Operation

UAS 7624 Local Management

g **General DataComm**

1 Local Management Access

Introduction

This chapter provides instructions for accessing the terminal interface control functions in a UAS 7624 NIU/DIU to perform local management. You access the terminal interface through a SpectraComm Manager (SCM) card installed in the shelf that houses the UAS 7624 NIU/DIU pc card assembly. One SCM can support interface functions for up to 7 UAS 7624 units in a single shelf or up to 15 units in a pair of shelves connected by daisy chain cables.

The SCM card supports two types of connection for terminal interface functions:

*   connection of a VT100-compatible terminal via the Craft port on the SCM front panel

*   Telnet connection via the SCM LAN port located on the back panel of the shelf

A Craft port connection can be made using any standard VT-100 or ANSI terminal. A LAN port connection requires a personal computer (PC) or workstation that runs the Telnet protocol and emulates a VT100-type terminal.

For either type of equipment, terminal communications parameters must be set as follows:

1.   data rate = 9600 bps

2.   character format = 1 start bit

3.   8 data bits

4.   no parity

5.   1 stop bit

Initiating a Terminal Interface Session

The first portion of a terminal interface session varies depending on whether you're using a VT100-compatible terminal connected directly to the SCM front panel or a computer with a Telnet connection to the SCM LAN port.

VT100-Compatible Terminal

When you power on a terminal connected to the SCM front panel, the SCM Main Menu screen (*Figure 1-1*) is the first to appear.

```
Main Menu
1. IP Address
2. Security
3. Element Access
4. Test
Enter Selection:
```

Figure 1-1   SCM Main Menu Screen

Type 3 and press the Enter key. The screen then displays the Shelf Inventory screen that appears in *Figure 1-3*.

The other selections in this menu all relate to SCM functionality. They are discussed in the *SpectraComm Manager Card Installation and Operation Manual*, GDC Publication Number 048R303-000.

Telnet Connection

The *SpectraComm Manager Card Installation and Operation Manual*, GDC Publication Number 048R303-000 explains how to establish a Telnet connection to the SCM LAN port. When you do so, the SCM Telnet Login screen (*Figure 1-2*) is the first to appear.

```
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SCM Application Version 3.34G

login:
```

Figure 1-2   SCM Telnet Login Screen

After you enter the login password the screen displays the Shelf Inventory screen shown in *Figure 1-3*.

NOTE
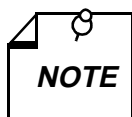
There is a 10-minute timeout on the terminal interface. If you allow 10 minutes to pass with no activity, that is without pressing any key on the keyboard, the unit terminates the session. At that point the display returns to the SCM Main Menu if you are using a terminal connected to the SCM front panel, or to the SCM login screen if you are using a Telnet connection.

Device Selection (Shelf Inventory Screen)

From this point, procedures are the same for both types of connection. The Shelf Inventory screen below is for a two-shelf UAS 7624 installation that contains ten UAS 7624 NIU/DIUs.

The two columns for Slots 17 through 32 do not appear in the Shelf Inventory display when there is only one shelf.

```
    SHELF INVENTORY
  Slot  Card          Slot  Card
  -------------------------------------------------
  [1]  SCM            [17]
  [2]                 [18] UAS7624
  [3]  UAS7624        [19]
  [4]                 [20] UAS7624
  [5]  UAS7624        [21]
  [6]                 [22] UAS7624
  [7]  UAS7624        [23]
  [8]                 [24]
 +[9]  UAS7624        [25]
  [10]                [26]
  [11] UAS7624        [27]
  [12]                [28]
  [13] UAS7624        [29]
  [14]                [30]
  [15] UAS7624 (alarm)[31]
  [16]                [32]


  [0]Close Session    [C]Circuit Identification

 Enter slot number:  [   ]
```

Figure 1-3   Shelf Inventory Screen

The Shelf Inventory displays the word "alarm" in parentheses next to the name of any unit that currently has an active alarm condition.

Type the slot number of the unit you intend to work with, and press the Enter key. The unit responds by displaying the line selection screen for the selected unit as shown in *Figure 1-4*.

Line Selection Screen

The UAS 7624 terminal interface employs the line selection screen as the access point from which you can choose one of five groups of screens with which to work.

```
  SLOT 9:  UAS 7624

+[1] Line 1  DSL 1, 2, 3
 [2] Line 2  DSL 4, 5, 6
 [3] Line 3  DSL 7, 8, 9
 [4] Line 4  DSL 10, 11, 12
 [5] Line 5  T1

 [0] Go To -> Shelf Inventory

    Enter selection:
```

Figure 1-4   Line Selection Screen

The Lines 1 – 4 selections correspond to the drop-side interface unit (DIU) functions of the UAS 7624. Each of the selections provides access to the terminal interface screens for working with three of the 12 digital subscriber lines (DSLs) that the UAS 7624 unit can support. If any DSL in a group has a dedicated remote associated with it, the screen displays a + sign next to the selection number for that group.

Line 5 [5] corresponds to the network-side interface unit (NIU) functions of the UAS 7624.

Type the selection number that corresponds to the screens you intend to work with, and press the Enter key. If you have selected Line 5 or a group of DSLs with no dedicated remotes the unit responds by displaying the Main Menu screen for the functions you are accessing. *Chapter 2* contains instructions for how to proceed when you select Line 5. *Chapter 3* contains instructions for how to proceed when you select Line 1, 2, 3, or 4.

If you select a group of DSLs that does have one or more dedicated remotes, the unit responds by displaying the Drop Inventory screen.

Drop Inventory Screen

The Drop Inventory screen (*Figure 1-5*) is included in the terminal interface process when one or more of the DSLs in the group you are accessing has a dedicated remote associated with it. A + sign next to the selection number indicates when that is the case. The + appears on all the selection screens, from the Shelf Inventory to the Line Selection screen.

The Drop Inventory screen for a group of UAS 7624 DSLs can show up to four selections:

Drop 0 is the UAS 7624 itself; select it to access the terminal interface screens for the group of three DSLs

Drops 1, 2, and 3 correspond to the three DSLs in the selected group and display the unit type of each dedicated remote

Because this screen is generated dynamically, its appearance is not always the same. If, for example, there is only one dedicated remote and it is linked to the first DSL in the group, the screen shows only two drops: 0, the UAS 7624, and 1, the remote. However, if the single dedicated remote is linked to the third DSL in the group, the screen shows drops 0 through 3 with the remote as drop 3 and blank lines for drops 1 and 2.

```
  SLOT 9:   DROP INVENTORY

   Drop       Card
  -----------------------------------
    [0] MASTER UAS7624 (alarm)
    [1] REMOTE DC610
    [2]
    [3] REMOTE DC610

    [S] Go To -> Shelf Inventory        [D] Delete Remote

    Enter drop:
```

Figure 1-5   Drop Inventory Screen

The screen displays (alarm) next to the card name if there is an alarm condition.

The [D] Delete Remote selection results in an on-screen prompt Enter drop of remote to delete: Type the appropriate number and press the Enter key. The [D] selection disappears from the screen when all remotes are deleted. Also, if you delete all remotes, the Drop Inventory screen itself stops existing after you leave the screen by selecting 0 or S.

2 UAS 7624 T1NIU Features Local Management

Introduction

This chapter of the manual describes the terminal interface screens for the T1 network interface features of the UAS 7624 Network Interface Unit/Dropside Interface Unit (NIU/DIU) and the procedures for working with them.

Main Menu

The UAS 7624 T1 Main Menu screen, shown in *Figure 2-1*, contains the following selections:

•   Configuration – accesses a menu of the two categories of configuration you can perform on the UAS 7624 NIU/DIU T1 interface: Unit and Alarms

•   Diagnostics – accesses the screen by which you can select, start, and stop diagnostic loopbacks

•   Monitor/Alarms – accesses the display screen for viewing alarm conditions

•   Maintenance – accesses the screen by which you can perform reset functions

•   Performance – accesses a menu of three display screens

To access a function from the Main Menu, type the selection number that corresponds to it and press the Enter key. The following pages describe the individual terminal interface functions in detail.

```
                    UAS 7624 T1 Main Menu



     General DataComm Ind. Inc.



     Serial Number:              0087090113980001
     Firmware Rev.:              D-
     Shelf Slot   :              9

    [1] Configuration
    [2] Diagnostics
    [3] Monitor/Alarms
    [4] Maintenance
    [5] Performance




    [0] Return to Shelf Inventory


      Select: [ ]
```

Figure 2-1   UAS 7624 T1 Main Menu

Configuration

The UAS 7624 T1 Configuration menu screen shown in *Figure 2-2* appears when you type 1 to invoke the Configuration function from the Main Menu. It contains the following selections:

•   Unit Configuration – for setting operating characteristics

•   Alarms Configuration – for selecting what alarms get reported as SNMP traps

To access a configuration function, type the selection number that corresponds to it and press the Enter key. The following pages describe the individual configuration functions in detail.

```
                        UAS 7624 T1 Configuration


[1] Unit Configuration
[2] Alarm Configuration
















[0] Return to Main Menu


      Select: [ ]
```
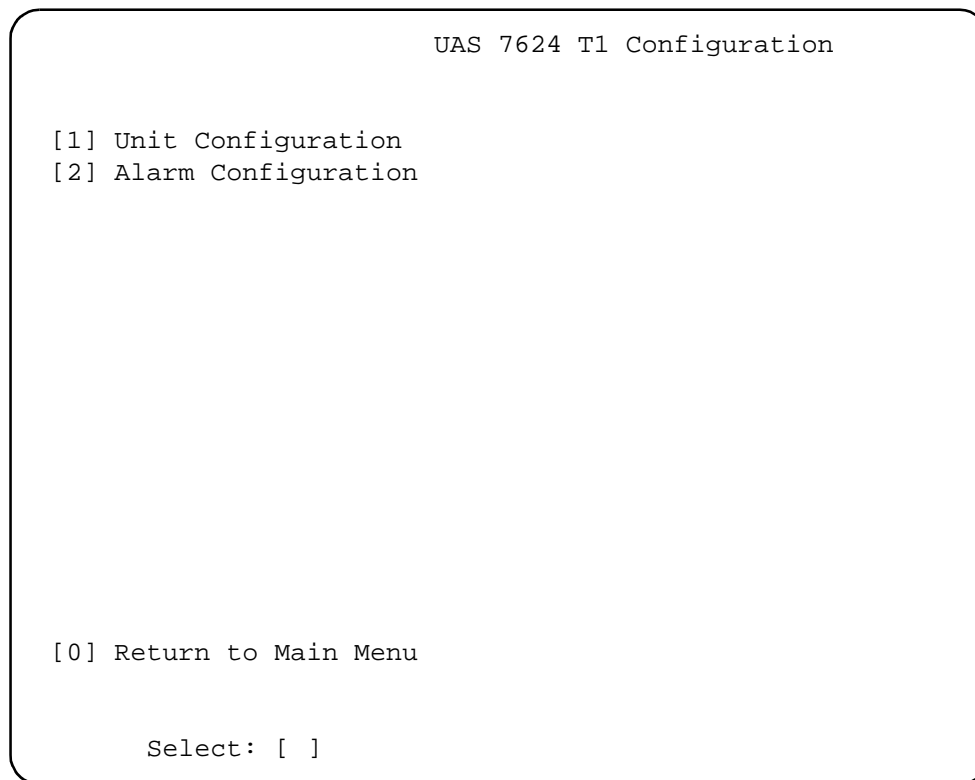
Figure 2-2   Configuration Menu

Unit Configuration

The UAS 7624 T1 Unit Configuration screen shown in *Figure 2-3* presents the configuration options that determine operating parameters for the T1 network interface of the UAS 7624 NIU/ DIU. Each option is identified by a selection number and displays its current setting.

> **NOTE**
>
> *The UAS 7624 NIU/DIU can be configured either by means of the terminal interface or by hardware DIP switches on the pc card.*
>
> *When the unit is hardware configured the configuration cannot be changed by the UAS 7624 T1 Unit Configuration screen. The screen displays the current configuration, and does permit configuration items to be changed on-screen. However, attempting to put changes into effect by saving them to the unit causes the screen to display the message "UNIT IS IN HARD MODE. CONFIGURATION OPTIONS CANNOT BE CHANGED."*

Table 2-1, which follows the figure, lists the settings available for each option. The table is followed by the procedure for setting options and saving the configuration settings.

```
                  UAS 7624 T1 Unit Configuration Submenu


  [1] Network Interface Type:        DS1
  [2] Transmit Clock Source :        RECOVERED
  [3] PreEqualization       :        530-655FT
  [4] Framing               :        SF
  [5] Line Coding           :        B8ZS
  [6] Line Buildout         :        -7.5dB
  [7] FDL Mode              :        NONE
  [8] Framing Mode          :        MANUAL
  [9] In-Band Loopback Code :        LINE
 [10] AIS Loopdown          :         6Sec
 [11] Line Buildout Control :        MANUAL




  [CR]Return to Previous Menu  [S] Save
  [0] Return to Main Menu


       Select: [  ]
```
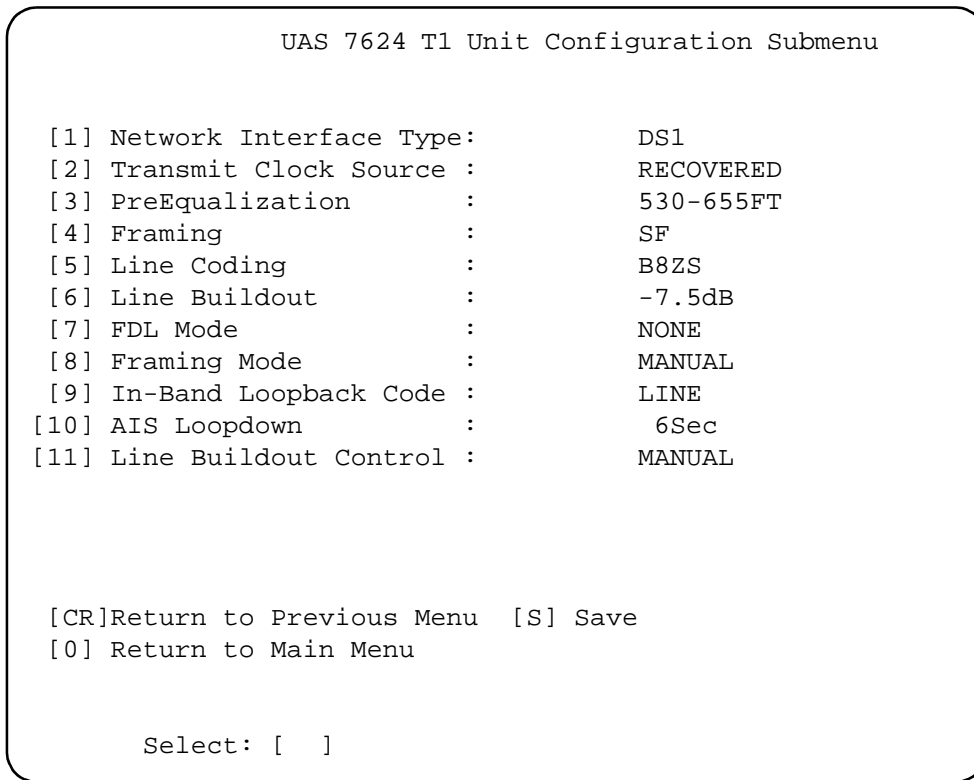
Figure 2-3   Unit Configuration Screen

Table 2-1   Unit Configuration Option Settings

Option	Potential Settings
[0] Return to Main Menu	Returns you to the UAS 7624 T1 Main Menu.
[1] Network Interface Type:	DSX1 – for limited range local T1 connection (Default)
	DS1 – for connection to a T1 line
[2] Transmit Clock Source:	Recovered – 7624 uses timing recovered from the network receive T1 data as the send timing source for T1 data output to the network (Default)
	Internal – 7624 serves as the timing source for T1 data output to the network
[3] PreEqualization PreEqualization is valid only when Network Interface Type is DSX1	0-130 ft. (Default)
	130-260 ft.
	260-390 ft.
	390-530 ft.
	530-655 ft.
[4] Framing:	ESF – Extended Super Frame (Default)
	SF – Super Frame, also called D4

(Continued on next page)

Table 2-1 Unit Configuration Option Settings (Continued)

Option	Potential Settings
[5] Line Coding:	B8ZS – Bipolar with 8 Zero Substitution encoding for the network side (Default)
	AMI – Alternate Mark Inversion encoding for the network side.
[6] Line Buildout: Line Buildout is valid only when Network Interface Type is DS1and Line Buildout Control is Manual	0 dB (Default)
	-7.5 dB
	-15 dB
	-22.5 dB
[7] FDL Mode:	None (Default)
	ANSI T1.403 – compliance with ANSI network performance messages (per Bellcore TR-TSY-000194), available only with ESF framing
	TR 54016 – compliance with network maintenance messages per PUB 54016 – local performance statistics
[8] Framing Mode:	Manual (Default)
	Auto – 7624 adapts to either ESF or SF framing based on the signal it receives.
[9] Inband Loopback Type:	Inhibit (Default) – 7624 does not perform a loopback when it receives an inband loopback code
	Line – 7624 performs a line loopback when it receives an inband loopback code
	Payload – 7624 performs a payload loopback when it receives an inband loopback code
[10] AIS Loopdown (Seconds):	Inhibit; no loopback termination resulting from Alarm Indication Signal (AIS) (Default)
	05 – 60; number of seconds of AIS that causes termination of loopback test
[11] Line Buildout Control: Valid only when Network Interface Type is DS1	Manual (Default)
	Auto
[CR]Return to Previous Menu:	Returns you to the UAS 7624 T1 Configuration menu screen
[S] Save	Saves settings

The Unit Configuration procedure involves the following steps:

1. From the Configuration menu, select the Unit Configuration screen by typing 1 and pressing the Enter key.

2. Type the selection number of an option you intend to change and press the Enter key. Highlighting appears on the current setting field for the corresponding option.

3. Use the arrow keys to toggle the highlighted field through its potential settings.

4. When the field displays the desired setting, press the Enter key. The highlighting disappears and the field displays the new setting

5. Repeat steps 2 through 4 for each option you need to change.

6.   To put the configuration changes you've made into effect, type S (Save) and press the Enter key. You may use either upper or lower case for letter responses.

In response, the screen prompts for confirmation:

```
*WARNING - SAVING DISRUPTS COMMUNICATIONS  Continue? [ ] Y(es), N(o)
```

7.   Continue the save process by typing Y and pressing the Enter key, or abort the save by typing N and pressing the Enter key.

If you continue the save, the word SAVING is displayed at the bottom of the screen. When it disappears the save is complete and the new settings are in effect.

8.   When you're done with Unit Configuration, you may either return to the Configuration Menu screen by pressing the Enter key – identified as CR (Carriage Return) in the screen prompt – or return to the Main Menu by typing 0 and pressing the Enter key.

If you start to leave the Unit Configuration screen while there are unsaved changes, the screen displays

```
*WARNING - EXITING WITHOUT SAVING CHANGES  Continue? [ ] Y(es), N(o)
```

You can type N and press the Enter key to keep the Unit Configuration screen on display while you perform a save, or you can type Y and press the Enter key to finish exiting. Unsaved changes are lost if you exit without performing a save.

Alarm Configuration

Selection 2, Alarm Configuration, from the UAS 7624 T1 Configuration menu calls up the UAS 7624 T1 Alarm Configuration Submenu shown in *Figure 2-4*. From that submenu you can select the two screens in which you perform the actual alarm configuration: the Alarm Masks Submenu, selection 1, or the Performance Alarm Thresholds Submenu, selection 2.

```
                  UAS 7624 T1 Alarm Configuration Submenu


[1] Alarm Masks Submenu
[2] Performance Alarm Thresholds Submenu













[CR]Return to Previous Menu
[0] Return to Main Menu


      Select: [ ]
```

Figure 2-4   Alarm Configuration Screen

The Alarm Masks Configuration Submenu, *Figure 2-5*, enables you to designate which alarms are to be reported by means of SNMP traps when they occur and which are to be masked (not reported). Masking applies only to the SNMP alarm reporting function and the front panel Alarm (ALM) indicator. The terminal interface Monitor/Alarms function always displays the actual status of alarm conditions. Some alarm conditions have individual front panel indicators, and the states of those indicators always accurately reflect the conditions.

The Performance Alarm Thresholds Submenu, *Figure 2-6*, contains the selections for setting a Time Interval and Count Threshold for each performance alarm.

The alarm configuration procedure appears following the figures.

```
        UAS 7624 T1 Alarm Masks Configuration Submenu


                Declared Alarm Masks
 [1] Loss of Signal  (LOS)    :        Masked
 [2] Loss of Framing (LOF)    :        Masked
 [3] Alarm Indication Signal  :        Masked
 [4] Received Yellow          :        Masked



                Performance Alarm Masks
 [5] Bipolar Violations       :        Masked
 [6] CRC Errors               :        Masked
 [7] Errored Seconds          :        Masked
 [8] Bursty Errored Seconds   :        Masked
 [9] Severely Errored Seconds :        Masked
[10] Unavailable Seconds      :        Masked


[11] All Alarms Control       :        Masked


 [CR]Return to Previous Menu      [S] Save
 [0] Return to Main Menu
      Select: [   ]
```

Figure 2-5   Alarm Masks Configuration Screen

The Alarm Masks Configuration Submenu lists all the alarms that the 7642 T1 interface can report. Consult the description of the Monitor/Alarms screen for definitions of the alarm conditions. The alarms are divided into the categories Declared and Performance.

The unit evaluates declared alarm conditions, such as Loss of Signal, simply on the basis of whether or not the condition exists. If the alarm condition exists, the unit displays it as ACTIVE on the Alarm Monitor terminal interface screen and generates an SNMP trap to report it if it isn't masked.

The unit evaluates performance alarm conditions, such as CRC Errors, on the basis of Time Interval and Count Threshold values configured separately for each alarm condition. The options for doing that configuration compose the Performance Alarm Thresholds Submenu. The threshold is the number of times the condition must occur before the unit reports the alarm. The interval is the time span within which the threshold value must be reached or exceeded in order for the unit to report the alarm. These values govern both SNMP reporting and terminal interface display.

```
┌──────────────────────────────────────────────────────────────┐
│           UAS 7624 T1 Performance Alarms Thresholds Submenu    │
│                                                                │
│                                                                │
│     Type                    Time Interval        Count Threshold │
│                                                                │
│                                                                │
│  Bipolar Violations       :  [1] Not Used           [7] 10,000 │
│  CRC Errors               :  [2] Not Used           [8] 10,000 │
│  Errored Seconds          :  [3] Not Used           [9] 10,000 │
│  Severely Errored Seconds :  [4] Not Used          [10] 10,000 │
│  Bursty Errored Seconds   :  [5] Not Used          [11] 10,000 │
│  Unavailable Seconds      :  [6] Not Used          [12] 10,000 │
│                                                                │
│                                                                │
│                                                                │
│                                                                │
│                                                                │
│   [CR]Return to Previous Menu      [S] Save                    │
│   [0] Return to Main Menu                                      │
│                                                                │
│                                                                │
│         Select: [  ]                                           │
└──────────────────────────────────────────────────────────────┘
```

Figure 2-6   Performance Alarm Thresholds Configuration Screen

The alarm configuration procedure involves the following steps:

1.   From the Alarm Configuration Submenu screen, select 1 and press the Enter key. In response the Alarm Masks Configuration Submenu screen is displayed.

You may want to begin by using the [11] All Alarms Control command to set all alarms Reported or all alarms Masked, depending on how you intend to set the majority of the alarm options. If you intend to change only selected items, go to step 4.

2.   To use All Alarms Control, type 11 and press the Enter key. In response, highlighting appears on the All Alarms Control current setting field. Before it's highlighted the field can display one of three values: Masked, Reported, or Mixed. Masked and Reported are the values to which you can set the field; Mixed is a display-only setting that the unit itself writes to the field when it is appropriate. If Mixed is displayed before you select the option, it changes to Masked when the highlighting appears.

3.   Use the arrow keys to toggle between the two potential settings, Masked and Reported, and press the Enter key when the field displays your selected setting. The current setting fields for all the individual alarms change to match your selection.

The actual change from Mixed to Masked does not occur if you don't toggle the setting.

Go to step 9 if you don't need to change any of the individual alarm options. If you do need to change individual options, follow steps 4 through 8.

4.   Type the selection number of the option you intend to change and press the Enter key. Highlighting appears on the current setting field for the corresponding option.

5.   Use the arrow keys to toggle the highlighted field through its two potential settings, Masked and Reported.

6.   When the field displays the desired setting, press the Enter key. The highlight returns to the Select field. The All Alarms Control field displays Mixed when changes result in a mixture of Masked and Reported settings.

7.   Repeat steps 4 through 5 for each option you need to change.

8.   After you've made all required changes and you are certain they are correct, type S and press the Enter key to save your configuration changes. You may use either upper or lower case for letter responses. Then press the Enter key a second time, to return to the Alarm Configuration Submenu screen.

      If you start to leave the Alarm Masks configuration screen while there are unsaved changes, the screen displays

      `*WARNING – EXITING WITHOUT SAVING CHANGES  Continue? [ ] Y(es), N(o)`

      You can type N and press the Enter key to keep the screen on display while you perform a save, or you can type Y and press the Enter key to finish exiting. Unsaved changes are lost if you exit without performing a save.

9.   If you need to make any adjustments to performance alarm intervals or thresholds, type 2 and press the Enter key to go to the Performance Alarms Thresholds Configuration Submenu screen. If not, go to step 16.

      The Performance Alarms Thresholds Configuration Submenu screen has a Time Interval and a Count Threshold, each with its own selection number, for every performance alarm. The threshold is the number of events required to generate the alarm, and the interval is the time span in which the threshold value must be reached.

10.   Type the Time Interval selection number for an alarm you need to configure, and press the Enter key. Highlighting appears on the corresponding current setting field.

11.   Use the arrow keys to toggle the highlighted field through its potential settings: Not Used; 1, 10, or 30 Seconds; 1 or 15 Minutes; 1 or 24 Hours; or Infinite. Not Used causes the unit to disregard the value in the threshold field and report the alarm on each occurrence of the condition. Infinite permits the count to continue until it reaches the threshold. Press the Enter key when the selected setting is displayed.

12.   Type the Count Threshold selection number for the alarm you are configuring, and press the Enter key. Highlighting appears on the corresponding current setting field.

13.   Use the arrow keys to toggle the highlighted field through its potential settings: 1, 3, 10, 100, 1000, or 10000. Press the Enter key when the selected setting is displayed.

14.   Repeat steps 10 – 13 for each performance alarm you are configuring to be Reported.

15.   After you've made all required changes and you are certain they are correct, type S and press the Enter key to save your configuration changes. Then press the Enter key a second time, to return to the Alarm Configuration screen.

      If you start to leave the Alarm Thresholds configuration screen while there are unsaved changes, the screen displays

      `*WARNING – EXITING WITHOUT SAVING CHANGES  Continue? [ ] Y(es), N(o)`

      You can type N and press the Enter key to keep the screen on display while you perform a save, or you can type Y and press the Enter key to finish exiting. Unsaved changes are lost if you exit without performing a save.

16.   When you're done with Alarm Configuration, you may either return to the Configuration Menu screen by pressing the Enter key – identified as CR (Carriage Return) in the screen prompt – or return to the Main Menu by typing 0 and pressing the Enter key.

Diagnostics

The terminal interface Diagnostics screen displays two selections. One corresponds to the Loopback test mode, the other has a selection for setting how long tests run.

Figure 2-7 illustrates the Diagnostics screen. *Table 2-3* describes the options.

```
                    UAS 7624 T1 Diagnostics



 [1] Loopback Mode   :      No Loopback
 [2] Test Time Limit :      No Limit













 [S] Save parameters and thereby Start or Stop a test
 [0] Return to Main Menu


        Select: [ ]
```

Figure 2-7   Diagnostics Screen

Table 2-3   Diagnostic Option Settings

Option	Potential Settings
[0] Return to Main Menu	Returns you to the UAS 7624 T1 Main Menu.
[1] Loopback Mode:	No Loopback
	Line – loops the received line signal back toward the T1 network
	Payload – loops the received payload signal back toward the T1 network
[2] Test Time Limit:	No Limit
	1....10 min. in 1-minute increments
	15, 20, 25, 30 min. in 5-minute increments
	30 sec.
[S] Save	Starts or stops loopback by saving current settings

The Diagnostic procedure involves the following steps:

1. From the Main Menu, select the Diagnostics screen by typing 2 and pressing the Enter key.

2. To select the loopback to be performed, type 1 and press the Enter key. Highlighting appears on the Loopback Mode setting field.

3. Use the arrow keys to toggle the highlighted field through its potential settings: No Loopback, Line Loopback, and Payload Loopback. No Loopback is the inactive setting.

4. When the field displays the desired setting, press the Enter key. The highlighting disappears and the field displays the new setting.

    If you intend to let the loopback run until you end it manually, go to step 8.

5. To select how long the loopback is to remain in effect, type 2 and press the Enter key. Highlighting appears on the Test Time Limit setting field.

6. Use the arrow keys to toggle the highlighted field through its potential settings. The No Limit setting is both the idle condition for this field and a functional setting that causes the loopback to remain in effect until ended manually.

7. When the field displays the desired setting, press the Enter key. The highlighting disappears and the field displays the new setting.

8. To start the loopback, type S (Save) and press the Enter key.

    In response, the screen prompts for confirmation:

    *WARNING - SAVING DISRUPTS COMMUNICATIONS Continue? [ ] Y(es), N(o)

9. To perform the loopback type Y and press the Enter key; to abort the loopback type N and press the Enter key.

    If you continue, the word SAVING appears at the bottom of the screen. When it disappears the loopback is in effect. The loopback continues until its configured time limit is reached or until you end it manually; see step 10.

    The screen refreshes every 30 seconds while a loopback is in effect; you may see it flicker when a refresh occurs. When a loopback reaches its configured time limit and ends, the fields automatically return to their default values.

10. To end a loopback manually: type 1 and press the Enter key; toggle the highlighted Loopback Mode field to No Loopback and press the Enter key; save the setting as described in steps 8 and 9. When the save is complete, the fields display their default values.

    You can end a test manually before it reaches a configured time limit that would end it automatically.

11. When you're done with the Diagnostics screen, type 0 and press the Enter key to return to the Main Menu.

Monitor/Alarms

When you select Monitor/Alarms, the screen displays the UAS 7624 T1 Alarm Monitor screen shown in *Figure 2-8*. The screen displays ACTIVE or INACTIVE for each alarm condition to indicate whether or not the condition currently exists. Definitions of the alarm conditions appear below.

The screen updates every five seconds so that current information is always displayed. The cursor highlight flickers from field to field on the screen during the brief time required to complete the update.

When you are done viewing the Alarm Monitor screen, type 0 and press the Enter key to return to the Main Menu.

```
                    UAS 7624 T1 Alarm Monitor

                         Declared Alarms

     Loss of Signal(LOS)      :        INACTIVE
     Loss of Framing (LOF)    :        INACTIVE
     Alarm Indication Signal  :        INACTIVE
     Received Yellow          :        INACTIVE




                        Performance Alarms

     Bipolar Violations       :        INACTIVE
     CRC Errors               :        INACTIVE
     Errored Seconds          :        INACTIVE
     Bursty Errored Seconds   :        INACTIVE
     Severely Errored Seconds :        INACTIVE
     Unavailable Seconds      :        INACTIVE


     [0] Return to Main Menu
        Select: [   ]
```

Figure 2-8   Alarm Monitor Screen

The Alarm Monitor screen displays alarms grouped into two categories, Declared and Performance. Declared alarms are those the unit reports simply on the basis of whether or not the condition exists. Performance alarms are those the unit determines on the basis of Time Interval and Count Threshold values configured separately for each performance alarm in the Performance Alarm Thresholds Submenu.

Declared Alarms

Loss of Signal (LOS) – occurs when the unit senses the absence of T1 signal. Absence of signal for a time equivalent to 175 bits ($\pm$ 75) is considered no signal.

Loss of Framing (LOF) – occurs when the NIU misses two out of four T1 framing bits

Alarm Indication Signal – reported when the unit receives an AIS at its T1 interface

Received Yellow – reported when the unit receives a Yellow alarm at its T1 interface

Timing Loss – occurs when the unit loses timing from its configured primary Transmit Clock Source

Performance Alarms

Bipolar Violations – a Bipolar Violation occurs when the signal the unit receives at its T1 interface does not alternate between signal levels as required for Alternate Mark Inversion (AMI) or Bipolar with 8 Zero Substitution (B8ZS) data encoding; the alarm occurs when Bipolar Violations exceed the configured interval and threshold limits

CRC Errors – a CRC Error occurs when ESF framing is in use and the CRC-6 code, which the unit calculates on each 24-frame block it receives, does not match the CRC-6 code calculated by the unit that transmitted the signal; the alarm occurs when CRC Errors exceed the configured interval and threshold limits

Errored Seconds – an Errored Second contains at least one CRC error or Out of Frame (OOF) event; the alarm occurs when Errored Seconds exceed the configured interval and threshold limits

Bursty Errored Seconds – a Bursty Errored Second contains between 1 and 320 CRC errors; the alarm occurs when Bursty Errored Seconds exceed the configured interval and threshold limits

Severely Errored Seconds – a Severely Errored Second contains more than 320 CRC errors or an OOF event; the alarm occurs when Severely Errored Seconds exceed the configured interval and threshold limits

Unavailable Seconds – an Unavailable Seconds event contains at least 10 consecutive Severely Errored Seconds; the alarm occurs when Unavailable Seconds exceed the configured interval and threshold limits

Maintenance

The terminal interface Maintenance screen displays information about the unit and provides three specialized control functions: Soft Reset, Reset to Factory Defaults, and Reset Statistics. *Figure 2-9* illustrates the Maintenance screen.

```
                         UAS 7624 T1 Maintenance



  Serial Number:                      0087090113980001
  Firmware Rev.:                       D-

  [1] Soft Reset
  [2] Reset to Factory Default
  [3] Reset Statistics






  [0] Return to Main Menu
          Select: [1]

```

Figure 2-9   Maintenance Screen

The information display identifies the serial number and firmware revision level of the unit.

The Maintenance screen includes three command selections:

> [1] Soft Reset – causes the UAS 7624 NIU/DIU to perform a reset and resume operation using its current configuration

> [2] Reset to Factory Defaults – causes all options in the UAS 7624 NIU/DIU to return to their factory default settings

> [3] Reset Statistics – causes the UAS 7624 NIU/DIU to zero out its accumulated TR 54016 statistics and begin new counts

To Reset Statistics, type 3 and press the Enter key. The message "Resetting Statistics" appears briefly at the bottom of the screen.

When you are done with the Maintenance screen after resetting statistics or simply viewing the screen, type 0 and press the Enter key to return to the Main Menu.

To perform a Soft Reset or a Reset to Factory Defaults:

1.   Type the selection number of the reset you need to perform, 1 for Soft Reset or 2 for Reset to Factory Defaults, and press the Enter key.

In response, the screen prompts for confirmation (in the actual displayed message, xxx is the name of the requested reset):

```
*WARNING - xxx DISRUPTS COMMUNICATIONS  Continue? [ ] Y(es), N(o)
```

2.   To continue the reset process, type Y and press the Enter key.

The UAS 7624 NIU/DIU temporarily loses contact with the SCM during the reset, causing the following message (with the NIU slot number) to replace the Maintenance screen:

```
Error: Slot x is not responding. (Press enter)
```

3.   Press the Enter key.

In response the screen displays the Shelf Inventory. For a Soft Reset the procedure is complete at this point, and the unit resumes operation with its existing configuration.

The configuration that results from a Reset to Factory Defaults does not enable the unit to pass data. You must access the Unit Configuration and System Configuration screens to set up an operating configuration.

Performance

The Performance menu screen shown in *Figure 2-10* appears when you type 5 to invoke the Performance function from the Main Menu. It contains the following selections:

•   ANSI Performance Report (FDL Mode in Unit Configuration must be set to ANSI)

•   TR 54016 Current & Total Error Accumulations

•   TR 54016 Interval Table

To access a Performance display, type the selection number that corresponds to it and press the Enter key. The following pages describe the individual Performance displays in detail.

```
                       UAS 7624 T1 Performance


  [1] ANSI Performance Report
  [2] TR 54016 Interval Table
  [3] TR 54016 Current & Total Error Accumulations













  [0] Return to Main Menu


       Select: [ ]
```
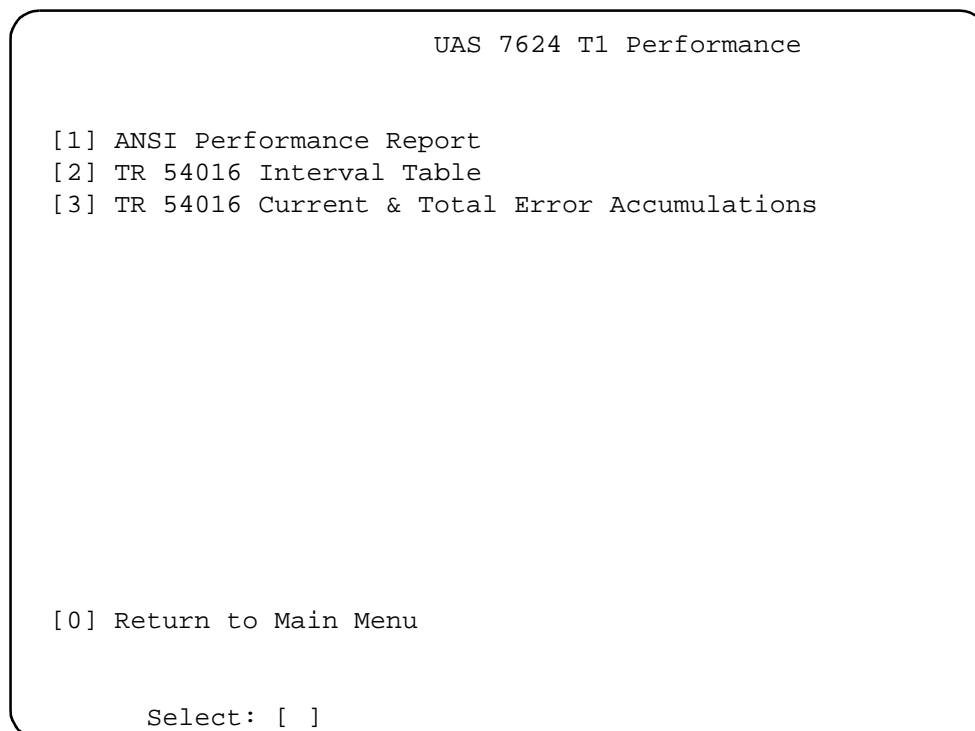
Figure 2-10   Performance Menu

ANSI Performance Report

When you select ANSI Performance Report, the screen displays the UAS 7624 T1 Performance Report Submenu screen shown in *Figure 2-11*. This screen is only available when the FDL Mode option in the Unit Configuration screen is set to ANSI. If you try to access it when the option is set to None or TR 54016, the Performance Menu remains on-screen and displays a status message that identifies the problem.

The screen displays Outbound Scheduled Performance Report Messages (PRMs). The PRMs contain information on conditions during the most recent four seconds, shown in one-second increments. Outbound PRMs are being sent by the unit to its remote, and they describe the condition of the data the unit is receiving.

There are five categories of PRMs:

CRC – CRC error count during the second

SEF – Severely Errored Frame event status

FRM – Framing status

BPV – Bipolar Violation count during the second

PYLD_LPBK – Payload Loopback status; other categories are not valid while unit is in Payload Loopback

```
                     UAS 7624 T1 Performance Report Submenu



            Outbound Scheduled PRMs

Second        CRC    SEF     FRM      BPV     PYLD_LPBK
   1           0      *       *        X          *
   2           0      *       *        X          *
   3           0      *       *        X          *
   4           0      *       *        X          *










 [CR] Return to Previous Menu
 [0] Return to Main Menu

        Select: [ ]
```

Figure 2-11   UAS 7624 T1 Performance Report Screen

The screen updates every two seconds so that current information is always displayed. The cursor highlight flickers from field to field on the screen during the brief time required to complete the update.

When you're done viewing the Performance Report Submenu, you may either return to the Performance Menu screen by pressing the Enter key – identified as CR (Carriage Return) in the screen prompt – or return to the Main Menu by typing 0 and pressing the Enter key.

TR 54016 Current & Total Errors

When you select TR 54016 Current & Total Error Accumulations, the screen displays the UAS 7624 T1 TR 54016 Current & Totals Submenu screen shown in *Figure 2-12*. The screen displays information on five error conditions that can occur on the receive T1 line:

> Errored Seconds (ES)
>
> Severely Errored Seconds (SES)
>
> Bursty Errored Seconds (BES)
>
> Unavailable Seconds (UAS)
>
> Loss of Frame Count (LOFC)

The line labeled Current displays counts for the current, incomplete, fifteen-minute interval.

The line labeled Total displays the accumulated total counts for up to 24 hours. When the accumulation of data is permitted to continue without interruption, the unit stores 96 15-minute intervals of TR 54016 data. It drops the oldest interval from its totals as each new interval is completed. The Maintenance Screen Reset Statistics command begins a new count, with all intervals set to 0.

When you're done viewing the TR 54016 Current & Totals Submenu, you may either return to the Performance Menu screen by pressing the Enter key – identified as CR (Carriage Return) in the screen prompt – or return to the Main Menu by typing 0 and pressing the Enter key.

```
         UAS 7624 T1 TR 54016 Current & Totals Submenu

              ES        SES       BES        UAS       LOFC


   CURRENT    0          0         0         622         0

   TOTALS     0          0         0        64800        0














   [CR] Return to Previous Menu
   [0] Return to Main Menu

          Select: [ ]
```

Figure 2-12 UAS 7624 T1 TR 54016 Current & Totals Screen

TR 54016 Interval Table

When you select TR 54016 Interval Table, the screen displays the UAS 7624 T1 TR 54016 Interval Table Submenu screen shown in *Figure 2-13*. The screen displays four hours (16 15-minute intervals) of information on five error conditions that can occur on the receive T1 line:

> Errored Seconds (ES)
>
> Severely Errored Seconds (SES)
>
> Bursty Errored Seconds (BES)
>
> Unavailable Seconds (UAS)
>
> Loss of Frame Count (LOFC)

The Interval (INTVL) column identifies the intervals; 1 is the most recently completed.

The unit stores 24 hours of interval data and you can step through the display, four hours at time, by pressing the Space bar and then the Enter key. After the oldest data, intervals 81 – 96, the display returns to the most recent, intervals 1 – 16.

The screen displays only intervals that have actually been completed. The accumulation of data has to run for 24 hours following start-up or reset before there are 96 intervals to display.

When you're done viewing the TR 54016 Interval Table Submenu, you may either return to the Performance Menu screen by pressing the Enter key – identified as CR (Carriage Return) in the screen prompt – or return to the Main Menu by typing 0 and pressing the Enter key.

```
          UAS 7624 T1 TR 54016 Interval Table Submenu
   INTVL        ES         SES         BES         UAS         LOFC
      1          0           0           0         900           0
      2          0           0           0         900           0
      3          0           0           0         900           0
      4          0           0           0         900           0
      5          0           0           0         900           0
      6          0           0           0         900           0
      7          0           0           0         900           0
      8          0           0           0         900           0
      9          0           0           0         900           0
     10          0           0           0         900           0
     11          0           0           0         900           0
     12          0           0           0         900           0
     13          0           0           0         900           0
     14          0           0           0         900           0
     15          0           0           0         900           0
     16          0           0           0         900           0

[SP, CR] Display next 16 intervals(1-16,17-32,33-48,49-64,65-80,81-96)
[CR] Return to Previous Menu
[0] Return to Main Menu

      Select: [ ]
```

Figure 2-13   UAS 7624 T1 TR 54016 Interval Table Screen

3 UAS 7624 DIU Features Local Management

Introduction

This chapter of the manual describes the terminal interface screens for the drop-side interface unit (DIU) features of the 7624 NIU/DIU and the procedures for working with them.

The section on configuration also includes instructions for using the SpectraComm Manager (SCM) card Backplane Control function to place the UAS 7616 DIU into service.

Main Menu

The UAS 7624 Main Menu screen, shown in *Figure 3-1* contains the following selections:

- Configuration – provides access to the Alarms configuration functions

- Diagnostics – accesses the screen by which you can select, start, and stop diagnostic loopbacks

- Monitor/Alarms – accesses the display screen for viewing alarm conditions

- Maintenance – accesses the screen by which you can perform reset functions

- Performance – accesses a menu of display screens, four for each of the three loops the DIU supports

To access a function from the Main Menu, type the selection number that corresponds to it and press the Enter key. The following pages describe the individual terminal interface functions in detail.

```
              UAS 7624 DSL  1, 2, 3  Main Menu


     General DataComm Ind. Inc.


     Serial Number:        0087090113980001
     Firmware Rev.:        D-
     Shelf Slot   :        9

     [1] Configuration
     [2] Diagnostics
     [3] Monitor/Alarms
     [4] Maintenance
     [5] Performance




     [0] Return to Shelf Inventory

      Select: [ ]
```
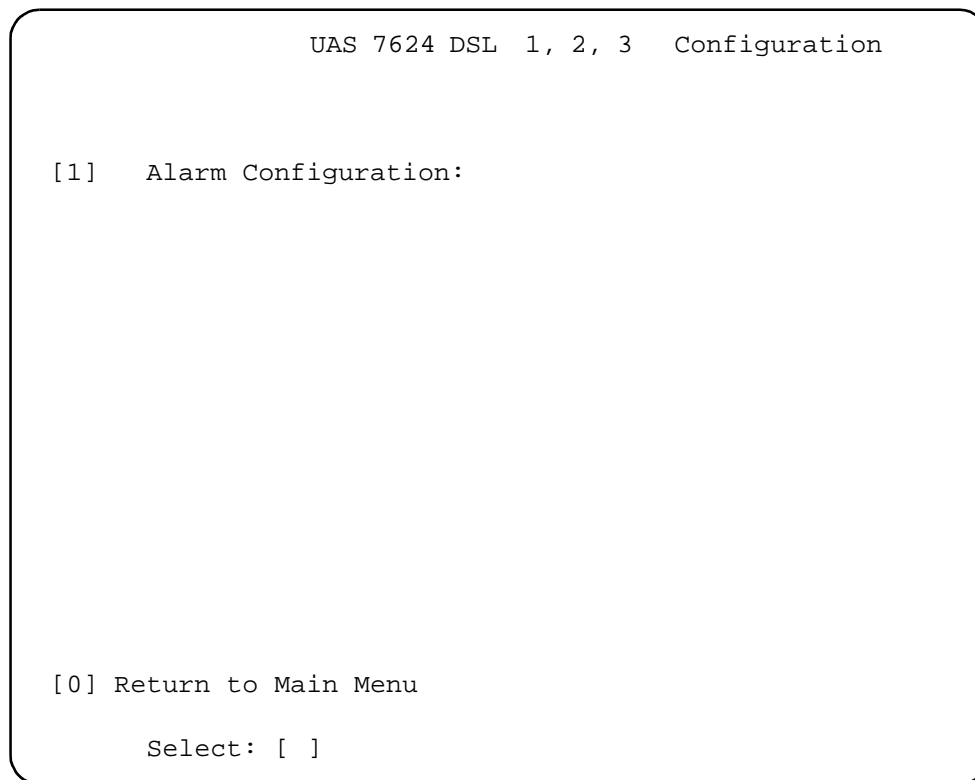
Figure 3-1   UAS 7624 DSL Main Menu

Configuration

The UAS 7624 Configuration menu screen shown in *Figure 3-2* appears when you type 1 to invoke the Configuration function from the Main Menu. It contains one selection:

•   Alarms Configuration – for selecting what alarms get reported as SNMP traps

To access the Alarms Configuration function, type 1 and press the Enter key.

```
╭──────────────────────────────────────────────────────────╮
│                                                          │
│              UAS 7624 DSL  1, 2, 3   Configuration       │
│                                                          │
│                                                          │
│                                                          │
│  [1]    Alarm Configuration:                             │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│  [0] Return to Main Menu                                 │
│                                                          │
│         Select: [ ]                                      │
│                                                          │
╰──────────────────────────────────────────────────────────╯
```

Figure 3-2   Configuration Menu

Alarm Configuration

Selection 1, Alarm Configuration, from the UAS 7624 DSL Configuration menu calls up the UAS 7624 DSL Alarm Configuration Submenu shown in *Figure 3-3*. From that submenu you can select the four screens in which you perform the actual alarm configuration: an Alarm Mask Submenu for each of the three loops, or the Alarm Thresholds Submenu, which applies to all three.

Each Alarm Mask Configuration Submenu enables you to designate which alarms are to be reported by means of SNMP traps when they occur on the loop, and which are to be masked (not reported). *Figure 3-4* illustrates the screen; the three mask configuration screens are identical.

Masking applies only to the SNMP alarm reporting function. The terminal interface Monitor/ Alarms function always displays the actual status of alarm conditions.

The Alarm Thresholds Submenu, *Figure 3-5*, contains the selections for setting thresholds for Bit Error Rate (BER) alarms on all three loops.

The alarm configuration procedure appears following the figures.

```
   ╭─────────────────────────────────────────────────────────────╮
   │           UAS 7624 DSL  1, 2, 3   Alarm Configuration         │
   │                                                               │
   │                                                               │
   │  [1] Alarm Mask Loop1                                          │
   │  [2] Alarm Mask Loop2                                          │
   │  [3] Alarm Mask Loop3                                          │
   │  [4] Alarm Thresholds                                          │
   │                                                               │
   │                                                               │
   │                                                               │
   │                                                               │
   │                                                               │
   │                                                               │
   │                                                               │
   │                                                               │
   │                                                               │
   │                                                               │
   │                                                               │
   │                                                               │
   │                                                               │
   │                                                               │
   │                                                               │
   │                                                               │
   │ [0] Return to Main Menu   [CR] Return to previous Menu         │
   │         Select: [ ]                                            │
   ╰─────────────────────────────────────────────────────────────╯
```

Figure 3-3   Alarm Configuration Screen

Each Alarm Mask Configuration Submenu lists all the alarms that the 7624 can report on a loop. Consult the description of the Monitor/Alarms screen for definitions of the alarm conditions.

The unit evaluates most alarm conditions simply on the basis of whether or not the condition exists. If the alarm condition exists, the unit displays it as ACTIVE on the Alarm Monitor terminal interface screen and generates an SNMP trap to report it if it isn't masked.

The two alarm conditions that the unit evaluates by means of a threshold value are the Major and Minor Bit Error Rate (BER) alarms. You can set each alarm to occur in response to an error rate of one error in 1,000, 10,000, 100,000, or 1,000,000 data bits. The on-screen entry fields display those rates as 10E-3, 10E-4, 10E-5, and 10E-6.

Typically, you should configure the Minor BER alarm to occur at a lower error rate so it can serve as an early warning signal, and configure the Major BER alarm to occur at an error rate that seriously impacts operations. The threshold values you configure for BER alarms govern both SNMP reporting and terminal interface display.

```
                   UAS 7624 DSL  1  Alarm MASK Submenu



[1] Out of Sync       : Masked
[2] No Sealing Current : Masked
[3] Error Seconds      : Masked
[4] Unavailable Seconds: Masked
[5] Major BER          : Masked
[6] Minor BER          : Masked



[7] All Alarms Control : Masked








[0] Return to Main Menu  [S] Save  [CR] Return to previous menu
        Select: [ ]
```

Figure 3-4   Alarm Masks Configuration Screen

```
            UAS 7624 DSL  1, 2, 3   Alarm Threshold Submenu

 Loop1 Thresholds
[1] Major BER       :        10E-3
[2] Minor BER       :        10E-3

 Loop2 Thresholds
[3] Major BER       :        10E-3
[4] Minor BER       :        10E-3

 Loop3 Thresholds
[5] Major BER       :        10E-3
[6] Minor BER       :        10E-3








 [0] Return to Main Menu  [S] Save [CR] Return to previous menu
        Select: [ ]
```

Figure 3-5   Alarm Thresholds Configuration Screen

The alarm configuration procedure involves the following steps:

1.   From the Alarm Configuration Submenu screen, select 1, 2, or 3 and press the Enter key. In response the selected Alarm Masks Configuration Submenu screen is displayed.

      You may want to begin by using the [7] All Alarms Control command to set all alarms Reported or all alarms Masked, depending on how you intend to set the majority of the alarm options. If you intend to change only selected items, go to step 4.

2.   To use All Alarms Control, type 7 and press the Enter key. In response, highlighting appears on the All Alarms Control current setting field. Before it's highlighted the field can display one three values: Masked, Reported, or Mixed. Masked and Reported are the values to which you can set the field; Mixed is a display-only setting that the unit itself writes to the field when it is appropriate. If Mixed is displayed before you select the option, it disappears the first time you toggle the field.

3.   Use the arrow keys to toggle between the two potential settings, Masked and Reported, and press the Enter key when the field displays your selected setting. The current setting fields for all the individual alarms change to match your selection.

      Go to step 9 if you don't need to change any of the individual alarm options. If you do need to change individual options, follow steps 4 through 8.

4.   Type the selection number of the option you intend to change and press the Enter key. Highlighting appears on the current setting field for the corresponding option.

5.   Use the arrow keys to toggle the highlighted field through its two potential settings, Masked and Reported.

6.   When the field displays the desired setting, press the Enter key. The highlight returns to the Select field. The All Alarms Control field displays Mixed when changes result in a mixture of Masked and Reported settings.

7.   Repeat steps 4 through 5 for each option you need to change.

8.   After you've made all required changes and you are certain they are correct, type S and press the Enter key to save your configuration changes. You may use either upper or lower case for letter responses. Then press the Enter key a second time, to return to the Alarm Configuration Submenu screen.

      If you start to leave the Alarm Masks configuration screen while there are unsaved changes, the screen displays

      `*WARNING – EXITING WITHOUT SAVING CHANGES  Continue? [ ] Y(es), N(o)`

      You can type N and press the Enter key to keep the screen on display while you perform a save, or you can type Y and press the Enter key to finish exiting. Unsaved changes are lost if you exit without performing a save.

9.   If you need to make any adjustments to the BER alarm thresholds, type 4 and press the Enter key to go to the Alarm Thresholds screen. If not, go to step 14.

      The Alarm Threshold screen has error rate thresholds for the Major and Minor BER alarms on each of the three loops. Each threshold has its own selection number.

10.   Type the selection number for the alarm for which you are configuring a threshold, and press the Enter key. Highlighting appears on the corresponding current setting field.

11.   Use the arrow keys to toggle the highlighted field through its potential settings: 10E-3, 10E-4, 10E-5, or 10E-6 (10E-3 is the default). Press the Enter key when the selected setting is displayed.

12.   Repeat steps 10 – 11 for each BER alarm you are configuring to be Reported.

13.   After you've made all required changes and you are certain they are correct, type S and press the Enter key to save your configuration changes. Then press the Enter key a second time, to return to the Alarm Configuration screen.

        If you start to leave the Alarm Threshold configuration screen while there are unsaved changes, the screen displays

        `*WARNING - EXITING WITHOUT SAVING CHANGES  Continue? [ ] Y(es), N(o)`

        You can type N and press the Enter key to keep the screen on display while you perform a save, or you can type Y and press the Enter key to finish exiting. Unsaved changes are lost if you exit without performing a save.

14.   To dismiss the Alarm Configuration screen, type selection 0, `Return to Main Menu`, and press the Enter key.

Diagnostics

The terminal interface Diagnostics screen is shown in *Figure 3-11*. It supports three tests for each loop channel: Digital Loop, Self Test, and Remote Digital Loop.

Table 3-3 describes the options.

```
                    UAS 7624 DSL  1, 2, 3  Diagnostics

Loop 1  Tests:
[1] Digital Loop          :Idle
[2] Self Test             :Idle
[3] Remote Digital Loop   :Idle

Loop 2  Tests:
[4] Digital Loop          :Idle
[5] Self Test             :Idle
[6] Remote Digital Loop   :Idle

Loop 3  Tests:
[7] Digital Loop          :Idle
[8] Self Test             :Idle
[9] Remote Digital Loop   :Idle




[0] Return to Main Menu  [S] Save   Self Test Results:
      Select: [  ]
```

Figure 3-11   UAS 7616 Diagnostics Screen

Table 3-3   Diagnostic Option Settings

Option	Potential Settings
[0] Return to Main Menu	Returns you to the UAS 7624 DSL Main Menu.
LOOP*n* TESTS [*x*] Digital Loop	(Three groups, one for each loop) Idle
	Active – commands digital loopback toward network
[*x*] Self Test	Idle
	Active – commands loopback toward remote with 2047 Self Test and error check
[*x*] Remote Digital Loop	Idle
	Active – commands digital loopback at the remote toward network and 7624
[S] Save	Starts or stops loopback by saving current settings

The Diagnostic procedure involves the following steps:

1. From the Main Menu, select the Diagnostics screen by typing 2 and pressing the Enter key.

2. To select a test to be performed, type the appropriate selection number and press the Enter key. Highlighting appears on the current setting field.

3. Use the arrow keys to toggle the highlighted field from Idle to Active.

4. When the field displays Active, press the Enter key. The highlighting disappears and the field displays the new setting.

5. To start the test, type S (Save) and press the Enter key.

    In response, the screen prompts for confirmation:

    *WARNING – SAVING DISRUPTS COMMUNICATIONS Continue? [ ] Y(es), N(o)

6. To perform the test type Y and press the Enter key; to abort the test type N and press the Enter key.

    If you continue, the word SAVING appears at the bottom of the screen. When it disappears the test is in effect. It continues until you end it manually.

    If you are performing a Self Test, the words No Errors Detected appear in the Self Test Results field when the test begins. If errors occur during the test, the display changes to Errors Detected!!!

7. To end a test: type its selection number and press the Enter key; toggle the highlighted field to Idle and press the Enter key; save the setting as described in steps 5 and 6.

8. When you're done with the Diagnostics screen, type 0 and press the Enter key to return to the Main Menu.

Monitor/Alarms

When you select Monitor/Alarms, the screen displays the UAS 7624 DSL Alarm Monitor screen shown in *Figure 3-13*. The screen displays ACTIVE or INACTIVE for each alarm condition to indicate whether or not the condition currently exists. This screen displays alarms regardless of masking performed in Alarm Configuration. Definitions of the alarm conditions appear below.

The screen updates every five seconds so that current information is always displayed. The cursor highlight flickers from field to field on the screen during the brief time required to complete the update.

When you are done viewing the Alarm Monitor screen, type 0 and press the Enter key to return to the Main Menu.

```
                 UAS 7624 DSL   1, 2, 3    Monitor/Alarms

             Loop 1   Alarm Status

OOS: INACTIVE    No Sealing Current: INACTIVE     Error Sec: INACTIVE
UAS: INACTIVE              Major BER: INACTIVE     Minor BER: INACTIVE



              Loop 2   Alarm Status

OOS: INACTIVE    No Sealing Current: INACTIVE      Error Sec: INACTIVE
UAS: INACTIVE              Major BER:  INACTIVE     Minor BER: INACTIVE



              Loop 3   Alarm Status

OOS: INACTIVE    No Sealing Current: INACTIVE      Error Sec: INACTIVE
UAS: INACTIVE              Major BER:  INACTIVE     Minor BER: INACTIVE



[0] Return to Main Menu

      Select: [ ]
```

Figure 3-13   Alarm Monitor Screen

For each of the three loops that the UAS 7616 DIU supports, the Alarm Monitor screen displays a group of six alarms:

> **Out of Sync (OOS)** – occurs when the loop loses synchronization with its remote

> **No Sealing Current** – reported when there is no current on the loop

> **Errored Seconds** – an Errored Second contains at least one CRC error or Out of Frame (OOF) event

> **Unavailable Seconds** – an Unavailable Second is one in which the unit cannot pass data

> **Major BER** – a Major Bit Error Rate alarm occurs when the error rate exceeds the configured threshold limit

> **Minor BER** – a Minor Bit Error Rate alarm occurs when the error rate exceeds the configured threshold limit

In the Alarm Configuration screen you can set the Major and Minor Bit Error Rate (BER) alarms to occur in response to error rates of one error in 1,000, 10,000, 100,000, or 1,000,000 data bits. Typically, you should configure the Minor BER alarm to occur at a lower error rate to serve as an early warning signal, and configure the Major BER alarm to occur at an error rate that seriously

impacts operations. The threshold values you configure for BER alarms govern both SNMP reporting and terminal interface display.

Maintenance

The terminal interface Maintenance screen provides specialized control functions: Soft Reset, individual statistics resets for each loop, individual BER alarm resets for each loop, and operational status control for each loop. *Figure 3-14* illustrates the Maintenance screen.

```
                 UAS 7624 DSL 1,2,3    Maintenance



  General Datacomm.
  UAS 7624 DSL

         Reset Options:
  [1] Soft Reset.
  [2] Reset Statistics Loop 1
  [3] Reset Statistics Loop 2
  [4] Reset Statistics Loop 3
  [5] Reset BER Alarms Loop 1
  [6] Reset BER Alarms Loop 2
  [7] Reset BER Alarms Loop 3
  [8] Operation Status Loop 1   In Service
  [9] Operation Status Loop 2   In Service
 [10] Operation Status Loop 3   Out of Service



  [0] Return to Main Menu

        Select: [ ]
```

Figure 3-14   Maintenance Screen

The information display identifies the serial number and firmware revision level of the unit.

The Maintenance screen includes four command selections:

[1] Soft Reset – causes the UAS 7624 to perform a reset on the three currently selected DSLs and resume operation using its current configuration

[2] – [4] Reset Statistics Loop *n* – causes the UAS 7624 to zero out its accumulated TR-54016 statistics for the selected DSL and begin a new count

[5] – [7] Reset BER Alarms Loop *n* – causes the UAS 7624 to cancel any Active BER count alarm on the selected DSL and begin new BER counts

[8] – [10] Operation Status Loop *n* – controls the status of the selected DSL, switching between Out of Service and In Service

To Reset Statistics for a loop, type the appropriate selection number and press the Enter key. The message "Resetting Statistics on Loop *n*" appears briefly at the bottom of the screen.

To Reset BER alarms for a loop, type the appropriate selection number and press the Enter key.

The message "Resetting Ber Alarms on Loop *n*" appears briefly at the bottom of the screen.

To change the status of a loop, type the appropriate selection number and press the Enter key. The status toggles, changing from Out of Service to In Service or vice versa.

When you are done with the Maintenance screen after resetting statistics, resetting BER alarms, changing loop status, or simply viewing the screen, type 0 and press the Enter key to return to the Main Menu.

To perform a Soft Reset:

1.   Type 1 and press the Enter key.

     In response, the screen prompts for confirmation:

        *WARNING – RESET DISRUPTS COMMUNICATIONS Continue? [ ] Y(es), N(o)

2.   To continue the reset process, type Y and press the Enter key.

     In response, the Maintenance screen is replaced by the following message (with the appropriate slot number):

        Error: Slot x is not responding. (Press enter)

3.   Press the Enter key.

     In response the screen displays the Shelf Inventory. The procedure is complete at this point and the unit resumes operation with its existing configuration.

Performance

The Statistics menu screen shown in *Figure 3-15* appears when you type 5 to invoke the Performance function from the DSL Main Menu. It contains selections for four displays for each loop, the displays differ in the period of time that they cover:

•   Current Stats – uncompleted 15-minute interval on which information is presently being collected (shown in *Figure 3-16*)

•   Interval Stats – four hours of information, presented as 16 15-minute intervals (shown in *Figure 3-17*)

•   Current 24 hours Stats – total counts for a 24-hour period, up through the most recently completed 15-minute interval (shown in *Figure 3-18*)

•   Recent/Previous 24 hours Stats – total counts for the 24-hour period from 48 to 24 hours ago (shown in *Figure 3-19*)

Each display presents information concerning occurrences on the loop of four conditions:

•   Errored Seconds

•   Severely Errored Seconds

•   Unavailable Seconds

•   Far End Block Errors

To access a Statistics display, type the selection number that corresponds to it and press the Enter key.

```
                  UAS 7624 DSL  1, 2, 3   Statistics

 [1] Loop  1 Current Stats
 [2] Loop  1 Interval Stats
 [3] Loop  1 Current 24 hours Stats
 [4] Loop  1 Recent/Previous 24 hours Stats
 [5] Loop  2 Current Stats
 [6] Loop  2 Interval Stats
 [7] Loop  2 Current 24 hours Stats
 [8] Loop  2 Recent/Previous 24 hours Stats
 [9] Loop  3 Current Stats
[10] Loop  3 Interval Stats
[11] Loop  3 Current 24 hours Stats
[12] Loop  3 Recent/Previous 24 hours Stats




 [0] Return to Main Menu

        Select: [   ]
```

Figure 3-15   Statistics Menu

```
                 UAS 7624 DSL 1  Current Statistics


Error Seconds           :        0
Severe Error Seconds    :        0
Unavailable Seconds     :      734
Far End Block Errors    :        0












 [0] Return to Main Menu    [CR] Return to previous menu

        Select: [ ]
```

Figure 3-16   Current Statistics Screen

```
                  UAS 7624 DSL 1 Interval Statistics

  Int        ES        SES        UAS        FEBES
  1          0          0         900          0
  2          0          0         900          0
  3          0          0         900          0
  4          0          0         900          0
  5          0          0         900          0
  6          0          0         900          0
  7          0          0         900          0
  8          0          0         900          0
  9          0          0         900          0
  10         0          0         900          0
  11         0          0         900          0
  12         0          0         900          0
  13         0          0         900          0
  14         0          0         900          0
  15         0          0         900
  16         0          0         900



    [0] Return to Main Menu    [CR] Return to previous menu

          Select: [ ]
```

Figure 3-17　　Interval Statistics Screen

```
            UAS 7624 DSL 1   Current 24 Hour Statistics


  Error Seconds          :         0
  Severe Error Seconds   :         0
  Unavailable Seconds    :      4664
  Far End Block Errors   :












    [0] Return to Main Menu    [CR] Return to previous menu

          Select: [ ]
```

Figure 3-18　　Current 24 Hour Statistics Screen

```
          UAS 7624 DSL 1   Recent/Previous 24 Hour Statistics


Error Seconds         :         0
Severe Error Seconds  :         0
Unavailable Seconds   :         0
Far End Block Errors  :














  [0] Return to Main Menu     [CR] Return to previous menu

          Select: [ ]
```

Figure 3-19   Recent/Previous 24 Hour Statistics Screen

General DataComm