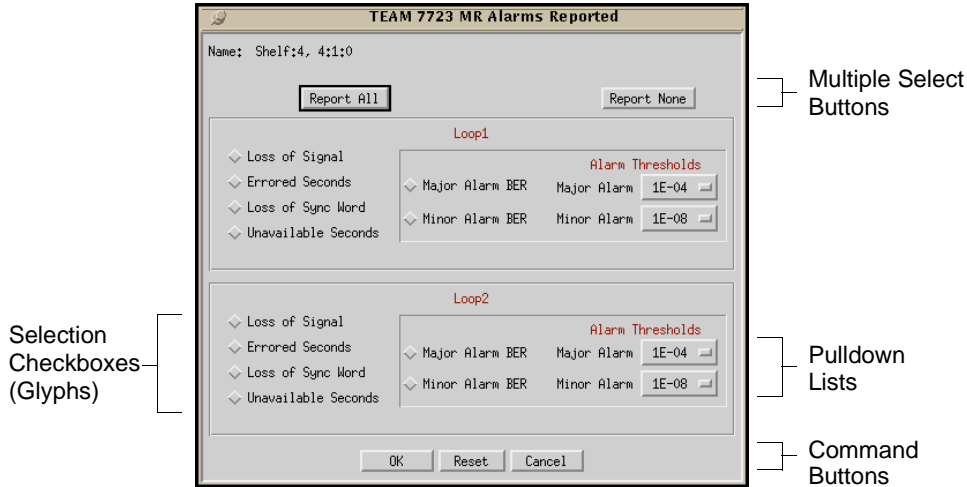


Table 1-2 Typical Application Window Features (Shown: UAS 7723 MR)

Window Feature	Description
Title bar	Identifies the specific TEAM application running in the window, i.e., Circuit Configuration, Diagnostics, etc.
Menu bar	Provides menus for application-specific utilities along with common utilities, such as File->Exit and Help. Located under the Title Bar.
Name field	Identifies the SCM currently communicating with TEAM 7700 by displaying the shelf name, and SCM card slot number. Located below the menu bar.
Multiple Select buttons	Click to globally select and deselect frequently grouped options.
Pull-down lists	Pull down and click to select options for equipment types, function parameters or operation controls for the application.
Command buttons	Click command buttons to execute a command instantly, such as Reset, Cancel or OK.
Glyphs (checkboxes)	Click empty diamond glyphs to select options, click again to deselect.
Entry Fields	Click to activate entry field for user-defined data, such as IP addresses, shelf names, system information.

Note *Grayed-out buttons, fields, or lists represent options that are disabled or not available with the current configuration. Refer to Chapter 3 for procedures on setting configuration parameters.*

Alarm Detail Application

The Alarm Detail application is accessed from the HPOV menu bar Performance menu or from the Front Panel toolbar. This application retrieves and displays the most current Unit and Loop alarms occurring at a selected unit which meet the reporting criteria determined by you at the Alarms Reported screen. (Refer to *Alarms Reported* in Chapter 2). The Alarm Detail LEDs are continually updated as new alarms are received from the unit. [Table 1-3](#) describes the Alarm Detail window selections. Menu selections follow the table.

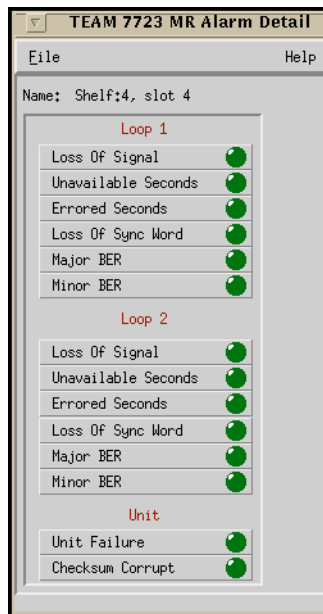


Table 1-3 Typical Alarm Detail Window (Shown: UAS 7723 MR)

Alarm	Type	Alarms Reported
Loss of Signal	Loop 1 and 2 Alarms	An LOS failure is declared when the LOS defect persists for 2.5 ± 0.5 seconds.
Unavailable Seconds	Loop 1 and 2 Alarms	Occurs when service is not available for ten or more consecutive SES events. The error is cleared after a 10-second interval with no SES (Severely Errored Seconds).
Errored Seconds	Loop 1 and 2 Alarms	Occurs when one second has at least one CRC error event.
Loss of Sync Word	Loop 1 and 2 Alarms	Occurs when there is a loss of the synchronization word on the corresponding loop.
Major BER	Loop 1 and 2 Alarms	A bit error rate (BER) event exceeds the established Major or Minor threshold (10E-04, 10E-05, 10E-06, 10E-07 or 10E-08).
Minor BER	Loop 1 and 2 Alarms	
Unit Failure	Unit Alarms	Unit has failed its power on self-test.
Checksum Corrupt	Unit Alarms	Indicates that the non-volatile memory, which stores the configuration of the unit, has become corrupted.

Alarm Detail Menus and Read-only Fields

The menu bar provides exiting via the file menu and this manual via **Help**.

The read-only **Name** field displays the selection name of the shelf containing the unit, the slot number and symbol label of the selected unit.

Alarm LED Color Definitions

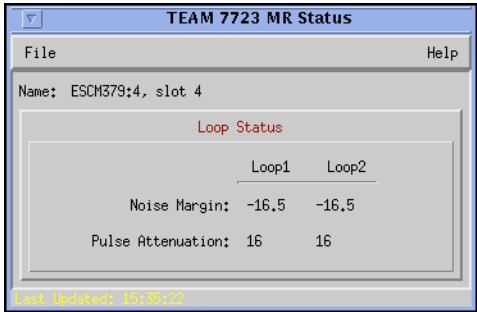
- Dark green - no alarms reported
- Yellow - Minor alarm ON
- Orange - Major alarm ON
- Blue - Warning alarm ON

Note *Refer to the TEAM CORE manual for alarm severity applications.*

Status Application

The Status application is accessed from the HPOV menu bar Performance menu or from the Front Panel Select menu of a TEAM 7700-managed DIU. [Table 1-4](#) describes the Status window of a typical unit. The Status application receives status on conditions at the Loops by polling the selected unit on demand or at user-set auto-polling intervals. The read-only status information is continually updated as polls are received. Menu selections follow the table.

Table 1-4 Typical Status Window (Shown: UAS 7723 MR)

Typical Status Windows	Loop Status	Description
	Noise Margin (Loops 1 and 2)	Displays the noise margin, in dB, measured by the signal processing circuits of the 7722 and 7723 MR. Separate values are provided for each 7722 and 7723 MR loop.
	Pulse Attenuation (Loops 1 and 2)	Displays the pulse attenuation, in dB, measured by the signal processing circuits of the 7722 and 7723 MR. Separate values are provided for each 7722 and 7723 MR loop.

Status Menus

The File menu provides an **Auto Poll** option for temporarily disabling or selecting the automatic poll rate interval (15, 30, or 60 seconds), a **Demand Poll** option for instantaneous update of the Status window, and an **Exit** command which dismisses the Status application window.

Note The Auto Poll settings are only active for the selected unit during a session and are not retained when its Front Panel display is closed.

Note When Auto Poll is set to Disable, the Status window displays a static snapshot of the status information as collected at the last poll. The time of the last poll will display in yellow text in the Last Update message area.

Chapter 2: TEAM 7700 Configuration

Configuration Applications Overview

This chapter describes two TEAM 7700 applications: Configuration and Circuit Configuration. The Configuration application allows you to configure a selected UAS 7723 MR or UAS 7722 by means of a series of option windows: Configuration Information, Alarms Reported and Add/Delete Remote Options. Configuration application also permits copying configurations to other units by making changes to a stored configuration template, or by saving a template based on the current configuration of the selected unit. With either method, the unit continues to operate using its unchanged current configuration until changes are saved to the unit.

Note *The Circuit Configuration application, which allows you to set data rates, is explained in detail later in this chapter,*

Using Configuration Templates

Configuration procedures are described below. Throughout the text descriptions in this chapter, default values will be shown in **Bold**. Accompanying screens are representative and may appear differently on your system. Once a configuration has been defined for a desired functionality, it can be stored as a template on the workstation that runs the TEAM 7700 application. Any number of such templates can be stored for retrieval when particular configuration settings are needed.

The three template functions (Save, Load and Compare) are accessed via the main Configuration window File menu. After a template function is selected, a dialog window appears for specifying the template file name. To save configuration templates refer to the basic configuration steps below.

To load configuration settings from an existing template into a unit, perform the following steps:

1. Select **Load Template** from the File menu and select the template from the resulting dialog window. The application retrieves the configuration settings of the selected template.
2. Select **Save to Unit** from the File menu. The application makes the template configuration settings the current operating configuration for the unit.
3. If desired, select **Compare** from the File menu to compare the screen's configuration data to a specific template.

Configuration Basics

1. Access the main Configuration window by selecting a TEAM 7700-managed DIU on the shelf submap or from the Front Panel Select menu. When the main Configuration window opens, the application reads the current main configuration from the unit.

Note *The File menu Refresh selection also reads the current configuration from the unit. Selecting **Refresh** during the configuration process, any configuration changes made in any configuration window will be lost unless they have been saved to a template or to the unit.*

2. To make changes to the configuration based on a template, select **Load Template** from the File menu and then select a template from the resulting list before proceeding.
3. Click on the **Navigate** button to access a list of the configuration sub-windows. Select the Alarms Reported or Add/Delete Remotes sub-window to make changes.
4. Click on a menu button to open a list of available values for a particular option. Hold down the mouse button and drag to highlight the desired value, then release the mouse button.
5. Close a configuration window without losing changes by clicking the **OK** button.
6. To discard changes made in a 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.
7. Continue to select other configuration windows to make additional changes. Refer to the following sections of this chapter for descriptions of each Configuration Option window menu and its selectable parameters.
8. After accessing all the configuration windows for changes, use the main configuration window File menu to save all changes in either of the following ways:
 - Select **Save to Unit** to send the changes to the unit as the new current configuration. This activates the changes instantly in the unit.
 - Select **Save to Template** to save the changes to a template on the workstation. This allows the unit to continue operation without changing any of its configuration settings.

A list of existing templates appears with a field for entering a new template name. Select an existing template to overwrite it with the new configuration, or enter a new name to create a new template. The stored template can now be loaded to a unit or retrieved for modification

Note *Multiple configuration windows can be left open on-screen and you can move between them by clicking the mouse on the one in which you intend to operate. The main configuration window remains on-screen throughout the configuration process.*

Note *Changing a value or setting, displays the option name and the new value in white text, rather than black. The option will remain white until the changes are stored to the unit or a template or discarded.*

Note *Exiting the Configuration application before saving edits made in any of the sub-windows the following prompt appears: **Pending edits exist; do you want to save or exit without saving the changes?***

Configuration Windows

The TEAM 7700 main Configuration window may be opened from the HPOV Configuration menu or from the Front Panel Select menu. The following figures and tables describe the main Configuration window and all associated windows, using examples from typical UAS 7722 DIUs. Where the 7722 and 7723 MR differ in their configurable functions and options, brief notes are provided throughout this section. For details, refer to the documentation provided with the unit.

The Main Configuration Window

The main Configuration window displays read-only information on the selected unit and provides access to associated windows by means of its Navigate menu. The table and windows below describe the typical read-only information from the UAS 7723 MR. Menu selections follow the table.

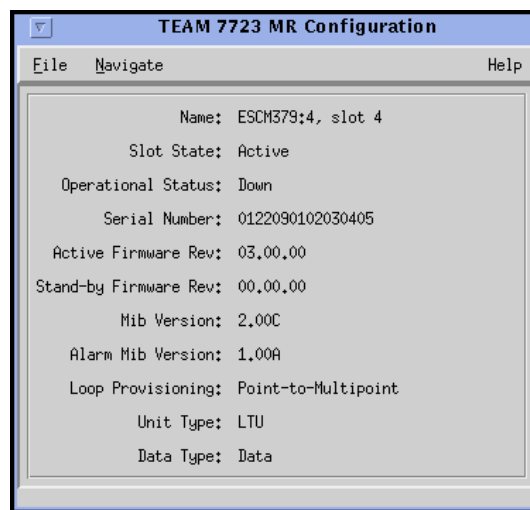


Table 2-1 Typical Main Configuration Windows

Field	Description
Name	Displays the shelf's OpenView selection name and the slot number of the selected unit
Slot State	Identifies the state of the shelf slot: Active or Inactive
Operational Status	Identifies the state of the current unit: Up or Down
Serial Number	Displays the serial number of the current unit
Active Firmware Rev.	Displays the firmware revision currently running on the unit
Standby Version Rev.	Displays the standby firmware revision stored on the unit and not currently running
MIB Version	Displays the MIB (Management information Base) version of the current unit
Alarm MIB Version	Displays the Alarm MIB version of the current unit
Loop Provisioning	Point-to Multi-Point
Unit Type	LTU (Line terminating Unit)
Data type	Data Only
Messages	Displays application activity and unit interaction in the lower left corner of the window
Note: The read-only Name field appears with the same designation for all Configuration screens associated with the selected unit.	

Main Configuration Window Menu

The main Configuration menus include a File menu for storage and retrieval of previously stored configuration templates. The Navigate menu is used for accessing all of the associated Configuration windows. [Table 2-2](#) describes the selections in both menus. Detailed information for all associated Configuration windows follow the table.

Table 2-2 Configuration Menu Selections

Menu Buttons	Selections	Description
File	Refresh	All options are read from the unit and any unsaved, pending edits are lost.
	Save to Unit	All pending edits are sent to the unit.
	Load Template	Selects an existing TEAM 7700 configuration in which information is applied as pending edits in the current application. The template settings are implemented the next time the File-->Save to Unit command is executed.
	Save to Template	Configuration data is saved as the specific template.
	Compare Template	An existing TEAM 7700 template is selected and compared with the current application.
	Exit	Terminates the Configuration application and discards unsaved, pending edits.
Navigate	Alarms Reported...	Opens the Alarms Reported window.
	Add Remote...	Opens the Add/Delete Remote window.
	All Screens...	Opens the Alarms Reported and the Add/Delete Remote windows.

Note *If the Configuration application is exited while pending (unsaved) edits exist on any of the configuration screens, the following prompt will appear: **Pending edits exist, do you want to save or exit without saving the changes?***

Alarms Reported Window

The Alarms Reported window appears when you select **Navigate --> Alarms Reported** from the main Configuration window. The default setting for all Loop 1 and Loop 2 alarms is masked (unreported). For the unit to report occurrences of an alarm, it must be unmasked and this SCM must be configured to send SNMP traps to your workstation). Click the **Report All** global button to unmask all alarms for reporting; click the **Report None** button to mask all alarms so that no alarms will be reported; or select/deselect individual alarm diamonds, as desired. A typical Alarms Reported window is shown in [Figure 2-1](#). [Table 2-3](#) describes each alarm reporting field for the UAS 7723 MR. The UAS 7722 is the same.

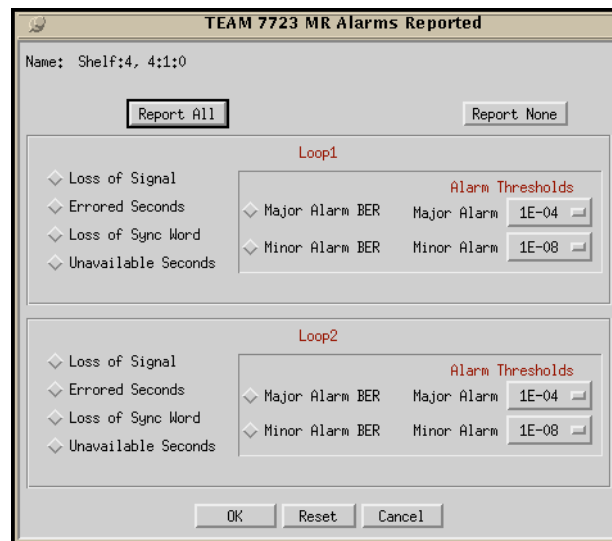


Figure 2-1 7723 MR Alarms Reported

Using Alarm Thresholds

Alarm thresholds control the traps sent to the event log by prioritizing bit error alarms, reporting only those BER (bit error rate) events that exceed two values set by the user for each loop. To use alarm thresholding, the Major and Minor BER Alarms are unmasked on the loops. Then, a threshold value is selected from each scrolling list. When the bit error rate on a loop exceeds either threshold, a major or minor alarm will be declared at the unit's Alarm Detail window. The following guidelines should be considered when setting the Alarm Thresholds:

- A Major Alarm BER threshold be an error rate that would seriously impact operations.
- A Minor Alarm BER threshold should be a lower error rate to provide as a warning signal.


Table 2-3 TEAM 7723 MR Alarms Reported Window

Alarms	Alarm Priority	Description
Loss of Signal (Loop 1, Loop 2)	Major	A LOS failure is the occurrence of a LOS defect for more than 2.5 ± 0.5 seconds.
Unavailable Seconds (Loop 1, Loop 2)	Major	Unmask to report when ten or more consecutive SES events have occurred. An error-cleared trap is sent after a 10-second interval with no SES.
Errored Seconds (Loop1, Loop 2)	Minor	Unmask to report each one second interval that includes a CRC error.
Loss of Sync Word (Loop1, Loop 2)	Major	Unmask to report when there is a loss of the synchronization word on the corresponding loop.
BER (Bit Error Rate) (Loop 1, Loop 2)	Thresholded for Major and Minor Alarms:	Unmask to report when a bit error rate (BER) event exceeds the user-selected threshold settings: 1E-03: Alarm declared when BER exceeds 1×10^{-3} 1E-04: Alarm declared when BER exceeds 1×10^{-4} 1E-05: Alarm declared when BER exceeds 1×10^{-5} 1E-06: Alarm declared when BER exceeds 1×10^{-6} 1E-07: Alarm declared when BER exceeds 1×10^{-7} 1E-08: Alarm declared when BER exceeds 1×10^{-8}
OK	Dismisses the Alarms Reported window. Edits are maintained but not saved to the unit.	
Reset	Undoes pending edits since the last "File --> Save to Unit" execution.	
Cancel	Dismisses the Alarms Reported window without saving edits.	

Add Remote Configuration Window

The Add Remote window appears when you select **Navigate --> Add Remote** from the main Configuration window. Although the 7722 and the 7723 MR products have an autodiscovery function, the Add Remote application would be used in the event that a remote is accidentally deleted from the SCM node table. This window is also used to delete remotes associated with the selected unit. A typical Add Remote window is described below.

Table 2-4 Add Remote Windows (Shown: UAS 7723 MR)

Typical Add Remote Windows	Selections	Description
	Name	Read-only listing of loop, master unit and serial number identification of each remote that is currently connected and communicating on the loops of the master unit.
	Location	Selects the circuit location: (Loop 1 or Loop 2)
	Serial Number	Data entry field for the serial number of the dedicated GT series emote unit.
	Add Remote	Adds a remote unit using the circuit location and serial number data entered.
	Delete Remote	Deletes a remote which has been selected from the read-only list.
	OK	Dismisses the Add/Delete Remotes window and saves the changes.
	Reset	Restores the settings to the last File-->Save to Unit.
	Cancel	Dismisses the Add/Delete Remotes window without saving the changes.

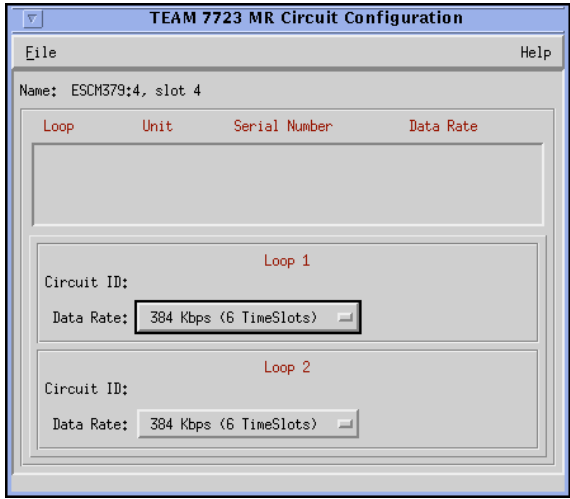
Circuit Configuration Application

The Circuit Configuration window appears when you select **Configuration --> Circuit Configuration** from the HPOV shelf map or from the Front Panel Select menu. This window allows the user to configure the data rates to the master and to the remotes connected on Loop 1 and Loop 2. [Table 2-5](#) describes a typical Circuit Configuration window for a TEAM 7700-managed DIU. Circuit Configuration window menus are described below.

Circuit Configuration Menu Selections

The File menu provides a **Refresh** selection which fetches and displays the latest information from the unit. The **Save to Unit** selection saves the new settings to the master and its remote units. The **Exit** selection dismisses the Circuit Configuration window.

Table 2-5 Typical Circuit Configuration Windows (Shown: UAS 7723 MR)

Typical Circuit Configuration Window	Selections	Description
	Remote ID Display	Read-only listing of loop, master unit, data rate and serial number identification of each remote that is currently connected and communicating on the loops of the master unit.
	Circuit ID	Read-only display of the user-defined circuit ID for Loop 1 and Loop 2.
	Data Rate	Select the data rate and the number of timeslots allocated for passing data on the loop. Inhibit 64 Kbps 1 time slot (7722 only) 128 Kbps 2 time slots 192 Kbps 3 time slots 256 Kbps 4 time slots 320 Kbps 5 timeslots 384 Kbps 6 time slots 448 Kbps 7 timeslots 512 Kbps 8 time slots 576 Kbps 9 timeslots 640 Kbps 10 time slots 704 Kbps 11 timeslots 768 Kbps 12 time slots

Note When you select a desired data rate for a 7723 MR, both loops will then display that same rate. Loop 1 and loop 2 must operate at the same data rate.

Chapter 3: TEAM 7700 Reporting

Overview

The TEAM 7700 Reports application is used to display error statistics accumulated by the TEAM 7700-managed DIUs. You can launch the application by selecting the HPOV Shelf Map slot icon and then selecting the **Select->Performance->Reports** menu item; or you can use the Front Panel display menu. The Reports application collects, formats and displays statistics accumulated by a UAS 7723 MR or a 7722 DIU and displays the data in a series of graphed or statistical windows.

The following TEAM 7700 reports are available for the 7722 and the 7723 MR:

- Error Totals (Current 24 Hours)
- Error Summaries
- Individual Error Reports
 - Errored Seconds (ES)
 - Unavailable Seconds (UAS)
 - Severely Errored Seconds (SES)
 - Far End Block Errors (FEBE)

Report Application Basics

The Error Summary report window collects individual error statistics from the unit and displays the text-based data for viewing or saving to a file. The individual error report windows and the Error Totals window display statistics accumulated from the unit via interval-based graphs which show four hours of data. The next section describes these report windows.

Note *The DIU accumulates error data which the Reports application uses in the individual windows. The most current data is displayed on each report only after the user selects the Refresh command from the File menu.*

The Main Reports Window

The main Error Reports window is the starting point for all report application functions. [Table 3-1](#) describes the main window menu selections which control overall reporting parameters for the UAS 7722 and the 7723 MR DIUs. The main window for both units also provides a glyph bar for launching the application’s report windows, which are described following the table.

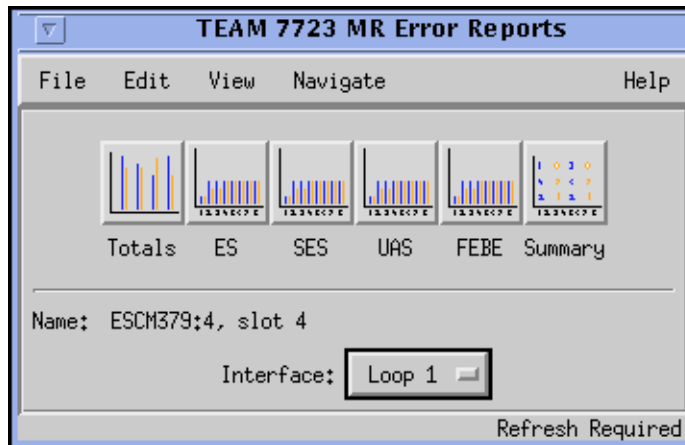


Table 3-1 The Error Reports Screen Selections (Shown: UAS 7723 MR)

Selections	Options	Description
File Menu	Refresh	An on-demand update of the error data.
	Auto Refresh	The Off selection disables the periodic poll only. Other poll options refresh data at the selected intervals, updating the report screens.
	Save Error Data to File	Saves the data from the last poll to a file.
	Exit	Dismisses all report windows and exits the application.
Edit Menu	Reset Statistics	Sends an SNMP set to clear statistics in the unit and clears the data from the report screens.
View Menu	Legend	Displays or inhibits useful notation, such as expanded acronyms, only on the main screen.
Navigate Menu	Individual error report screens	Each screen displays detailed statistics for each error type: 24 Hour Error Totals Errored Seconds Severely Errored Seconds Unavailable Seconds Far End Block Errors Summary All Screens
Report Glyphs	Click any X-axis report glyph to open the associated report screen.	
Interface	Selects the interface for the report screens to be displayed: Loop 1 or Loop 2	

Note *The Reset Statistics command will only perform a reset for the Loop selected at the Interface field..*

Error Totals Window

Use the Navigate menu or click on the Totals glyph to launch the Error Totals window. The Error Totals window graphs the occurrences in each error category as collected for up to 24 hours on the selected loop. The features of a typical Error Totals window are described in [Table 3-2](#).

X-Axis Buttons

X-axis contains labels for error categories which also serve as buttons for launching the associated individual report window.

Y-Axis Auto Ranging

Auto ranging dynamically changes the scale of the Y-Axis scale, depending on the maximum value of data in any error category. This ensures values for all error categories or intervals fall within the same range for easy viewing.

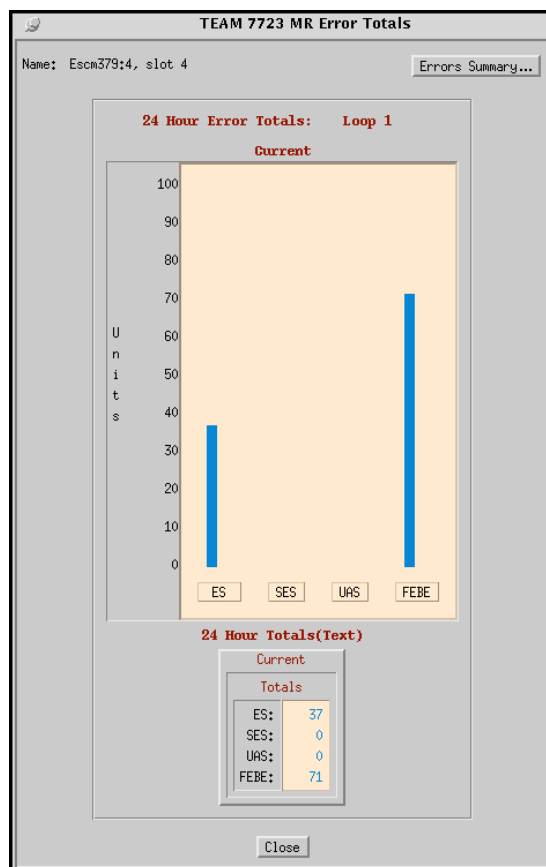


Table 3-2 Typical Error Totals Window (Shown: 7723 MR)

Screen Displays	Description	Details
Name Field	The user-selected ID and the slot number	
24-Hour Totals for detected errors (Graphed or Text)	ES	Errored Seconds
	SES	Severely Errored Seconds
	UAS	Unavailable Seconds
	FEBE	Far End Block Errors
Error Summary Button	Opens the Error Summary screen for a text version of data collected over valid intervals for all error categories.	
Current Total	Displays the 24 hour total for each error category.	
Close Button	Dismisses the Error Totals screen	

Error Summary Window

Click the Error Summary button on the Error Totals window to display the Error Summary window, shown below. It can also be accessed from the main Report window glyph bar or **Navigate** menu. This window tabulates data collected on the error events that have occurred for each error category over time. [Table 3-3](#) describes the read-only report data and button functions provided on this window.

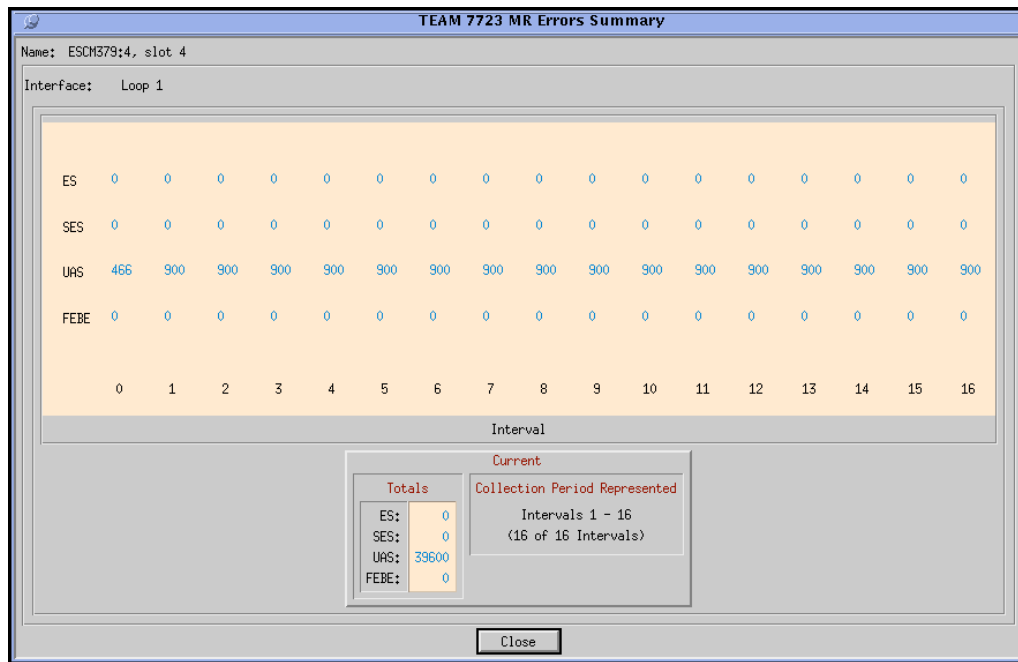


Table 3-3 The Error Summary Screen

Screen Displays	Description	Details
Name Field	The user-selected ID and the slot number	
Current	Displays the 24 hour total for each error category and indicates the portion of the last 4 hours that is represented in the spreadsheet.	
Error Summaries for detected (Graphed or Text)	ES	Errored Seconds
	SES	Severely Errored Seconds
	UAS	Unavailable Seconds
	FEBE	Far End Block Errors
Close Button	Dismisses the Error Summary	

Note *Interval zero indicates an incomplete 15-minute interval.
Intervals 1 - 16 indicate completed and valid 15-minute intervals.*

The Individual Error Report Windows

The Error Report windows are launched individually at the main Report window glyph bar or via the Navigate menu: Errored Seconds (ES), Unavailable Seconds (UAS), Severely Errored Seconds (SES), and Far End Block Errors (FEBE). Each report windows displays error statistics for the 17 most current (15-minute) intervals.

[Table 3-4](#) shows a typical Error Report window and describes each error report window along with its associated read-only report data and button functions.

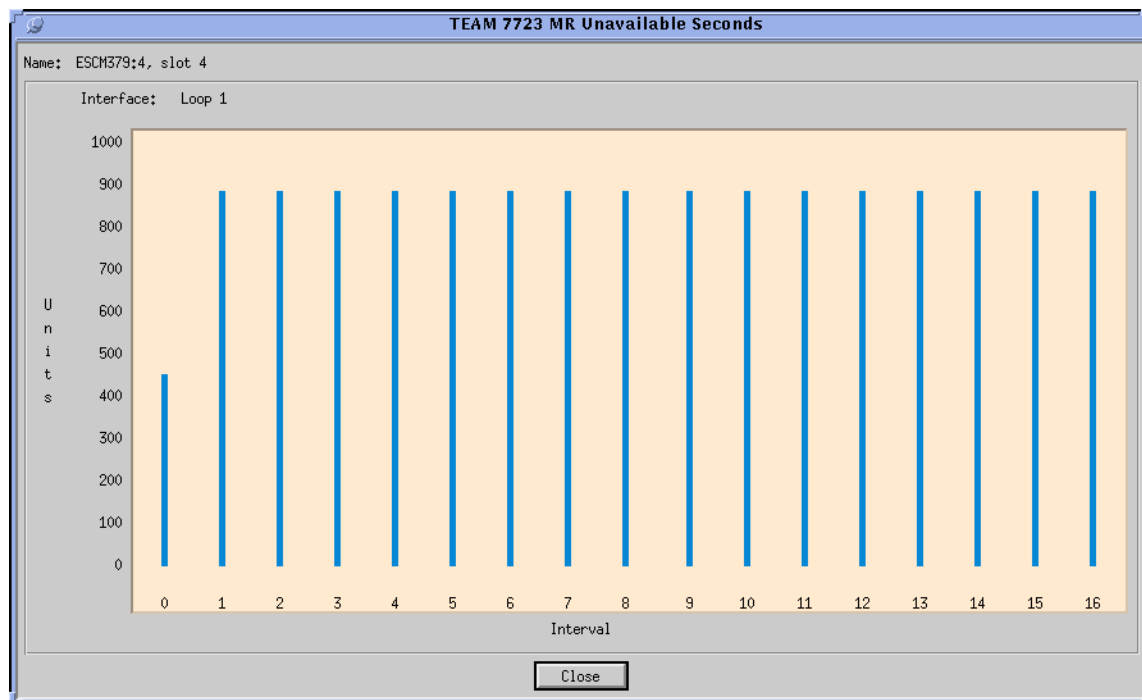


Table 3-4 The Error Report Windows

Screen Displays	Description	
Name Field	The user-selected ID and the slot number	
Individual Error Report windows	Errored Seconds (ES)	For a one-second interval, one or more errors are detected.
	Severely Errored Seconds (SES)	For a one-second interval, the bit error rate (BER) exceeds 10^{-3} .
	Unavailable Seconds (UAS)	For a ten-second interval, the bit error rate (BER) exceeds 10^{-3} .
	Far End Block Errors (FEBE)	An indication returned to the transmitting unit that an error block has been detected at the receiving unit.
Close Button	Dismisses the associated Error Report screen.	

Note *If the unit has not completed 4 hours of operation, some intervals will not display any graphed data. Valid (complete) intervals will display occurrences of the error in vertical bar graphs.*

Chapter 4: TEAM 7700 Maintenance and Diagnostics

Maintenance Application

The TEAM 7700 Maintenance application is used to reset several operation controls at the TEAM 7700-managed DIU. Launch the application by selecting the HPOV Shelf Map slot icon and then select the **Configuration->Maintenance** menu item; or you can use the Front Panel display **Select->Configuration** menu. The Maintenance application provides transitional reset actions that apply to parameters set at the Configuration windows. The following figures and tables describe the main Maintenance window and its associated Reset Alarms window.

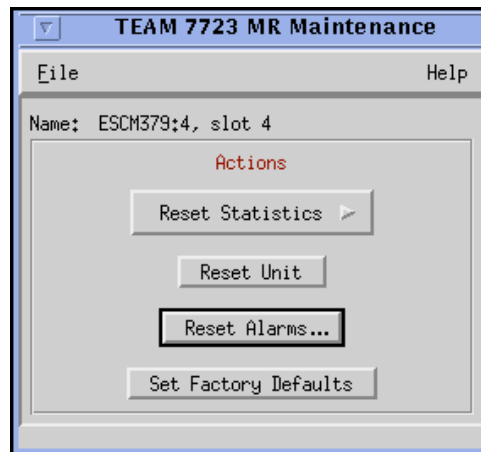


Table 4-1 The Main Maintenance Window

Selections	Description
File Menu ->Exit	Discards any unsaved edits and then dismisses the main Maintenance window.
Reset Statistics	Resets all statistics to zero for that unit. (User-selected loop.)
Reset Unit	Initiates a board reset and disrupts data transfer, similar to a board power-up. Also resets statistics to zero.
Reset Alarms...	Advances to the Reset Alarms window
Set Factory Defaults	Resets the unit options to the factory defaults.

Note Before the unit resets to the factory defaults, the following warning appears: **Resetting to factory defaults will disrupt communications to the unit. Do you want to continue?**

The Reset Alarms Window

The Reset Alarms window is accessed from a button on the main Maintenance window of the selected DIU. Major and minor alarms on any loop available to the unit can be immediately reset to zero in order to clear alarm events within the threshold interval.

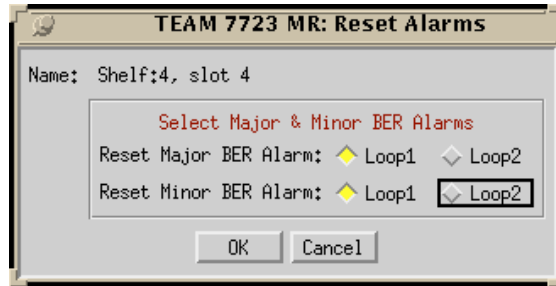


Table 4-2 Typical Reset Alarm Windows (Shown: 7723 MR)

Selection	Description
Reset Major BER Alarm	Before resetting the major alarms, click to select the desired loop(s) from those currently available to the unit.
Reset Minor BER Alarm	Before resetting the major alarms, click to select the desired loop(s) from those currently available to the unit.
OK	Resets immediately the major and minor alarms for the selected loop(s), then dismisses the Alarm Reset window.
Cancel	Discards any pending resets and then dismisses the main Maintenance window.

Special Unit Considerations - Reset Alarms

If only one loop is available on the selected unit, the Alarm Reset selections for the remaining loop is not functional and will appear grayed-out.

Diagnostics Application

The TEAM 7700 Diagnostics window and its History window are used to test and display diagnostics results on a TEAM 7700-managed DIU and its remote units. The application is accessed by selecting the HPOV Shelf Map slot icon and then selecting the **Fault->Diagnose** menu item; or you can use the Front Panel display **Select->Fault->Diagnose**.

Note Refer to the *Installation and Operation Manuals for the UAS 7722 or UAS 7723 MR units* in order to set up and interpret the most useful diagnostic tests for your system.

The Main Diagnostics Window

Separate Diagnostics windows can be launched from the HPOV menu bar Fault menu or from the Front Panel Select menu for each TEAM 7700-managed unit and its remote on the open map. Read-only results from the most recent test is displayed, along with a graphic showing the diagnostic data path for the currently running test. Arrows indicate the current data paths and change to show loopback paths associated with each test. Using the 7723 MR as an example, [Figure 4-1](#) shows a typical Diagnostics window. [Table 4-3](#) describe window components for 7722s and 7723 MRs, with exceptions noted.

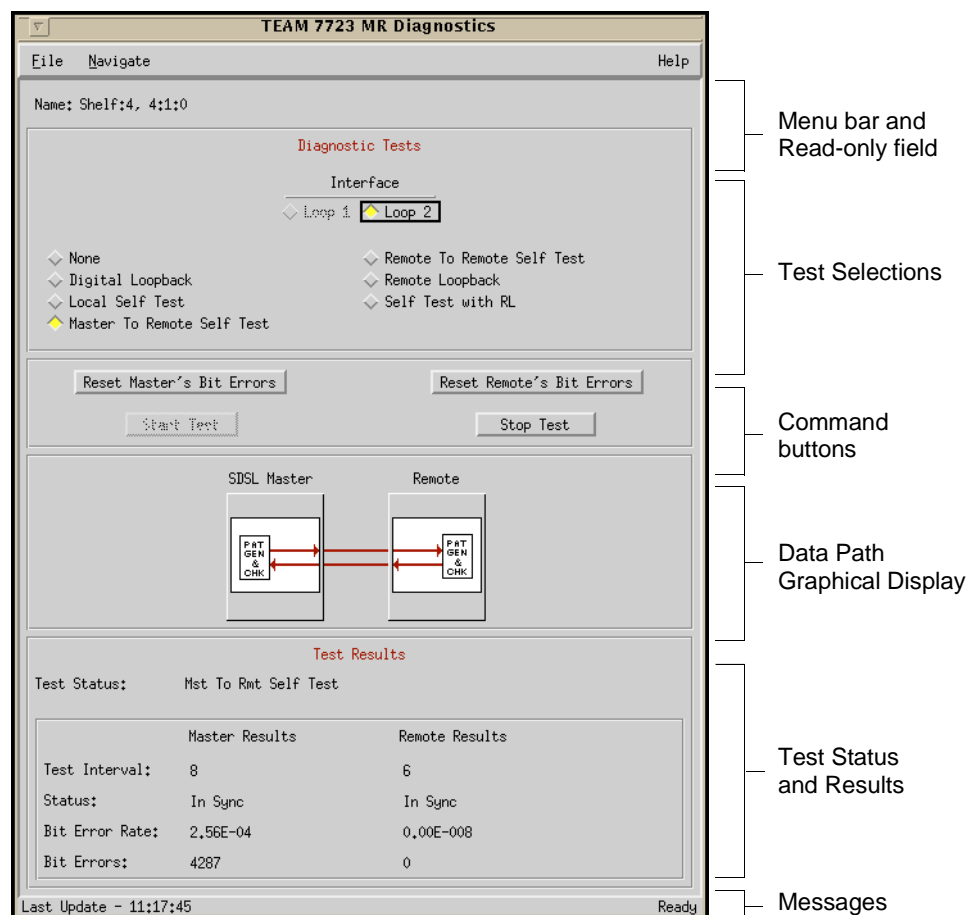


Figure 4-1 A Typical Diagnostics Window (Shown: UAS 7723 MR)

Diagnostics Menu

The File menu provides an **Exit** command which dismisses the Diagnostics application. The Navigate menu provides a **History** option which displays read-only test results from stopped tests. A typical Diagnostics History window is shown below.

Note A running history of tests performed during a single session can be viewed in the scrolling Diagnostics History window. When the Diagnostics application is exited, this historical test data will be lost.

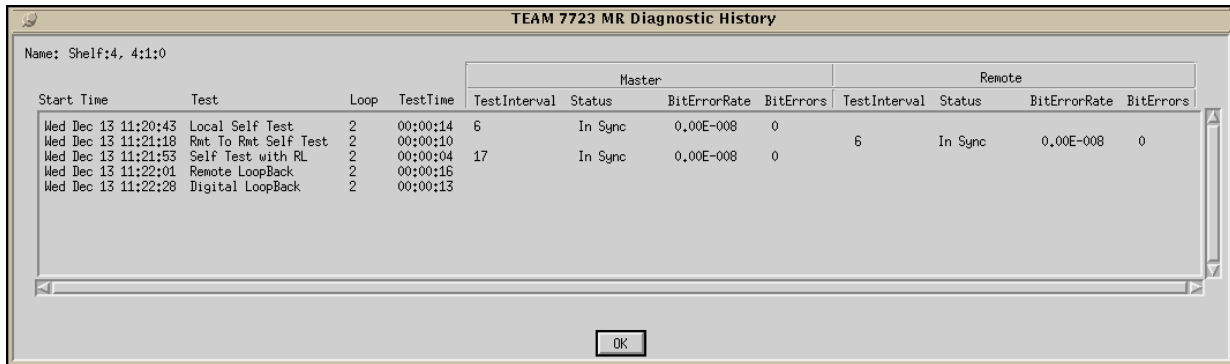


Figure 4-2 Diagnostics History Window

Table 4-3 Diagnostics Window Selections For 7723 MR and 7722

Selections	Test Option	Test Description
None		No Diagnostic test selected.
Interface	Loop or Loop 2	Selects which of the two loops to be tested.
Loop 1/Loop 2 Tests	Digital Loopback	Used to test connections between local equipment and the 7700 system module. The data signal received from the shelf highway is returned to the transmit line interface.
	Local Self Test	Activates the test pattern generator and checker in the local (master) unit. The test pattern is transmitted onto the DSL link, then checked for errors when it is received back.
	Master to Remote Self Test	Activates test pattern generators and checkers in both the master unit and the selected remote unit. Each unit receives the test pattern transmitted by the other over the DSL link and checks it for errors.
	Remote to Remote Self Test	Activates the test pattern generator and checker in the selected remote and transmits the pattern to the master.
	Remote Loopback	The data received by the remote module from the local equipment is returned by the GT series units on the receive path within the remote equipment's interface.
	Self Test with Remote Loopback	Activates the test pattern generator and checker in the master unit and places the selected remote in loopback.
Test Results	Test Status	Displays test status: Idle or Running
Master and Remote Results	Test Interval	Displays test intervals (in seconds) for the running test.
	Status	Displays with BER test: In-sync or Out-of Sync
	Bit Error rate	Displays the bit error rate for the current self test.
	Bit Errors	Displays the bit errors detected on the current self test.
Command Buttons	Start / Stop Test	Click to start or stop the specified tests on the selected unit.
	Reset Master's Bit Errors	Permits the bit error statistics to be reset individually on either the master or remote unit.
	Reset Remote's Bit Errors	
Messages (Lower left and right corners)	Last Update	Displays the time of the last update.
	Status	Displays intermittent messages describing application activity and unit interactions.

Special Considerations

- During a Line Loopback test the communication between the master and remote is interrupted and the diagnostic window will not display the remote. At the completion of the test, communication resumes when the SCM sends the next poll (approximately 30 seconds).
- The Self Test pattern internal to the 7700 units is always a $2^{15} - 1$ pattern.
- During normal operation the local equipment should receive its own signal without errors. The local transmit signal is sent to the remote module, however the signal received from the remote module may be lost depending on which test is selected.
- With the Local Self Test, you are responsible for establishing the physical or electronic loopback that returns the test pattern to its source.
- In order for the Remote to Remote Self Test to provide useful results, it must also be commanded in a second remote unit which communicates with the first unit on the far side of the public network. Once both remotes have been commanded to perform this test, each receives the test pattern transmitted by the other and checks it for errors.
- The Remote Loopback is generally used to test the proper operation of the DSL link end-to-end, and therefore should be used after normal operation is obtained while the remote 7700 loopback is used.

Note *The TEAM 7700 application polls the DIUs every 35 seconds while the Diagnostics window is open. To reduce unnecessary traffic, the Diagnostics window should be closed when not in use.*

Test Procedures

1. Before running a test, make any necessary arrangements with the remote site, as needed.

Note *Line Loopback or Payload loopback tests may require network management control of the remote unit or other coordination with remote site personnel, such as arranging for loopback initiation or test signal generation.*

2. At the main Diagnostics window, click on a check box to select the desired test.
3. For Master-Remote diagnostics, select the loop to be tested.
4. Click on **start Test**. The data path display panel will exhibit the path for the selected test and the **Test status** field displays changes from Idle to the name of the test running.
5. During Self Tests, the Reset Bit Errors button will activate, allowing the user to return the error count to zero.
6. During any test, results are displayed in the **Test Results** field.
7. The **Stop Test** button is active while any test is running.
8. After completing a test, select **Navigate->History** from the main Diagnostics window menu. The Diagnostics History window will display the last test run as well as results for any test run during the current session.

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