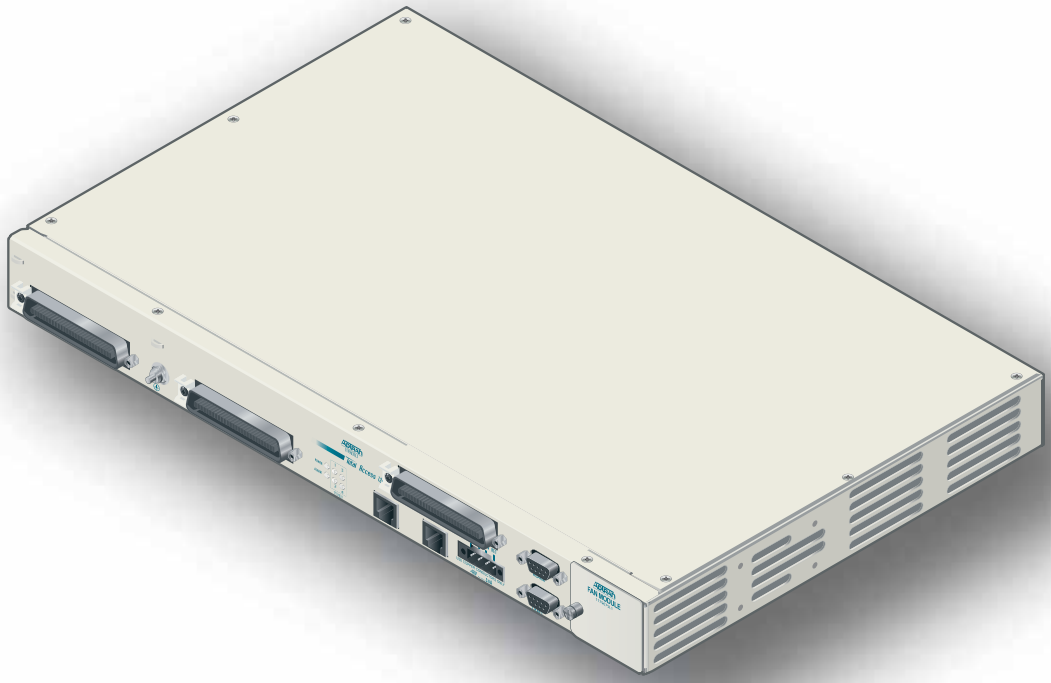

Total Access 1224
Quad T1 IMA 24-Port DSLAM
Installation and Maintenance Practice

Document Number: 61179621L1-5C
CLEI Number: VAMA510E_ _
January 2007

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Revision History

Revision	Date	Description
A	September 2005	Initial release
B	January 2006	This is the second release of this document. This version reflects a change in front panel silk-screen labeling and provides additional guidance for performing configuration archiving.
C	January 2007	This is the third release of this document. This version updates the software to Rev B03.

Conventions

The following typographical conventions are used in this document:

This font indicates a cross-reference link.

This font indicates screen menus, fields, and parameters.

THIS FONT indicates keyboard keys (ENTER, ESC, ALT). Keys that are to be pressed simultaneously are shown with a plus sign (ALT+X indicates that the ALT key and X key should be pressed at the same time).

This font indicates references to other documentation and is also used for emphasis.

`This font` indicates on-screen messages and prompts.

`This font` indicates text to be typed exactly as shown.

This font indicates silkscreen labels or other system label items.

This font is used for strong emphasis.

NOTE

Notes inform the user of additional, but essential, information or features.

CAUTION

Cautions inform the user of potential damage, malfunction, or disruption to equipment, software, or environment.

WARNING

Warnings inform the user of potential bodily pain, injury, or death.

Federal Communications Commission (FCC) Statement

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with limits for a Class A digital device pursuant to Subpart B of Part 15 of FCC Rules, which are designed to provide a reasonable protection against such interference when operated in a commercial environment.

This equipment does not exceed Class A limits for radio emission for digital apparatus, set out in the Radio Interference Regulation of the Canadian Department of Communications.

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Contents

Section 5

Figures

Tables

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Section 1
Introduction

GENERAL

The Total Access 1224 (see Figure 1-1) is a Digital Subscriber Line Access Multiplexer (DSLAM) system that is used to further extend Asymmetrical Digital Subscriber Line (ADSL) services in the network.

Figure 1-1. Total Access 1224

DESCRIPTION

The Total Access 1224 is a mini-DSLAM that accepts up to four T1 network feeds assigned to a single IMA group. Inverse Multiplexing over ATM (IMA) is a technology used to bond multiple (DS1) links into a single data pipe.

The Total Access 1224 provides ADSL2+ service for up to 24 subscribers per unit. Plain Old Telephone Service (POTS) is brought in from an on-board splitter and is placed on the same pair as the ADSL2+ signal. Since ADSL2+ and POTS are transported on the same twisted pair, the customer must use a low-pass filter on the line before attempting to use analog services. The lines are configured for service with flow-through provisioning using a network configuration application such as Telcordia's Network Configuration (NCON). Permanent Virtual Circuits (PVCs) in the ATM network to the subscriber's chosen Internet Service Provider (ISP) allow the customer access to the internet.

The Total Access 1224 is rack-mountable and measures 1.75 inches (1U) high, 17.25 inches wide, and 11.125 inches deep (measurements do not include the mounting brackets). The device may be powered using one or two –48 VDC sources, one for a non-redundant power configuration, two for a redundant power configuration.

For detailed specification information on the Total Access 1224 system, refer to "Section 7, Specifications".

Features

The Total Access 1224 system incorporates the following features:

- Front panel indication of network, customer, and power/self-test status
- 24 ports of ADSL2+ plus POTS
- Redundant power inputs
- POTS service is not power dependent
- Removable front-accessible fan module (P/N 1179675L1)
- Front panel indication of T1 status
- Supports IMA for up to four T1/E1 IMA links
- ADSL options provisionable to accommodate both short and long haul T1s
- Provisioning and alarm monitoring via TL1, SNMP, local craft interface, and inband management channel
- IMA group support (one group)
- Operates over an extended temperature range of –40°C to +70°C
- Interoperable with any ATM T1 IMA device built to current IMA specifications, which includes the Total Access 3000 IMA Aggregation System
- Compliant with GR-63-CORE/GR-1089-CORE (NEBS), and Listed to the applicable UL Safety Standard(s)
- Expansion capabilities for a total of three Total Access 1224 Client chassis to a Host unit
- In-band management of the expansion chassis

Front Panel LEDs

There are ten LEDs on the front panel of the Total Access 1224, as shown in Figure 1-2.

- Two LEDs provide status information (**PWR** and **ALM**)
- Four LEDs provide the status of the four T1/E1s (**T1/E1**)
- Two LEDs provide Ethernet (**ETHERNET**) status
- Two LEDs provide Expansion Port (**EXPANSION OUT**) status

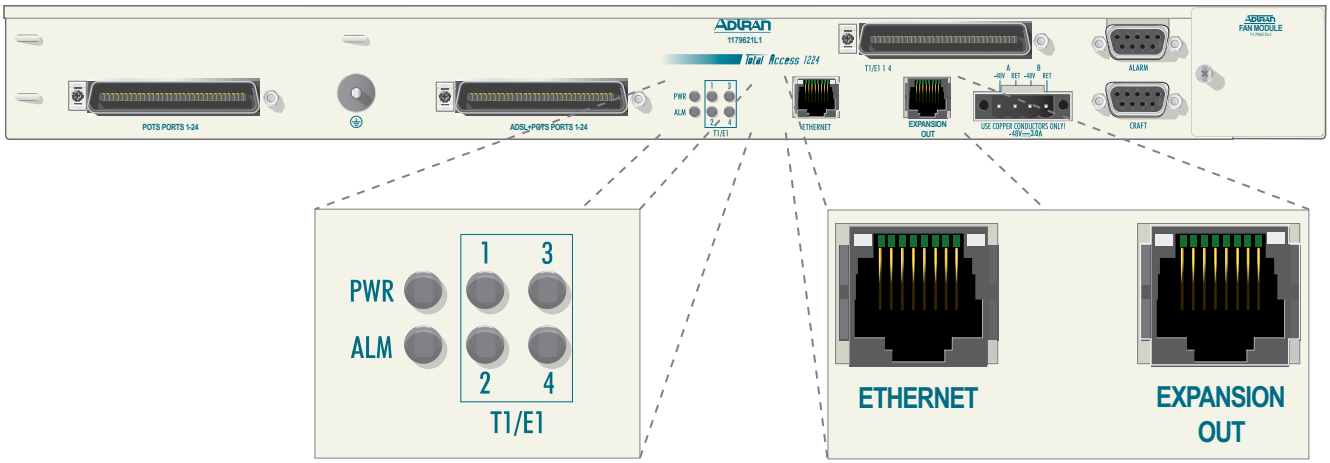

Figure 1-2. Total Access 1224 Front Panel LEDs

See Table 1-1 for a listing of LEDs and their status.

Table 1-1. Front Panel LEDs

Label	Status	Description
PWR	Green Yellow Red Off	Total Access 1224 is In Service Total Access 1224 is Out of Service-Maintenance Total Access 1224 has failed self test No power present on Total Access 1224
ALM	Yellow Red Off	Total Access 1224 is reporting a Minor alarm Total Access 1224 is reporting a Major alarm No alarms reported on Total Access 1224
T1/E1 1–4	Green Green Flashing Yellow Yellow Flashing Red Off	All good T1/E1 OK, no IMA Synchronization Signal present Out of Frame (OOF) T1/E1 is in loopback No signal Facility unassigned
ETHERNET	Green Green Flashing Yellow	Ethernet signal present Ethernet with traffic No signal
EXPANSION OUT	Green Green Flashing Yellow	Connected to a downstream chassis Connected with traffic No signal

Compliance

Table 1-2 shows the compliance codes for the Total Access 1224. The Total Access 1224 is compliant with GR-63-CORE/GR-1089-CORE (NEBS), and Listed to the applicable UL Safety Standard(s). The device is to be installed in a restricted access location.

Table 1-2. Compliance Codes

Code	Input	Output
Power Code (PC)	F	C
Telecommunication Code (TC)	–	–
Installation Code (IC)	E	–

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by ADTRAN could void the user's authority to operate this equipment.

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Section 2
Application Guidelines

INTRODUCTION

The Total Access 1224 provides 24 ADSL2+ plus POTS ports downstream to the subscriber, one to four T1 IMA ports upstream to the network, local and remote management capabilities, and ten front panel LEDs that indicate status. Figure 2-1 illustrates an operational scenario for the Total Access 1224.

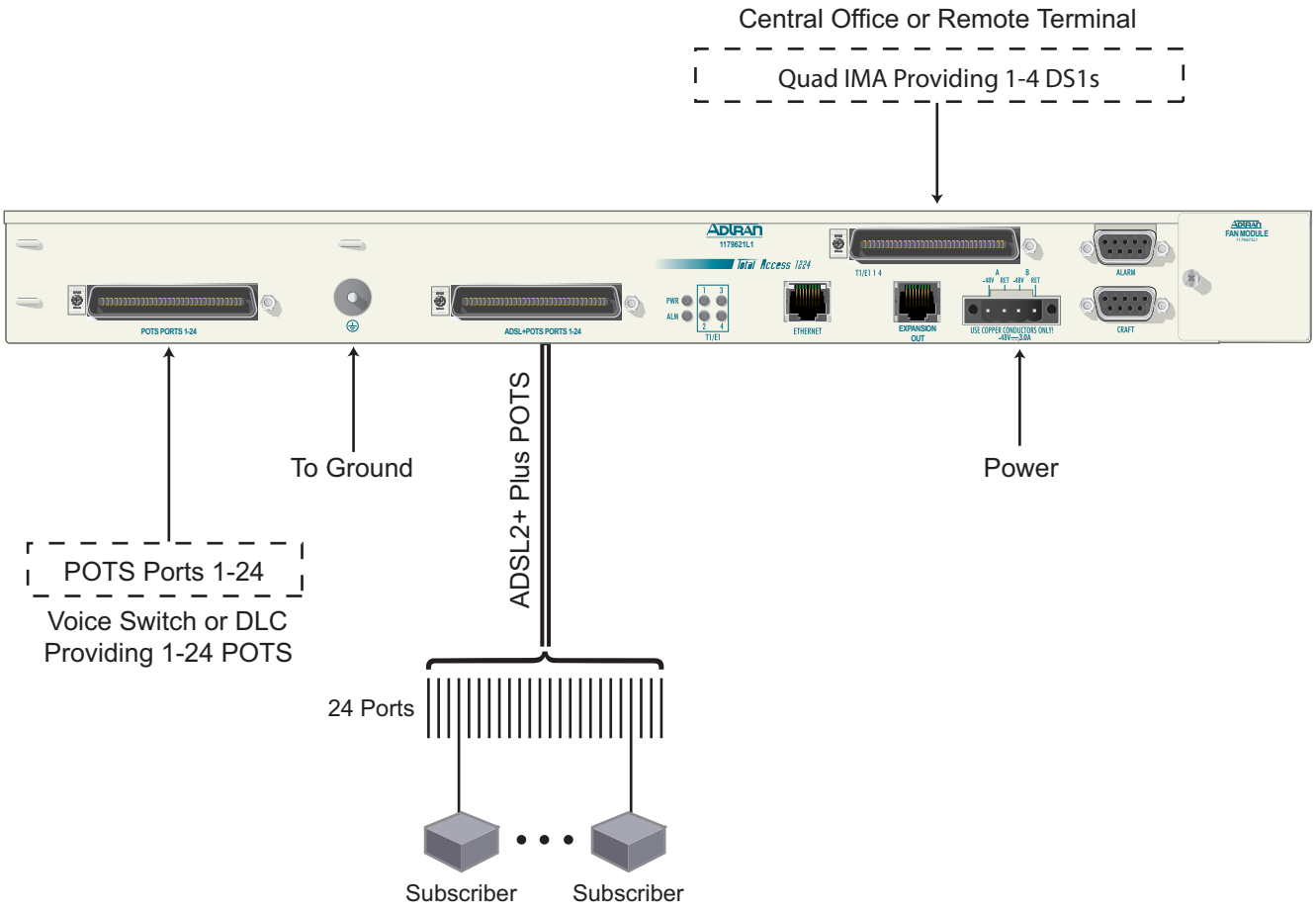

Figure 2-1. Total Access 1224 Operational Scenario

EXPANSION

Up to four Total Access 1224 systems can be connected together (see Figure 2-2). One of the units must be a Total Access 1224 Host unit (P/N 1179621L1) and the others are Total Access 1224 Client units (P/N 1179621L5).

The client units (also referred to as Expansion units) have RJ-45 jacks, labeled **EXPANSION IN** and **EXPANSION OUT**, for the purpose of expanding one to another.

The Total Access 1224 provides the network connection for all of the client units. All provisioning for the clients is completed through the host unit.

Beginning with the host, a Category 5e, non-crossover cable is connected from the **EXPANSION OUT** jack to the **EXPANSION IN** jack of the first client unit. Further connections between client unit **EXPANSION OUT** jacks to **EXPANSION IN** jacks continue until a total of up to three client units have been connected with the third client unit having only a connection to the **EXPANSION IN** jack.

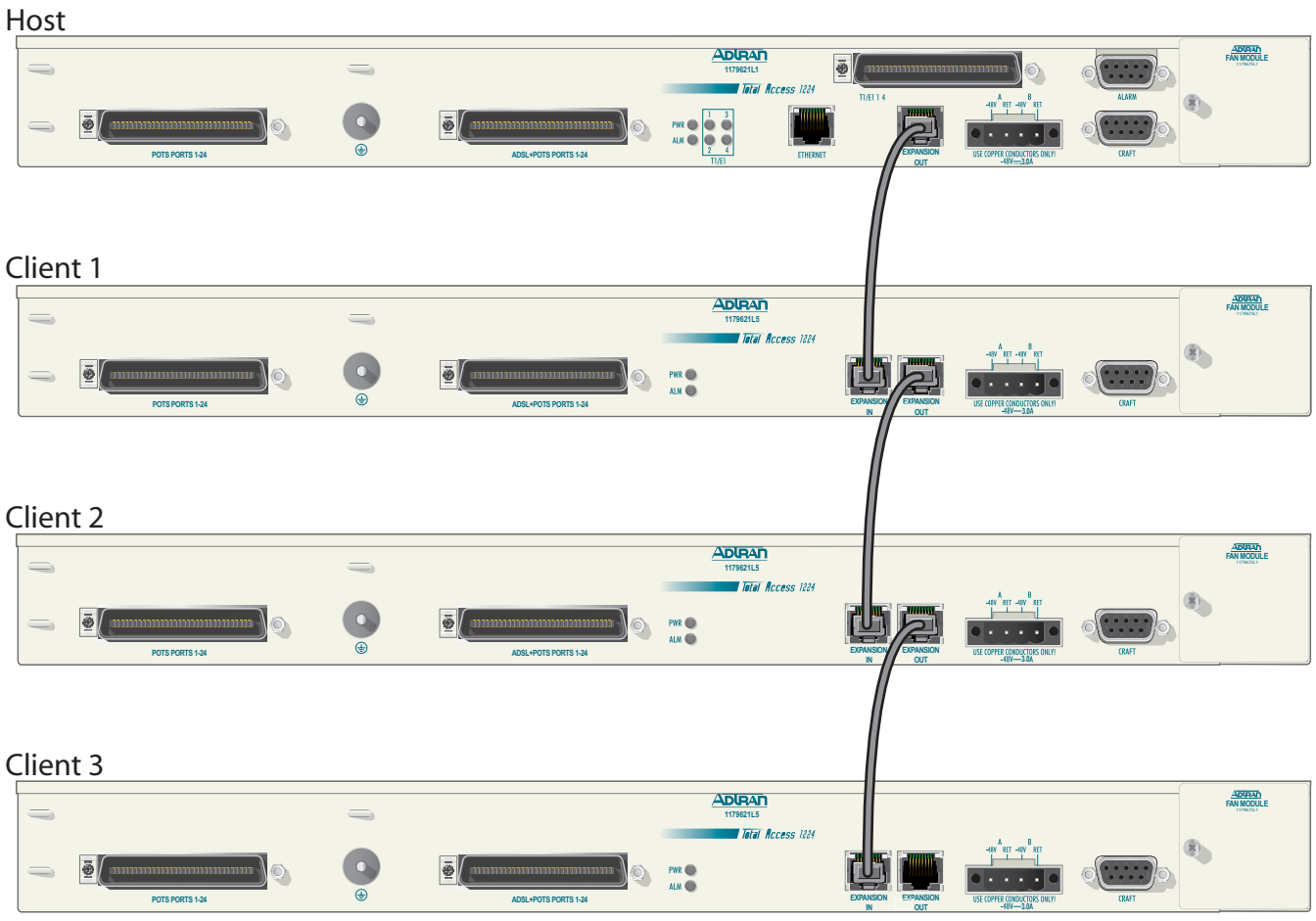

Figure 2-2. Expansion Cabling

Section 3
Installation

INTRODUCTION

CAUTION

Electronic units can be damaged by ESD. When handling units, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place units in antistatic packing material when transporting or storing. When working on units, always place them on an approved antistatic mat that is electrically grounded.

After unpacking the Total Access 1224, inspect it for damage. If damage has occurred, file a claim with the carrier and then contact ADTRAN Customer Service. Refer to "Appendix A, Warranty" for further information. If possible, keep the original shipping container to return the Total Access 1224 for repair or for verification of shipping damage.

Shipping Contents

The shipping container for the Total Access 1224 includes the contents shown in Table 3-1.

Table 3-1. Total Access 1224 Shipping Contents

Description	Part Number	Quantity
Total Access 1224 Quad T1 IMA 24-Port DSLAM	1179621L1	1
Total Access 1224 Quad T1 IMA 24-Port DSLAM Installation and Maintenance Practice	61179621L1-5	1
Cable Assembly, Ground Wire	3125P037@	1
Terminal Block	32024CON10	1
Mounting Bracket, 19-inch	3265540	2
Mounting Bracket, 23-inch	3265541	2
Screw, 8-32 × 1/4	3276003007	4
Screw, 8-32 × 3/16	327611034	4
Cable Tie	3292032	3

Required Tools

The following tools and materials are required to install the Total Access 1224:

- Wire-wrap tool
- #2 phillips-head screwdriver
- #1 phillips-head screwdriver
- Straight-slot screwdriver
- Multimeter (ohmmeter and voltmeter)
- Crimping tool for power lugs
- Wire strippers
- Side cutters

INSTALLATION PREREQUISITES

The following items should be completed prior to installing the Total Access 1224:

1. Make sure that the network feed is in place.
2. Make sure that local power is available and that the required fuses are installed.

CAUTION

The maximum power draw for the Total Access 1224 system is 50 watts.

The Total Access 1224 system should be fused at 3.0 amps.

3. Complete Table 3-2 with the information that is needed to turn-up and provision the Total Access 1224.

Table 3-2. Turn-up and Provisioning Prerequisite information

Item Description	Value
Network Feed/Aggregation System IP Address	
Network Feed/Aggregation System Port	
Total Access 1224 IP Address	
Total Access 1224 Default Gateway	
Total Access 1224 Subnet Mask	
Total Access 1224 VPI/VCI	
Number of Network Facilities Feeding the Total Access 1224	
CLEI Code/System Name	

INSTALLATION STEPS

The following steps are required to install the Total Access 1224. Each step has an associated procedure which is referenced below the step. Each procedure provides detailed information for completing the step.

1. Mount the Total Access 1224 system with the appropriate hardware.

   For detailed information, refer to "Mounting the Total Access 1224" on page 3-5.

2. Ground the Total Access 1224.

   For detailed information, refer to "Ground Connection" on page 3-8.

3. Make the power connections to the Total Access 1224.

   For detailed information, refer to "Power Connection" on page 3-9.

4. Connect the Ethernet cable to the Total Access 1224.

   For detailed information, refer to "Ethernet Connection" on page 3-11.

5. Connect the DB-15 male alarm cable connector to the Total Access 1224 and wire-wrap the connections to an alarm panel.

   For detailed information, refer to "Alarm Connections" on page 3-12.

6. Connect the network cable.

   For detailed information, refer to "Network Connections" on page 3-13.

7. Connect the ADSL2+ plus POTS and POTS cables.

   For detailed information, refer to "ADSL2+ Plus POTS Connections" on page 3-14.

8. Turn-up the Total Access 1224.

   For detailed information, refer to "Quick Turn-up Steps" on page 3-17.

Mounting the Total Access 1224

The Total Access 1224 is shipped with two sets of mounting brackets that accommodate either a 19-inch or 23-inch rack.

- The mounting brackets used for a 19-inch rack are part number 3265540.
- The mounting brackets used for a 23-inch rack are part number 3265541.

The mounting brackets provide for flush or mid-mounting configurations. Figure 3-1 shows the Total Access 1224 mounting bracket installation options. Four screws (supplied with the unit) are required for mounting the brackets to the system.

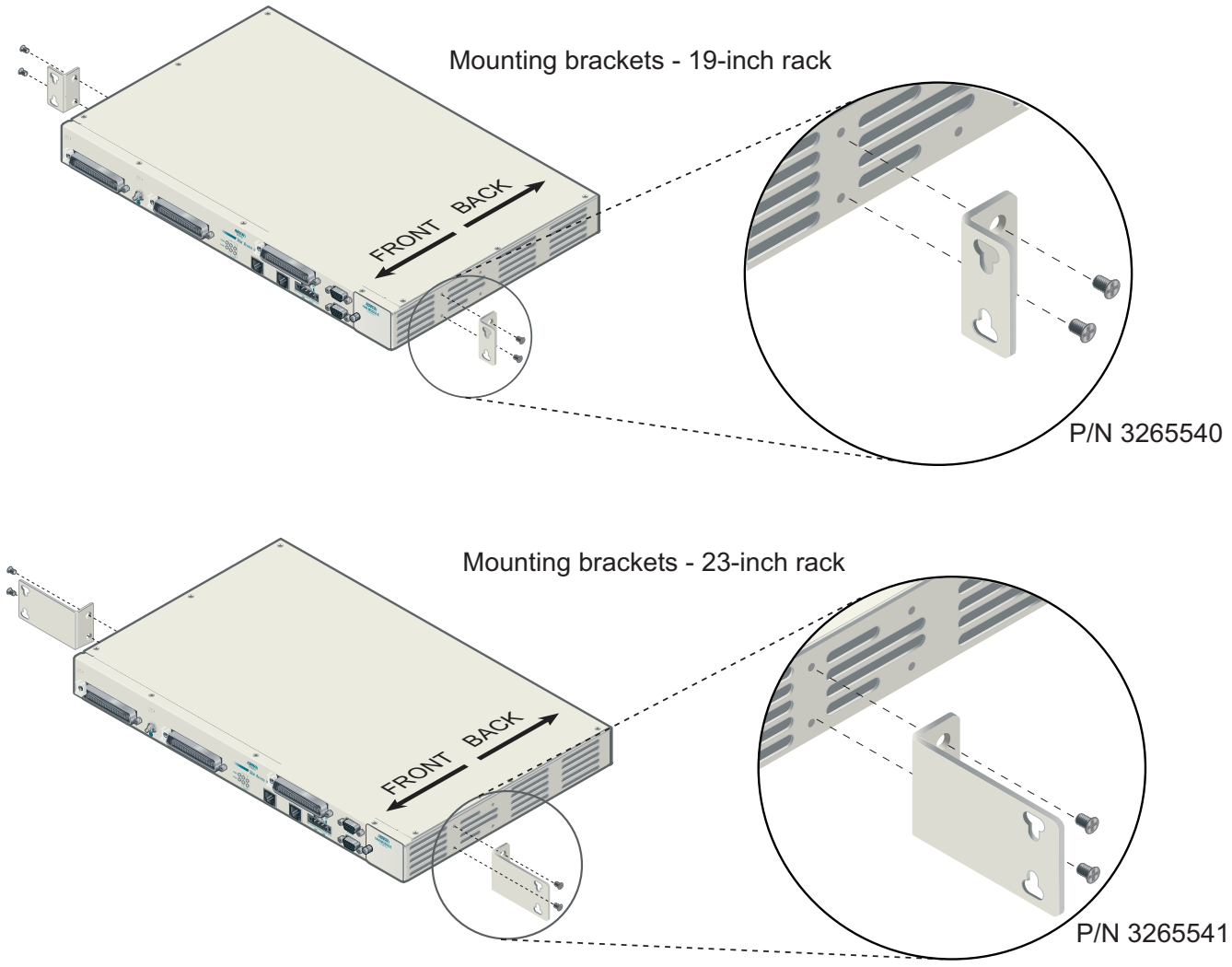

Figure 3-1. Mounting Brackets

Flush-mount

For flush-mount systems, the Total Access 1224 must be mounted from the front of the rack, with mounting brackets in the flush-mounting orientation (see Figure 3-2). When flush-mounting a Total Access 1224 in the rack, use a #2 phillips-head screwdriver and attach the mounting brackets, with the flanges containing the slotted rack-mounting holes facing the front, to the mounting bracket holes closest to the front of the Total Access 1224.

Using four screws appropriate for the mounting rack and the appropriate screwdriver, secure the Total Access 1224 in place on the rack.

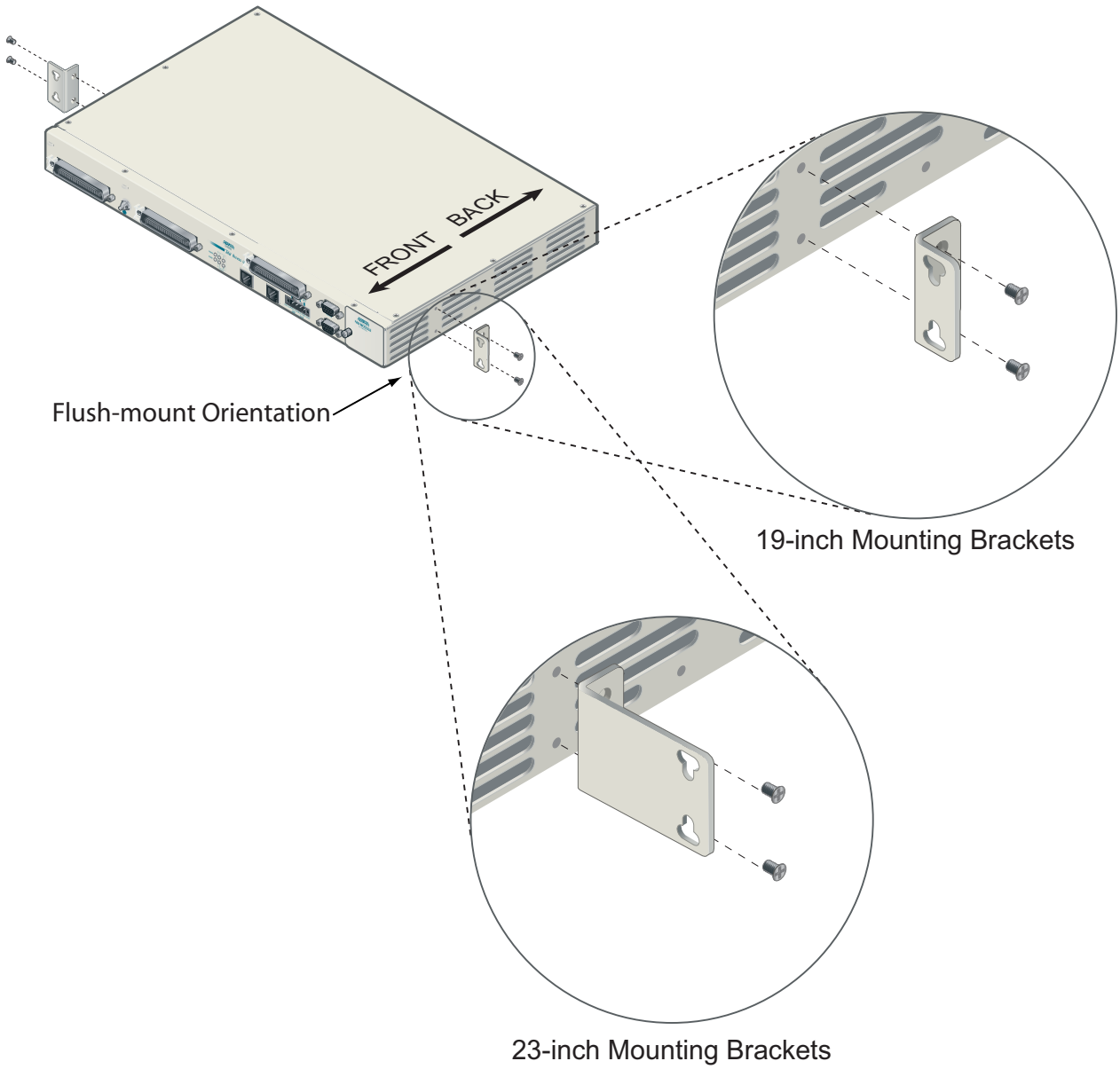

Figure 3-2. Flush-mount Orientation

Mid-mount

For mid-mount systems, the Total Access 1224 must be mounted from the rear of the rack, with mounting brackets in the mid-mounting orientation (see Figure 3-3). For mid-mounting a Total Access 1224 in the rack, use a #2 phillips-head screwdriver and attach the mounting brackets, with the flanges containing the slotted rack-mounting holes facing the front, to the mounting bracket holes closest to the back of the Total Access 1224.

Using four screws appropriate for the mounting rack and the appropriate screwdriver, secure the Total Access 1224 in place on the rack.

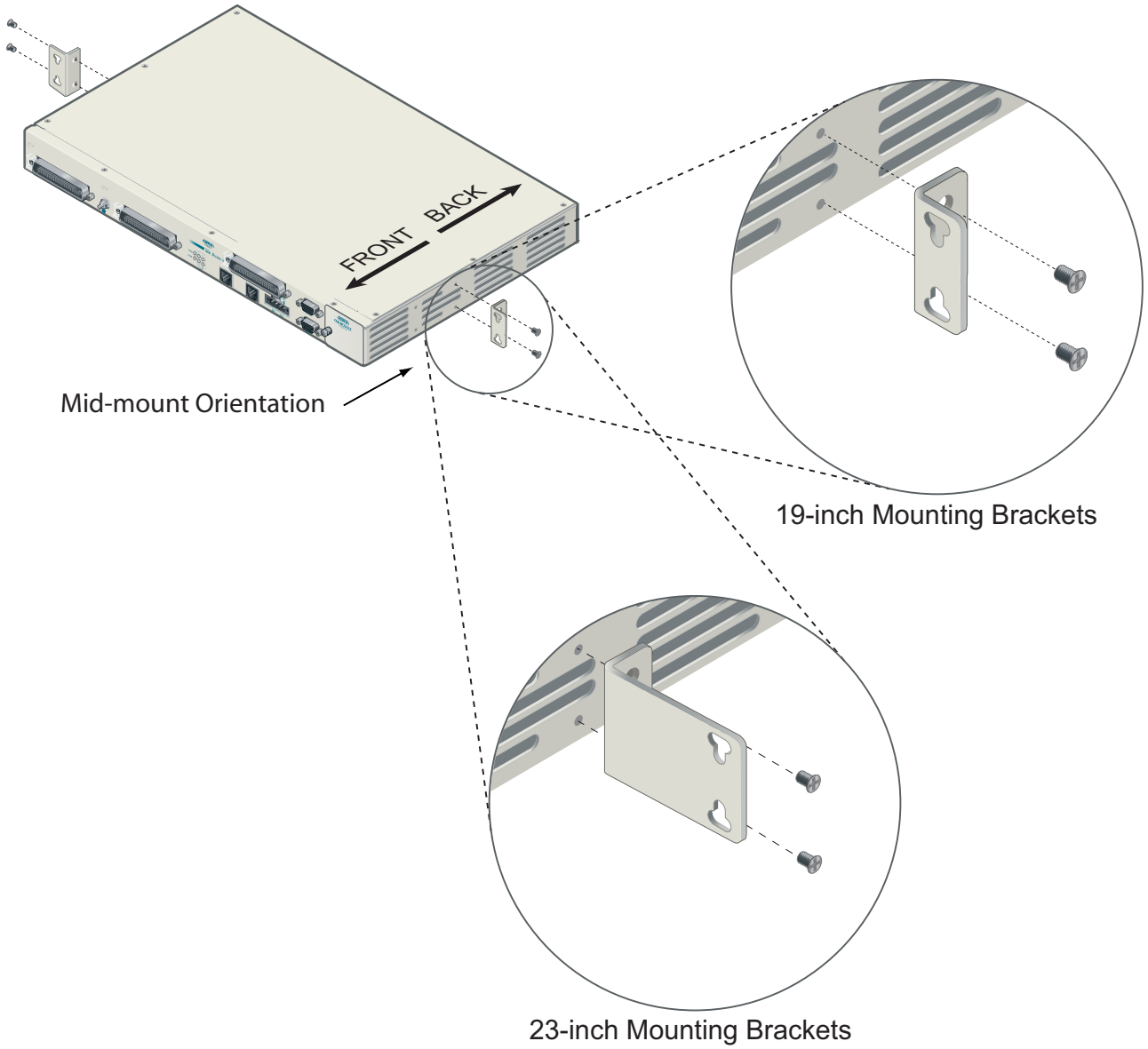

Figure 3-3. Mid-mount Orientation

Ground Connection

The ground wire must be 12 to 18 AWG, however, it must be as large or larger than the wire used for power. The Total Access 1224 must be grounded to a reliable grounding source.

To connect the ground wire, perform the following steps:

1. Connect the ground wire (fitted with a loop terminal end) to the ground lug on the front of the Total Access 1224 (see Figure 3-4).
2. Clean the surface of the frame ground source and apply an appropriate antioxidant.
3. Connect the other end of the ground wire to the grounded frame.
4. Using an ohmmeter, verify continuity between the ground lug and a known good frame ground. The reading should be less than 1 ohm.

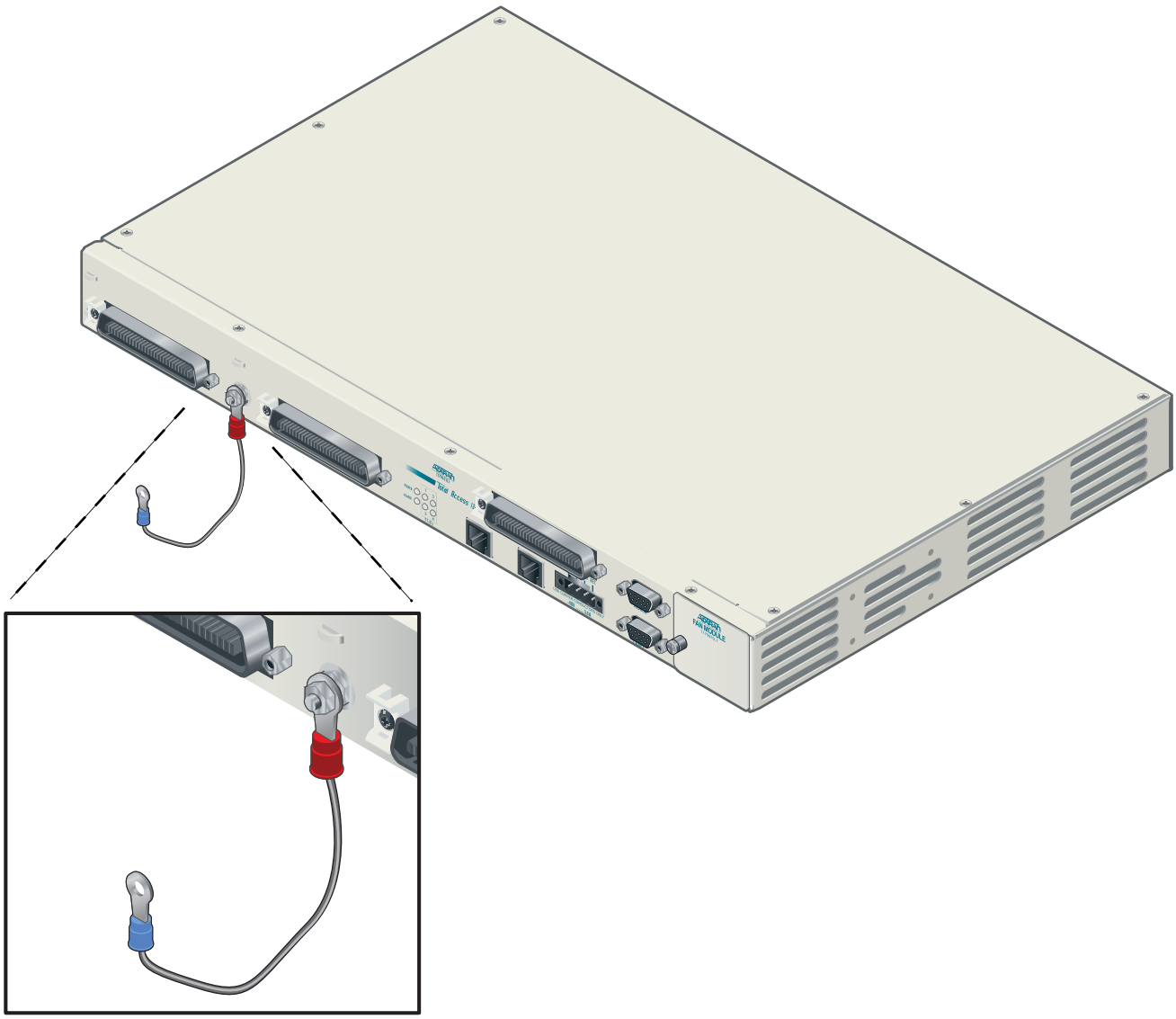

Figure 3-4. Total Access 1224 Ground Connection

Power Connection

The Total Access 1224 provides redundant power inputs. Two sources of –48 VDC must be provided to use the redundant power feature. The power wires must be 12 to 18 AWG stranded copper. The Total Access 1224 uses a four-point terminal block (see Figure 3-5) to accept the –48 VDC and –48 VDC RET leads.

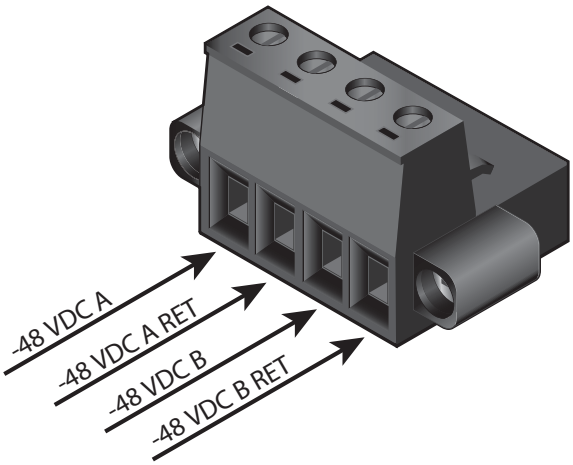

Figure 3-5. Four-point Terminal Block

NOTE

If a non-redundant power configuration is to be implemented, use the connections marked **–48 VDC A** and **–48 VDC A RET**.

To connect the power source, perform the following steps:

1. With the power disconnected at the source, remove approximately 1/4-inch of insulation from the ends of both power wires.

NOTE

ADTRAN recommends an external fuse rated at 3.0 amps.

2. Using a small flat-head screwdriver, loosen the setscrews on the top of the terminal block.
3. Insert the bare wire into the opening on the front of the terminal block, making sure that the wire is inserted correctly according to the labeling on the unit above the terminal block.
4. While holding the wire in place, tighten the setscrew until the wire is secure.
5. Repeat steps 1 to 4 until all power leads are connected.
6. Apply power to the Total Access 1224 and test the voltage and polarity on the terminal block using the tops of the setscrews as test points.

Fans/Fan Filter

The Total Access 1224 is shipped with a pre-installed fan module (P/N 1179675L1). The fan module is located on the right side of the unit, and contains four fans (see Figure 3-6). The fans move filtered air (if the filter is installed) into the Total Access 1224 chassis and out through the exhaust slots on the left side.

The fans are monitored by the system and are tested during power-up or when a fan module is installed. The fans can also be manually tested from the Self-test menu. If any fan fails, the **PWR** LED lights red indicating a self-test failure. At the same time, a minor alarm is generated indicating the problem. This also occurs if the fan(s) fail during use. If the fan module is removed from the shelf for replacement and/or maintenance, the alarm can be suppressed depending on the fan alarm delay.

The fans are thermostatically controlled and are only powered on when necessary. Initially, only one fan is activated. The fans are alternated to maintain the specified temperature level. If the temperature continues to rise, all fans are used at the same time. In the event the temperature still remains too high, the ADSL circuits are shut down until a safe operating temperature is reached.

The fan module and fan filter are field-replaceable.

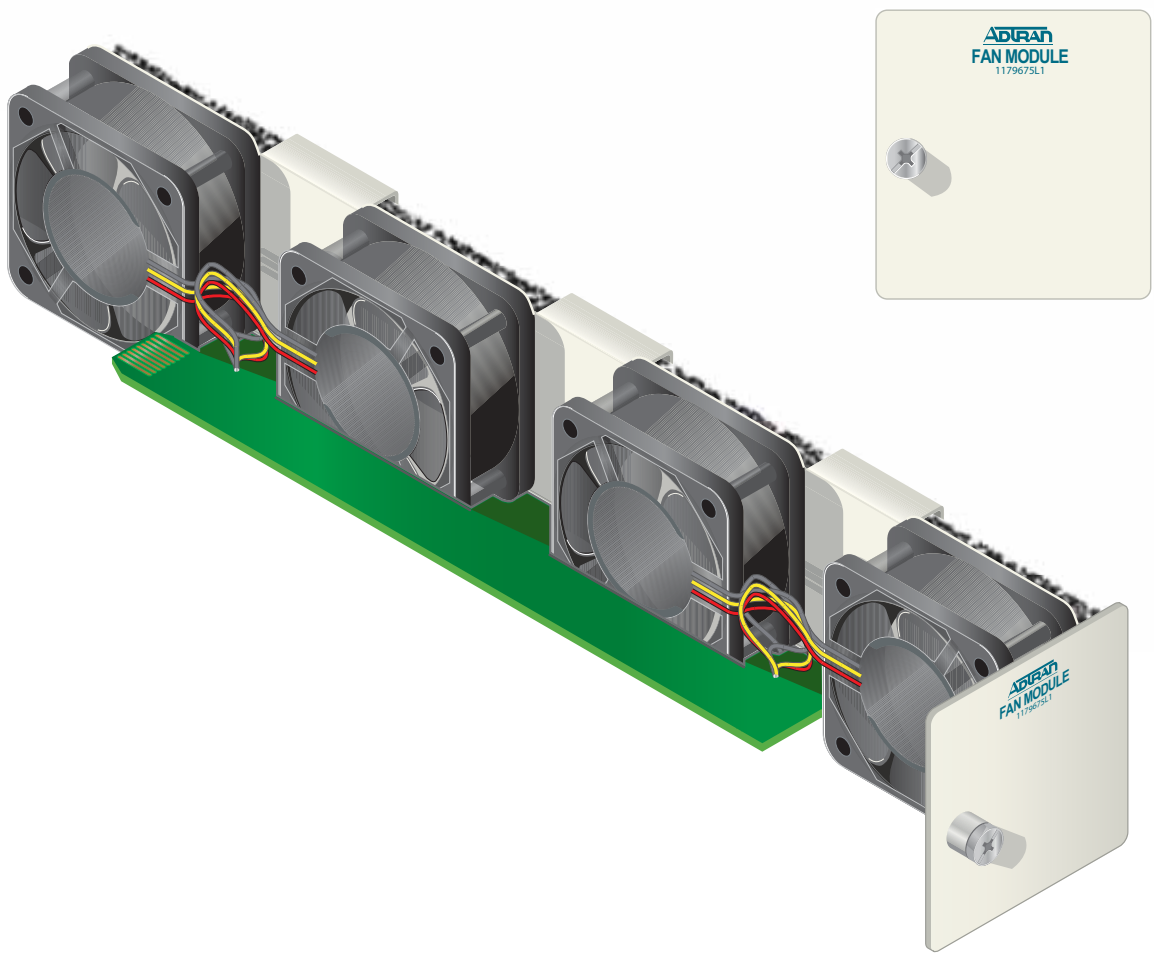

Figure 3-6. Total Access 1224 Fan Module

Ethernet Connection

The Total Access 1224 interfaces with networks for management through an Ethernet port (see Figure 3-7).

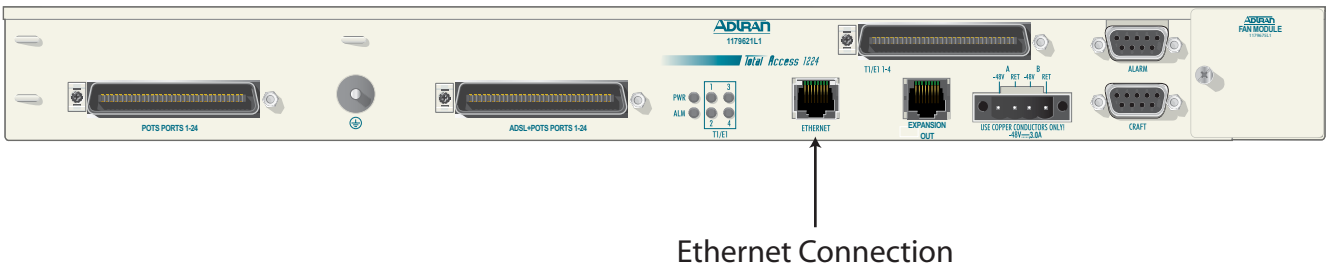

Figure 3-7. Total Access 1224 Ethernet Port

The following Ethernet protocols are supported:

- IEEE 802.3, 10/100Base-T
- IEEE 802.1Q
- IEEE 802.1P User Defined VLAN Priority (upstream)
- DHCP Client Mode for Management
- SNMP
- Ethernet frame sizes up to 1,522 bytes (later releases planned for 1,600 bytes)

Alarm Connections

The Total Access 1224 provides an Type SP15 connector (see Figure 3-8) with three auxiliary alarm inputs and three alarm outputs (Major, Minor, and Critical). If load shedding is active then the Critical alarm output will be active. Alarm inputs are activated by shorting A and B contacts (closing an externally connected relay). The outputs provide both normally open and normally closed pins (through internal relay contacts) for proper operation with a variety of alarm panels. Each alarm event generates an autonomous TL1 message that is transmitted via the in-band management channel to a monitoring device.

A cable with a Type SP15 male connector on one end and a stub at the other end is available (P/N 1196DB901L1) for wire-wrap connections to an alarm panel.

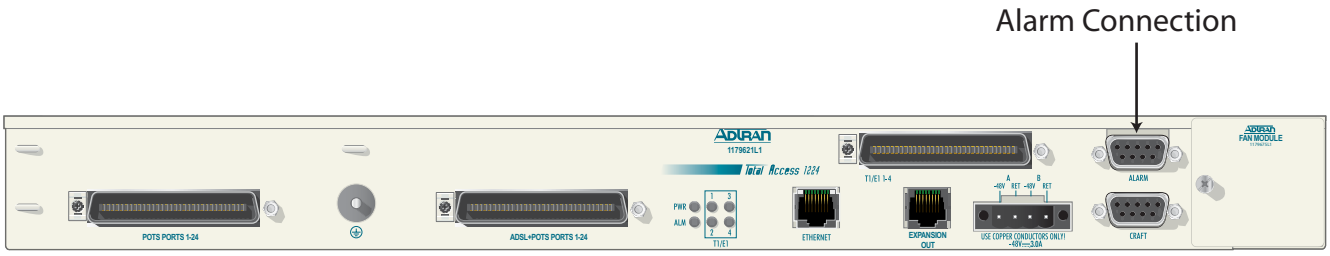

Figure 3-8. Total Access 1224 Alarm Connection

The alarm pinouts are shown in Table 3-3.

Table 3-3. Alarm Pinouts

Pin	Color	Contact Description
1	Red	Alarm 3 Input - A
2	Red/Black	Alarm 1 Input - B
3	Red/White	Critical Alarm COM
4	Orange	Minor Alarm COM
5	Orange/Black	Major Alarm COM
6	White	Alarm 3 Input - B
7	White/Black	Alarm 2 Input - A
8	Black	Critical Alarm NC
9	Black/White	Minor Alarm NC
10	Blue/Black	Major Alarm NC
11	Blue/White	Alarm 2 Input - B
12	Blue	Alarm 1 Input - A
13	Green/Black	Critical Alarm NO
14	Green/White	Minor Alarm NO
15	Green	Major Alarm NO

Network Connections

Network connections are accomplished via the 50-pin amphenol connector labeled **T1/E1 1-4** (see Figure 3-9). See Table 3-4 for the pinout of the T1/E1 interface.

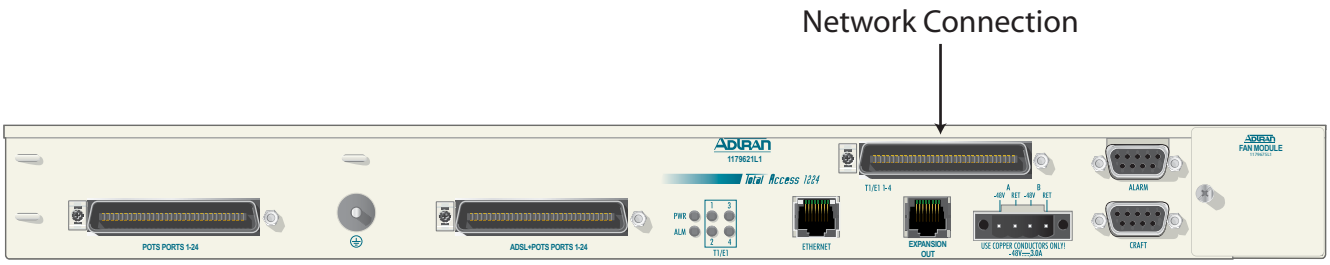

Figure 3-9. Total Access 1224 Network Connection

Table 3-4. T1/E1 Interface Pinout

Pin Numbers	Description
1, 26	RX Tip/Ring 1
2, 27	TX Tip/Ring 1
3, 28	RX Tip/Ring 2
4, 29	TX Tip/Ring 2
5, 30	RX Tip/Ring 3
6, 31	TX Tip/Ring 3
7, 32	RX Tip/Ring 4
8, 33	TX Tip/Ring 4
9-25, 34–50	Unused

ADSL2+ Plus POTS Connections

The Total Access 1224 utilizes two 25-pair amphenol connectors (see Figure 3-10), which are used as follows:

- One amphenol for connection to the POTS pairs
- One amphenol for connection to the ADSL2+ plus POTS pairs

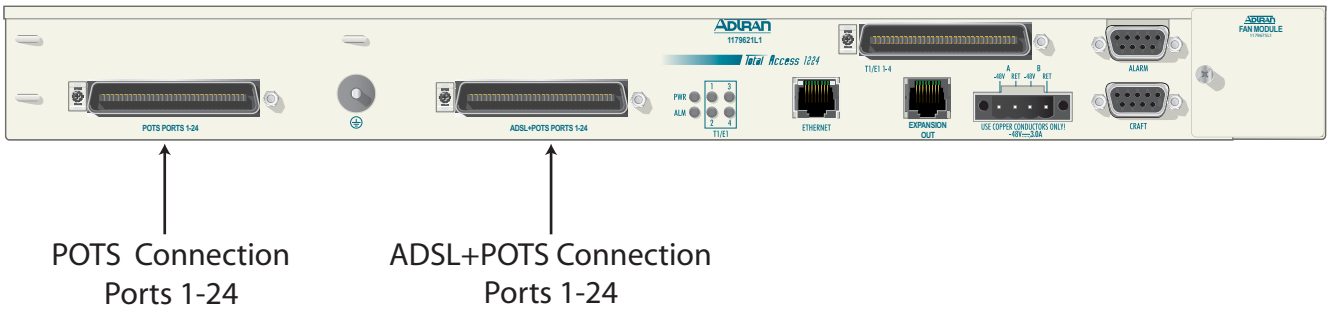

Figure 3-10. Total Access 1224 POTS and ADSL+POTS Connections

POTS Interface

Each POTS interface on the Total Access 1224 accepts a POTS signal from the CO and passes it through to the ADSL2+ plus POTS interface for delivery to the customer. POTS service is not affected by loss of power to the unit.

ADSL2+ Plus POTS Interface

Each ADSL2+ plus POTS interface provides transport for standard POTS from the Central Office (CO) to the customer. The frequency ranges for Total Access 1224 deployment are as follows:

- POTS accommodates frequency ranges up to 4 kHz
- ADSL and ADSL2 accommodates frequency ranges up to 1.1 MHz
- ADSL2+ accommodates frequency ranges up to 2.2 MHz

Any analog devices connected to this interface must use a low-pass filter to prevent high frequencies from interfering with the device.

POTS Connection

The Total Access 1224 must be connected to a POTS source to provide POTS to the customers. In a standard configuration, the POTS will be brought in from a nearby cross-connect. The Total Access 1224 accepts the POTS signal on the amphenol connector labeled **POTS PORTS 1-24**. There is a one-to-one correlation between the pins on the POTS amphenol connector and the pins on the ADSL2+ plus POTS (**ADSL + POTS PORTS 1-24**) amphenol connector. Refer to the "Customer Connections (ADSL2+ PLUS POTS)" section below for more information.

To establish a POTS connection, perform the following steps:

1. Connect the cable with the 25-pair female amphenol connector to the male amphenol connector provided, labeled **POTS PORTS 1-24**.
2. Tighten the screw (normally provided with each amphenol connector attached to the cable) on the right side of each amphenol connector, and use the cable ties (provided) threaded through the tie-down brackets (provided) to secure the left side of the amphenol connectors.

NOTE

This wire tie may be used to assist in routing the power cables and the ADSL+POTS cables that originate from the right most amphenol connector.

NOTE

The POTS interface may be connected to the outside plant.

Customer Connections (ADSL2+ PLUS POTS)

The Total Access 1224 provides 24 ADSL2+ plus POTS ports on one 50-pin male amphenol connector. POTS is brought in from the CO on the POTS amphenol connector as described in the preceding section. The ADSL2+ is generated locally and placed on the same pair as the corresponding POTS signal for delivery to the customer.

There is a one-to-one correlation between the pins on the ADSL2+ plus POTS amphenol connector and the pins on the POTS amphenol connector. Refer to the "POTS Connection" section above for more information. The 25th pair is not used. To establish the ADSL2+ plus POTS connection, perform the following steps:

1. Connect the 25-pair female amphenol connector to the male amphenol connector provided, labeled **ADSL + POTS PORTS 1-24**.
2. Tighten the screw (normally provided with each amphenol connector attached to the cable) on the right side of each amphenol connector, and use the cable ties (provided) threaded through the tie-down brackets (provided) to secure the left side of the amphenol connectors.

   The pin assignments for the left and right POTS and ADSL2+ plus POTS cables are shown in Table 3-5.

Table 3-5. POTS and ADSL+POTS Cable Pin Assignments for Left-most Connectors

Pair #	Pins R.T.	Pair #	Pins R.T.
1	1, 26	13	13, 38
2	2, 27	14	14, 39
3	3, 28	15	15, 40
4	4, 29	16	16, 41
5	5, 30	17	17, 42
6	6, 31	18	18, 43
7	7, 32	19	19, 44
8	8, 33	20	20, 45
9	9, 34	21	21, 46
10	10, 35	22	22, 47
11	11, 36	23	23, 48
12	12, 37	24	24, 49
		25	25, 50 Not used

QUICK TURN-UP STEPS

Perform the following steps to complete a basic T1 turn-up of the Total Access 1224 system:

1. Connect VT100 terminal or personal computer emulating a VT100 terminal to the Total Access 1224 craft port.

   For more information, refer to "Craft Interface" on page 5-1.

2. Press CTRL+R until the Login screen (see Figure 3-11) displays.

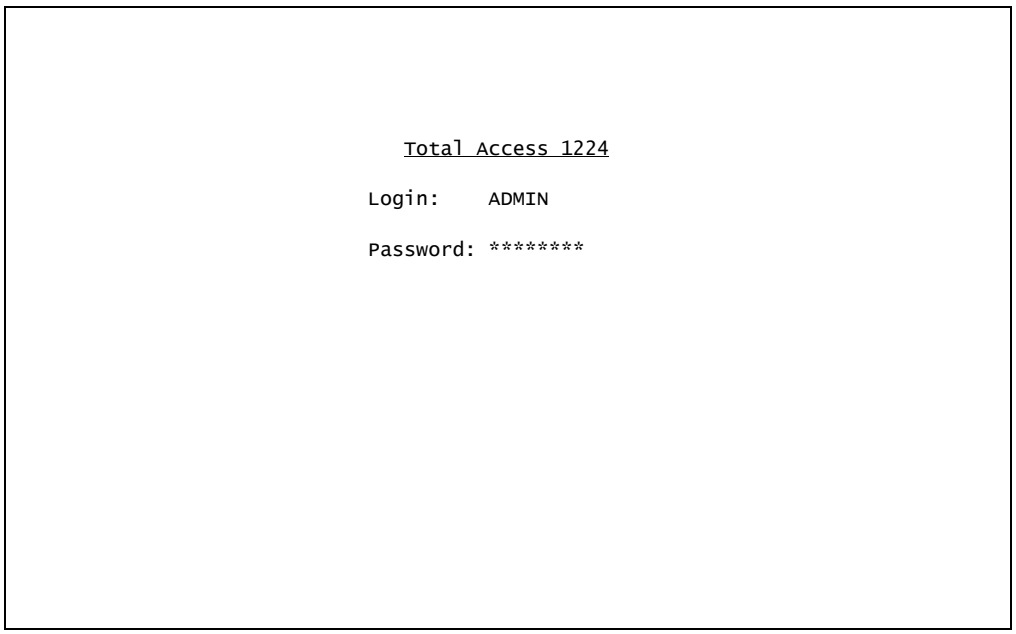

Figure 3-11. Login Screen

3. Enter the default username, "ADMIN" (or the configured username with System Administrator privileges), and press ENTER.
4. Enter the default password, "PASSWORD" (or the configured password), and press ENTER.

NOTE

The username and password fields are case sensitive. The default values are all uppercase. For more information, refer to "Password Control Menu" on page 5-46.

The Total Access 1224 Main menu displays (see Figure 3-12).

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                              Total Access 1224

                               1. Configuration
                               2. ATM Circuit Management
                               3. System Management
                               4. Network Port
                               5. DSL Menus
                               6. System Alarms
                               7. System Event Log
                               8. Contact Information
                               9. Enter TL1 mode
                              10. Logoff

                              Selection :




                              '?' - System Help Screen
```

Figure 3-12. Total Access 1224 Main Menu

5. Provision the appropriate network termination.
6. From the Total Access 1224 Main menu, select Network Port, and press ENTER.
   The Network Port menu (see Figure 3-13) displays.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                              Network Port

                              1. T1
                              2. IMA
                              3. Select T1/E1 Mode

                              Selection :









                              '?' - System Help Screen
```

Figure 3-13. Network Port Menu

7. From the Network Port menu, select T1, and press ENTER.

8. The T1 Main Menu (see Figure 3-14) displays.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None


                                T1 Main Menu

                                1. T1 Provisioning
                                2. T1 Status
                                3. T1 Performance
                                4. Test
                                5. Restore T1 Factory Defaults

                                Selection :









                                '?' - System Help Screen
```

Figure 3-14. T1 Main Menu

9. From the T1 Main Menu, select T1 Provisioning, and press ENTER.

   The T1 Provisioning menu (see Figure 3-15) displays.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None


                                T1 Provisioning for # 1

                                1. Type                         DSX
                                2. Framing                      ESF
                                3. Line Code                    B8ZS
                                4. Line Build Out               0 - 133 ft

                                'N' - Next T1 Port  'P' - Previous T1 Port

                                Selection :









                                '?' - System Help Screen
```

Figure 3-15. T1 Provisioning Screen

10. From the T1 Provisioning menu, configure the Type, Framing, Line Code, and Line Build Out setting to match the settings of the T1DS1s provided. Press N to access the next T1/DS1 to configure and continue this process until all the T1/DS1s are properly configured.
11. From the T1 Provisioning menu, press ESC to return to the T1 Main Menu.
12. From the T1 Main Menu, select T1 Status, and press ENTER.
13. From the T1 Status menu, confirm that the T1/DS1s do not have active alarms.

NOTE

If the T1/DS1s have active alarms, this is an indication of a network feed issue.

14. From the T1 Status menu, press ESC until the Network Port menu displays.
15. From the Network Port menu, select IMA and press ENTER.
16. From the IMA Main Menu, select Provisioning, and press ENTER.
17. From the IMA Provisioning menu, select IMA Facility, and press ENTER.
18. From the IMA Facility Provisioning for # 1 menu, select Facility Operation Mode, and press ENTER.
19. From the Operation Mode for Facility for # 1 menu, provision the facilities as appropriate. For more information, refer to "Operation Mode for Facility Menu" on page 5-110.

    The default settings assign the four facilities to the IMA Group.
20. From the Operation Mode for Facility for # 1 menu, press ESC until the IMA Provisioning menu displays.
21. From the IMA Provisioning menu, select IMA Group, and press ENTER.
22. From the IMA Group Provisioning menu, select Group Operation Mode, and press ENTER.
23. From the Group Operation Mode menu, select In Service, and press ENTER.
24. Press ESC until the Main Menu displays.
25. From the Main Menu, select System Management, and press ENTER.
26. From the System Management menu, select IP Address, and press ENTER.
27. From the Mode Selection and Current IP Settings menu, verify that the Mode is set to Static.
28. From the Mode Selection and Current IP Settings menu, select Configure IP, and press ENTER.
29. From the Status IP Settings - for IP over ATM menu, configure the following fields:
    - IP Address
    - Subnet Mask
    - VPI/VCI
    - Default Gateway

30. Add the IP address to the network routers/servers.
31. Press Esc until the System Management menu displays.
32. From the System Management menu, select Test IP Address, and press ENTER.

    The Test IP Address menu is displayed (see Figure 3-16).

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None



                            Test IP Address

    1. IP Address       Not configured
    2. Ping Timeout     1 secs              4. Start Ping
    3. Number of Pings  4 pings             5. Start Traceroute

                            Selection :

                            '?' - System Help Screen
```

Figure 3-16. Test IP Address Menu

33. From the Test IP Address menu, select IP Address, and press ENTER.

    The IP Address field is highlighted.
34. Enter the IP address of the default gateway to Ping in decimal dot format, and press ENTER.
35. From the IP Address menu, select Start Ping, and press ENTER to initiate the Ping.
36. Confirm that the Traffic Descriptor default values match the local practices and modify accordingly.
37. Add the Service Profiles to the Total Access 1224 for the approved service.
38. Pre-provision the system using the information provided in the appropriate work order.
39. Place the DSL ports In Service, as needed.

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Section 4
Provisioning Defaults

INTRODUCTION

The Total Access 1224 system default provisioning options are shown in Table 4-1. For detailed information on the Total Access 1224 menus, refer to "Section 5, User Interface".

Table 4-1. Default Provisioning Options

Provisioning Option	Available Options	Default Setting
ATM Circuit Options		
PVCs	User definable (Each ADSL connection must have at least one PVC/PVP for data flow.)	None
Traffic Descriptors (Service options)	UBR; CBR; VBR-rt; VBR-nrt	UBR
IMA Options		
IMA Facility (1-4)	IMA_Group; Pass-through; Unassigned	IMA_Group
IMA Transmit ID	0-255	101
IMA Transmit Frame Length	32; 64; 128; 256	128
Minimum TX Active Links	1-4	1
Minimum RX Active Links	1-4	1
Maximum Link Diff Delay	0-100	100
Group Operation Mode	In Service; Out of Service-Maintenance; Out of Service-Unassigned	Out of Service-Maintenance

Table 4-1. Default Provisioning Options (Continued)

Provisioning Option	Available Options	Default Setting
Password Control		
Set Login Name	User defined	Not configured
Access Level	Read Only; Technician; System Administrator	Not configured
Control Level	Read Only; Read/Write	Not configured
Allow SNMP Security Management	Enabled; Disabled	Disabled
Set Menus Idle Logout Time	1–60 minutes	10 minutes
TL1 Menus Logout Time	1–120 minutes	30 minutes
TL1 Inband Idle Logout Time	1–120 minutes	120 minutes
IP Address		
IP Feed	RFC1483 Routed; IP over Ethernet; RFC1483 Bridged	RFC1483 Routed
IP Mode	Dynamic; Static	Dynamic
IP Address	0–255.0–255.0–255.0–255	Not configured
Subnet Mask	0–255.0–255.0–255.0–255	Not configured
Default Gateway	0–255.0–255.0–255.0–255	Not configured
TFTP IP Address	0–255.0–255.0–255.0–255	Not configured
TL1 Port Number	1023 or greater	13001
TL1 IP Transport Type	TCP; UDP	TCP
Test IP Address	0–255.0–255.0–255.0–255	Not configured
Ping Timeout	1–10 seconds	1 second
Number of Pings	1–8 pings	4 pings
Time-Date		
Time	HH:MM (24 hour format)	N/A
Date	MM/DD/YY	N/A
SNMP Contact Information		
Contact	55-character string	ADTRAN, Inc. (256) 963-8000
Name	55-character string	PLEASE-SET-SID
Location	55-character string	Customer specified

Table 4-1. Default Provisioning Options (Continued)

Provisioning Option	Available Options	Default Setting
SNMP Community Names		
Name	32-character string	private * public
IP Address	0–255.0–255.0–255.0–255	0.0.0.0
Privileges	Read/Write; Read	Read
SNMP Trap Hosts		
Trap Port	1–65535	162
IP Address	0–255.0–255.0–255.0–255	Not configured
Version	SNMPv1; SNMPv2	Not Configured
SNMP Traps Enabled		
SNMP Traps Enabled	Yes; No	Yes
External Alarms		
Alarm Name	25-character string	External Alarm Input #
Alarm Severity	Critical; Major; Minor; Load shedding	Minor
Fan Alarm Delay	0–15 minutes	10 Minutes
ADSL Options		
Card Service State	In Service; Out of Service-Maintenance; Out of Service-Unassigned	In Service
Line Service State	In Service; Out of Service-Maintenance; Out of Service-Unassigned	Out of Service-Maintenance
Service Mode	Multimode; T1.413; G.dmt; G.lite; ADSL2; ADSL2.lite; ADSL2+; READSL; Legacy Multimode	Multimode
Cabinet Mode	Disabled; Enabled	Disabled
Hamband Mask	Disabled; Enabled	Disabled
Link Down Alarm	Disabled; Enabled	Disabled
Rate Mode	Fixed; Rate Adaptive	Rate adaptive
Line Type	Interleave; Fast	Fast
E1 Provisioning Options		
E1 Framing	FAS; FAS+CRC	FAS+CRC
E1 Line Code	HDB3; AMI	HDB3

Table 4-1. Default Provisioning Options (Continued)

Provisioning Option	Available Options	Default Setting
T1 Provisioning Options (default)		
T1 Type	DSX; T1	DSX
T1 Framing	ESF; SF	ESF
T1 Line Code	B8ZS; AMI	B8ZS
T1 Line Build Out	DSX Type: 0-133 ft; 133-266 ft; 266-399 ft; 399-533 ft; 533-655 ft T1 Type: 0 dB; –7.5 dB; –15 dB;–22.5 dB	0–133 ft 0 dB

* SNMP Community Names are case-sensitive. The Total Access 1224 system provides two SNMP Community Name accounts with the following defaults:

- Name: private
- IP Address: 0.0.0.0
- Privileges: Read/Write

- Name: public
- IP Address: 0.0.0.0
- Privileges: Read

Section 5
User Interface

INTRODUCTION

This section provides detailed information on the following:

SYSTEM MANAGEMENT

Total Access 1224 system management and provisioning is facilitated by a series of intuitive menus that are accessible on a computer screen. The Total Access 1224 provides two methods for management access:

Craft Interface

Connection to the Total Access 1224 system menus can be made through the DB-9 connector, labeled **CRAFT** (see Figure 5-1), on the front of the Total Access 1224 system. A DB-9 straight cable is required.

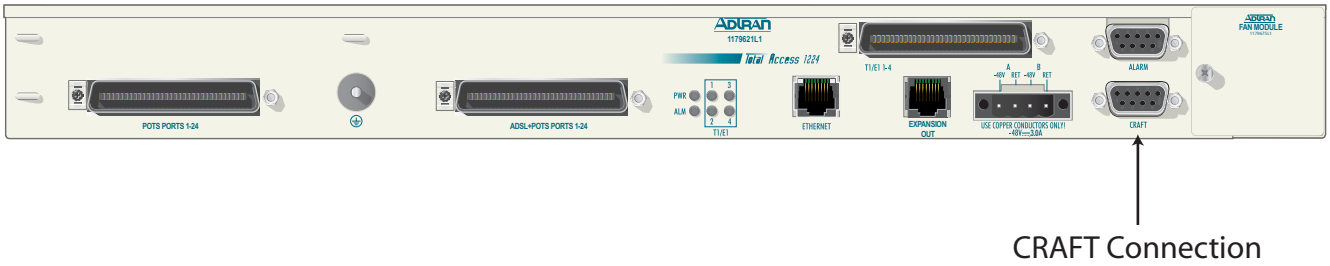

Figure 5-1. Craft Port Location

Most personal computers or laptops can run communications software that emulates a VT100 terminal. Windows programs such as Terminal or HyperTerminal are two such examples in the Windows format, but there are many other adequate, commercially available software packages, virtually all of which allow the PC or laptop to emulate a VT100 terminal. Certain configuration items must be set on a PC or laptop to act as a VT100 terminal for the Total Access 1224.

1. Set the parameters of the communications software to the following settings:
   - 9600 baud rate
   - 8 data bits
   - No parity
   - 1 stop bit
   - No flow control
2. Set the PC for direct connect on the appropriate communications port (as opposed to dial up connection).
3. Plug the male end of the data cable into the Total Access 1224. Make connection to the PC or laptop as appropriate for the equipment.

Inband Management Interface

To access the Total Access 1224 through the inband management method, use an appropriate Telnet client to access the management interface of the Total Access 1224 at the configured IP address. For more information, refer to "System Management Menu" on page 5-44.

NOTE

A craft port session takes priority over a Telnet session. An active craft port session must be terminated before a Telnet session can be successfully started. When a craft port session is initiated, any active Telnet session is automatically disconnected.

LOGGING ON TO THE TOTAL ACCESS 1224

To logon to the Total Access 1224 system, perform the following steps:

1. Establish the physical connection to the Total Access 1224.
2. If a craft port session is being used, proceed to step 3. If using a Telnet session proceed to step 4.
3. Press CTRL+R until the Login prompt appears.

   The Login screen displays (see Figure 5-2).

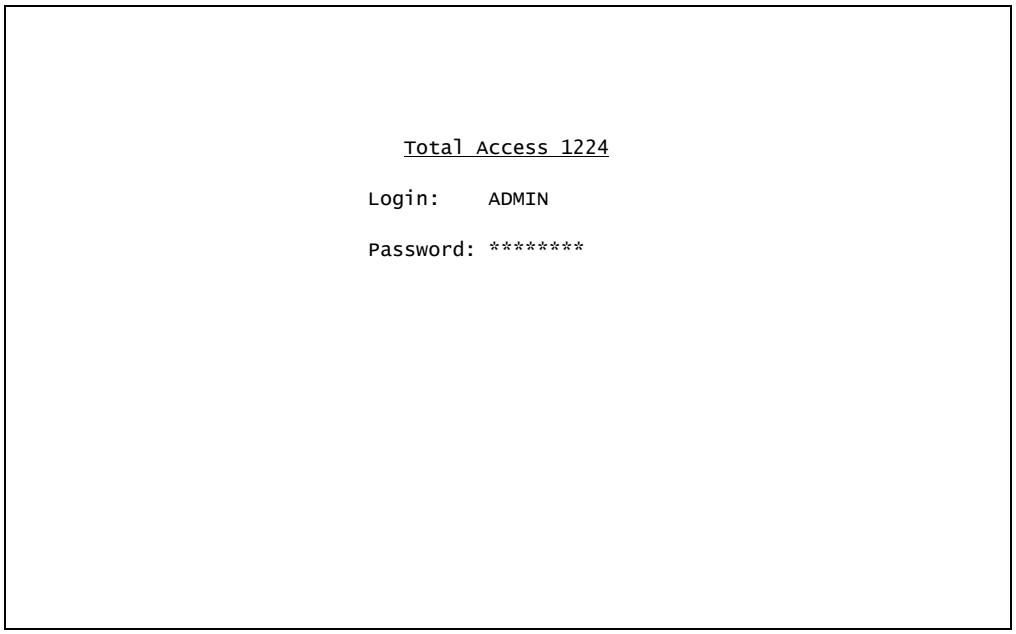

Figure 5-2. Login Screen

NOTE

The Total Access 1224 system requires the username and associated password.

4. Enter the default username, “ADMIN” (or the configured login username with System Administrator privileges), and press ENTER.
5. Enter the default password, “PASSWORD” (or the configured password), and press ENTER.

NOTE

The username and password fields are case sensitive. The default values are all uppercase. For more information, refer to “Password Control Menu” on page 5-46.

MENU STRUCTURE

The menu structure for the Total Access 1224 is a layered menu tree. Each layer of the menu tree is displayed as a menu or a screen.

Menu

A menu is a display that provides numbered selections that are used to navigate to related menus, modify provisioning information, or display information screens. A menu can contain the following objects:

- Menu Option: A menu option is indicated by a number, which when selected navigates the display to another menu layer or is used to change the option setting.
- Read-only Field: A read-only field displays information that cannot be changed. The information displayed in a read-only field can be static or can be automatically updated by the Total Access 1224.
- Read-write Field: A read-write field displays information that when selected can be modified.
- Hot Key: A hot key is a key or combination of keys that are assigned to a function (see Table 5-2). Hot keys are indicated by the required key(s) and a brief description (i.e., S - Select Port).

Screen

A screen is a display that usually indicates the end of a menu tree path. A screen can contain the following objects:

- Read-only Field: A read-only field displays information that cannot be changed. The information displayed in a read-only field can be static or can be automatically updated by the Total Access 1224.
- Read-write Field: A read-write field displays information that when selected can be modified.
- Hot Key: A hot key is a key or combination of keys that are assigned to a function (see Table 5-2). Hot keys are indicated by the required key(s) and a brief description (i.e., S - Select Port).

MENU NAVIGATION

Basic menu navigation is accomplished by selecting the desired option number and then pressing ENTER. To return to the previous menu, press the ESC (escape) key. To access the System Help screen, press the question mark (?) key.

Hot Keys

Table 5-1 shows the general keyboard commands, and Table 5-2 shows the menu specific hot keys for the Total Access 1224 system.

Table 5-1. General Keyboard Commands

Keyboard Command	Description
BACKSPACE	This keyboard command is used to delete the character to the left of the cursor during keyboard input.
ENTER (or Return)	This keyboard command is used to terminate input.
CTRL+R (Control and r)	This keyboard command is used to refresh the display.
CTRL+X (Control and x)	This keyboard command is used to force the terminal menu display to the top level.
ESC (Escape)	This keyboard command is used to return to the previous menu.
Spacebar	This keyboard command is used to toggle the setting choices for a text field.

Table 5-2. Menu Specific Hot Keys

Hot Key	Description
PVC/PVP Management	
C	This hot key displays the "Create a New PVC/PVP Screen" on page 5-19.
D	This hot key displays the "Delete an Existing PVC/PVP Screen" on page 5-21.
M	This hot key displays the "Modify an Existing PVC/PVP Screen" on page 5-22.
N	This hot key is used to display the next PVC/PVP page.
O	This hot key displays the "Current ATM OAM Statistics Menu" on page 5-24.
P	This hot key is used to display the previous PVC/PVP page.
Q	This hot key displays the "ATM Quick Provisioning Menu" on page 5-31.
V	This hot key displays the "Current ATM PVC Performance Menu" on page 5-29.
IMA Facilities	
B	This hot key is used to display performance monitoring statistics for the last 2 hours, in 15 minute intervals.
C	This hot key is used to clear the performance monitoring statistics.

Table 5-2. Menu Specific Hot Keys (Continued)

Hot Key	Description
P	This hot key is used to display the previous port.
N	This hot key is used to display the next port.
S	This hot key is used to select a specific port.
T	This hot key is used to toggle between the Near End and Far End performance monitoring data.
ADSL Profile *	
C	This hot key is used to create a new profile.
D	This hot key is used to delete a specified profile.
E	This hot key is used to modify a specified profile.
N	This hot key is used to display the next profile screen.
P	This hot key is used to display the previous profile screen.
V	This hot key is used to display a specified profile.
S	This hot key is used to display a specific page.
Performance Monitoring	
B	This hot key is used to display performance monitoring statistics for the last 2 hours, in 15 minute intervals.
C	This hot key is used to clear the performance monitoring statistics.
F	This hot key is used to display performance monitoring statistics for the next 2 hours, in 15 minute intervals.
N	This hot key is used to display the previous port.
P	This hot key is used to display the next port.
S	This hot key is used to select a specific port.
T	This hot key is used to view upstream/downstream Performance Monitoring data.
System Alarm Log	
A	This hot key is used to acknowledge all alarms.
C	This hot key is used to clear all acknowledged alarms.
F	This hot key is used to display the first page of alarms.
L	This hot key is used to display the last page of alarms.
N	This hot key is used to display the next page of alarms.
P	This hot key is used to display the previous page of alarms.
R	This hot key is used to reset all alarms.
T	This hot key is used to display alarms in time ascending or descending order.

Table 5-2. Menu Specific Hot Keys (Continued)

Hot Key	Description
System Event Log	
A	This hot key is used to display all events.
D	This hot key is used to display date/time events.
F	This hot key is used to display the first page of events.
G	This hot key is used to display login events.
L	This hot key is used to display the last page of events.
N	This hot key is used to display the next page of events.
O	This hot key is used to display account events.
P	This hot key is used to display the previous page of events.
S	This hot key is used to display software update events.
T	This hot key is used to display events in time ascending/descending order.
V	This hot key is used to toggle between displaying the connection method and associated user name for each event, or the IP address for each event.
Y	This hot key is used to display security events.

* After creating a profile, provisioning is not updated until the profile changes from Inactive to Active. To unassign ports on a profile, simply change the state to Inactive and change the ports to “0” and this removes them.

MENU TREE

There are a number of menu screens designed to aid in the maintenance and troubleshooting of the Total Access 1224 system. A menu tree is a visual map that can be used to locate configuration information and provisioning options. The menu trees for the Total Access 1224 are listed below and can be found on the indicated pages:

- Total Access 1224 Main Menu Tree, Figure 5-3 on page 5-8
- System Management Menu Tree, Figure 5-4 on page 5-9
- Network Port Menu Tree, Figure 5-5 on page 5-11
- DSL Menu Tree, Figure 5-6 on page 5-12

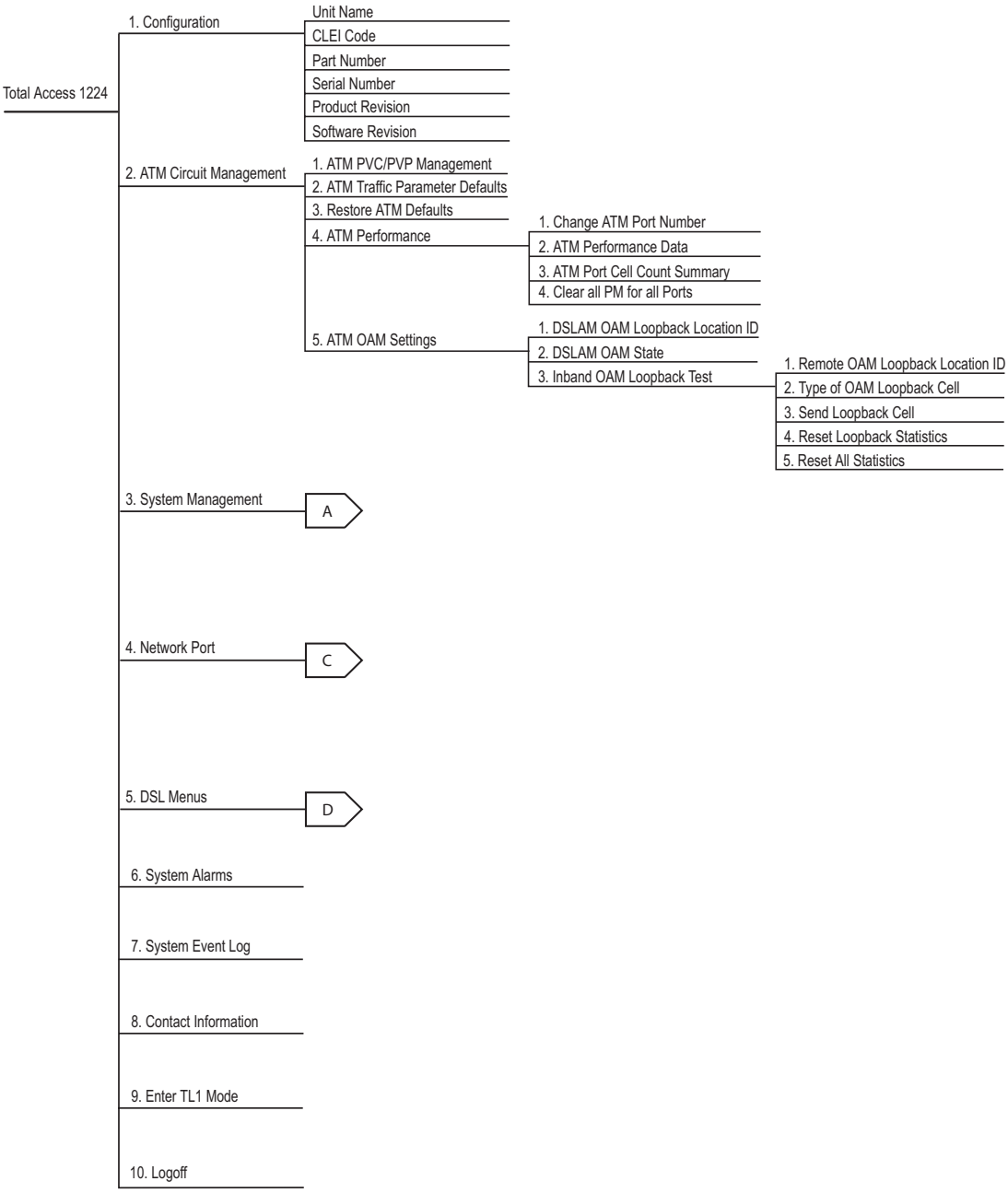

Figure 5-3. Total Access 1224 Main Menu Tree

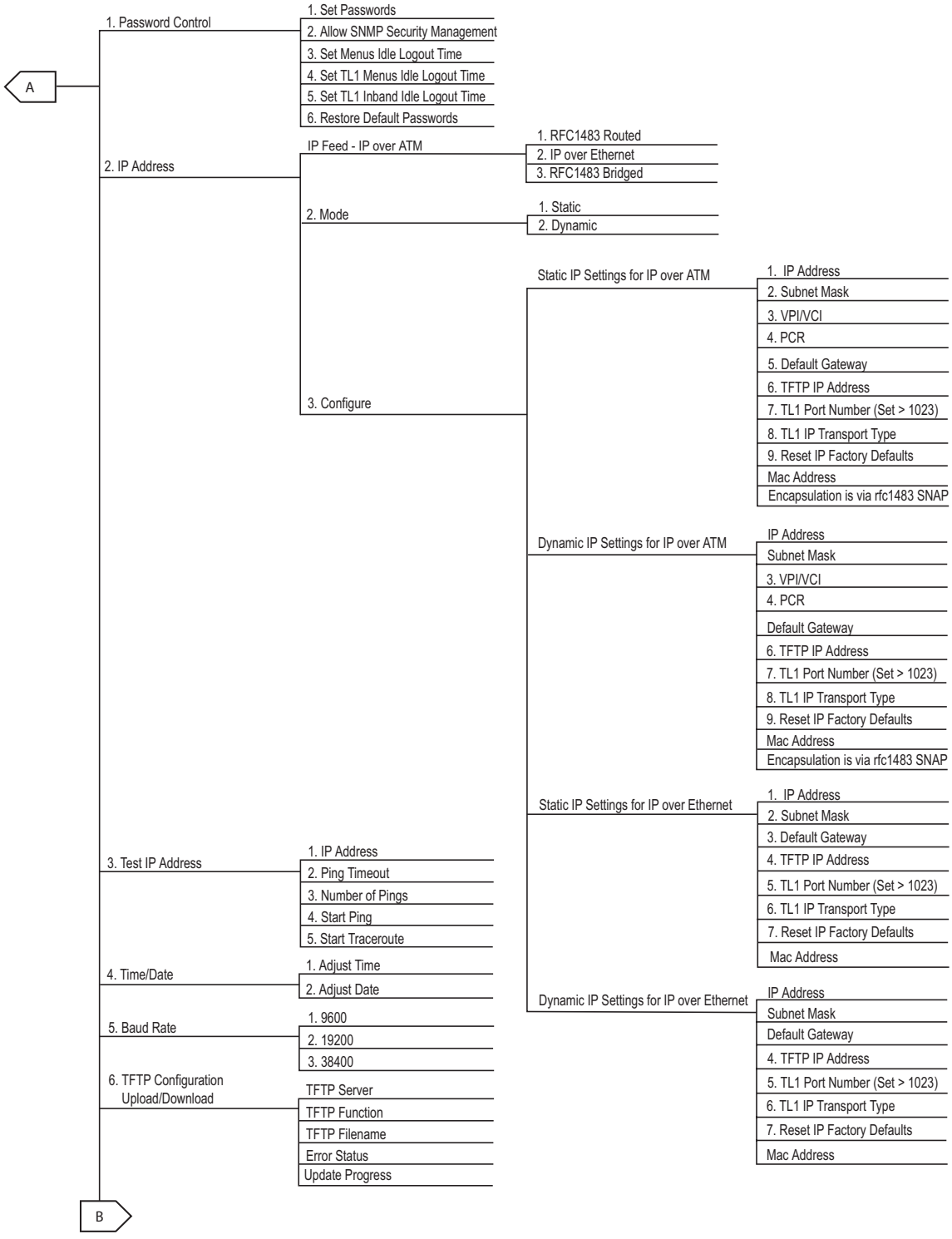

Figure 5-4. System Management Menu Tree

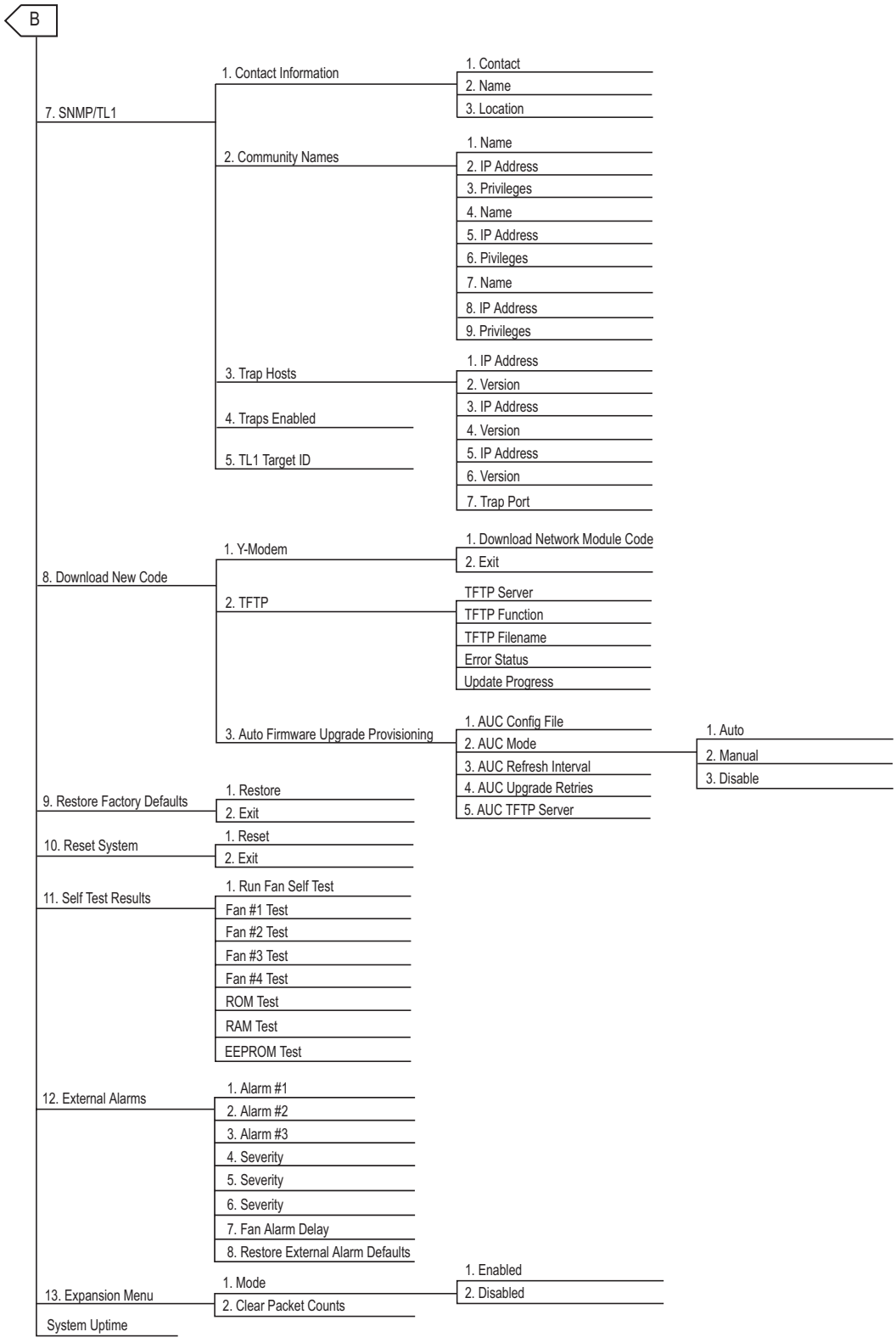

Figure 5-4. System Management Menu Tree (Continued)

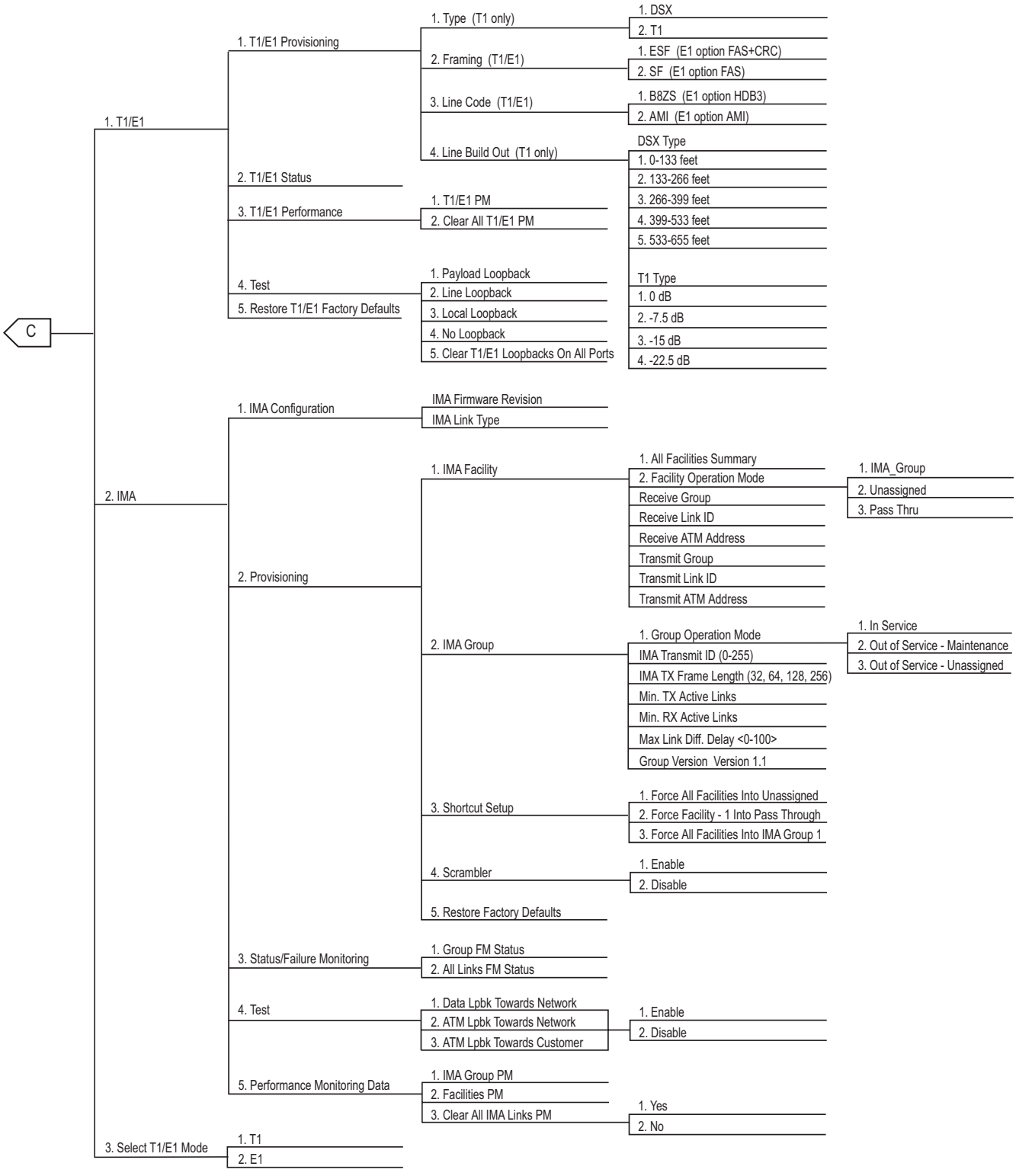

Figure 5-5. Network Port Menu Tree

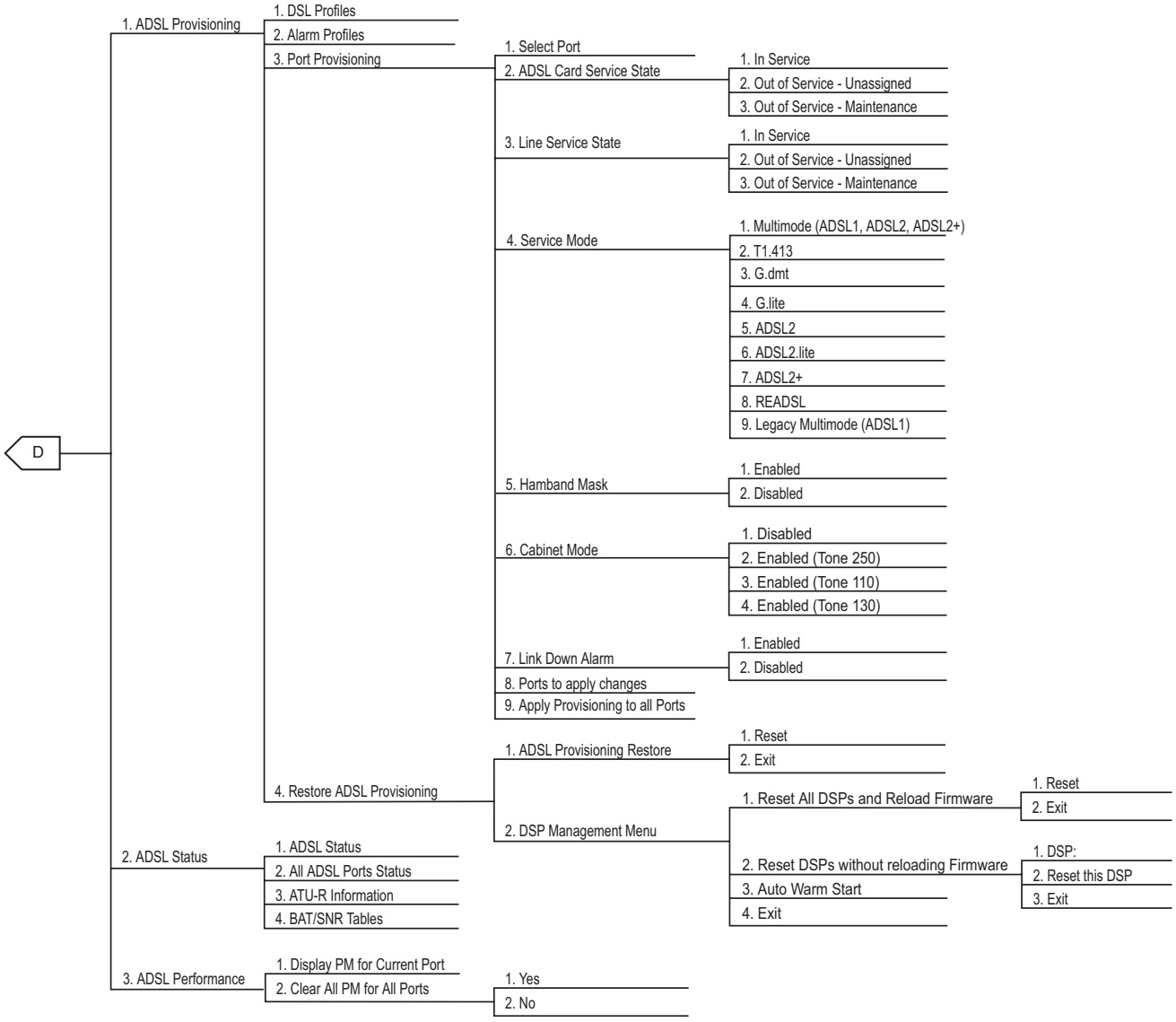

Figure 5-6. DSL Menu Tree

MENU DESCRIPTIONS

Main Menu\

The Total Access 1224 Main menu (see Figure 5-7) is the access point to all other operations. The Main menu options have several functions and submenus that identify and provide access to specific operations and parameters.

```
TID: HSVL00001                        Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                                Total Access 1224

                                 1. Configuration
                                 2. ATM Circuit Management
                                 3. System Management
                                 4. Network Port
                                 5. DSL Menus
                                 6. System Alarms
                                 7. System Event Log
                                 8. Contact Information
                                 9. Enter TL1 mode
                                10. Logoff

                                Selection :




                                '?' - System Help Screen
```

Figure 5-7. Total Access 1224 Main Menu

The Total Access 1224 Main menu options are shown in Table 5-3.

Table 5-3. Total Access 1224 Main Menu Options

Option	Description	Function
1	Configuration	This option displays the "Configuration Screen" on page 5-15.
2	ATM Circuit Management	This option displays the "ATM Circuit Management Menu" on page 5-16.
3	System Management	This option displays the "System Management Menu" on page 5-44.
4	Network Port	This option displays the "Network Port Menu" on page 5-88.
5	DSL Menus	This option displays the "DSL Menus" on page 5-129.
6	System Alarms	This option displays the "System Alarm Log Screen" on page 5-158.

Table 5-3. Total Access 1224 Main Menu Options (Continued)

Option	Description	Function
7	System Event Log	This option displays the "System Event Log Screen" on page 5-159.
8	Contact Information	This option displays the "Contact Information Screen" on page 5-161.
9	Enter TL1 Mode	This option displays the "TL1 Mode Screen" on page 5-162.
10	Logoff	This option is used to end a Total Access 1224 menu session.

Configuration Screen

Main Menu\Configuration

The Configuration screen (see Figure 5-8) displays information about the system. For instance, the CLEI Code and Part Number can be used to search for related information on the ADTRAN web site or to order additional parts. The software revision may be required when calling the ADTRAN Technical Support.

```
TID: HSVL00001                        Total Access 1224        MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                              Configuration

                    Host

Unit Name           TA1224
CLEI Code           VAMA510ERA
Part Number         1179621L1
Serial Number       E46D0043
Product Revision    A
Software Revision   B03









                              '?' - System Help Screen
```

Figure 5-8. Configuration Screen

The Configuration screen fields are shown in Table 5-4.

Table 5-4. Configuration Screen Fields

Field	Description
Unit Name	This field displays the unit name of the Total Access 1224.
CLEI Code	This field displays the Common Language Equipment Identifier (CLEI) code of the Total Access 1224.
Part Number	This field displays the part number of the Total Access 1224.
Serial Number	This field displays the serial number of the Total Access 1224.
Production Revision	This field displays the current product revision of the Total Access 1224.
Software Revision	This field displays the software revision of the Total Access 1224. This field updates automatically when a software download is completed.

ATM Circuit Management Menu

Main Menu\ATM Circuit Management

The ATM Circuit Management menu (see Figure 5-9) contains the steps used to provision and maintain customer circuits. From this menu, a Permanent Virtual Circuit/Permanent Virtual Path (PVC/PVP) for each ATM circuit can be viewed, created, or modified. PVCs are logical connections between ports that allow data to be sent from the network to a customer location.

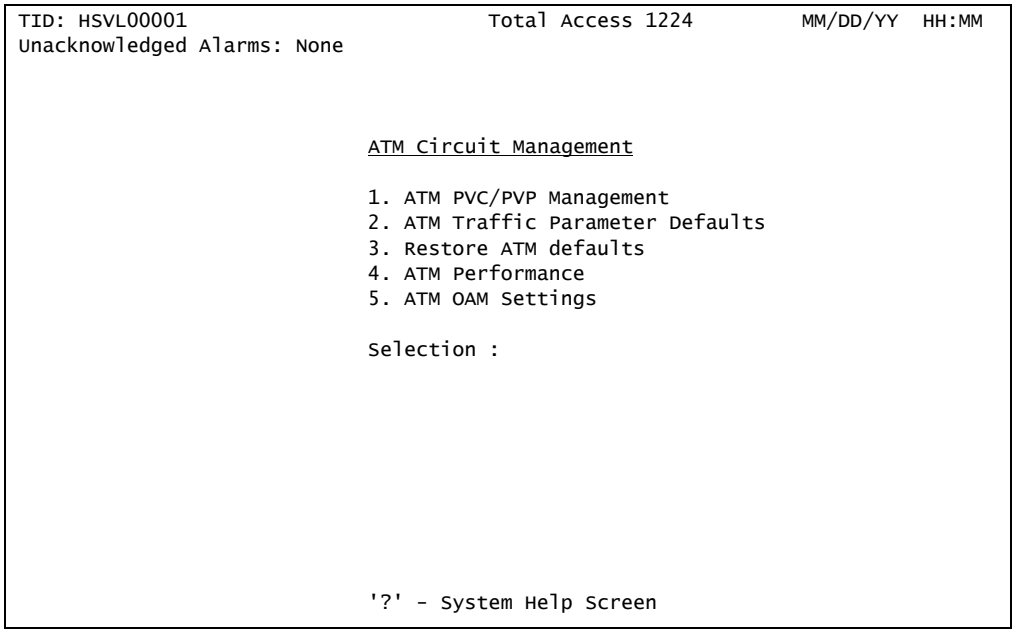

Figure 5-9. ATM Circuit Management Menu

The ATM Circuit Management menu options are shown in Table 5-5.

Table 5-5. ATM Circuit Management Menu Options

Option	Description	Function
1	ATM PVC/PVP Management	This option displays the "PVC/PVP Management Menu" on page 5-17.
2	ATM Traffic Parameter Defaults	This option displays the "ATM Traffic Parameter Defaults Screen" on page 5-33.
3	Restore ATM defaults	This option displays the "Restore ATM Factory Defaults Menu" on page 5-34.
4	ATM Performance	This option displays the "ATM Performance Monitoring Mode Menu" on page 5-35.
5	ATM OAM Settings	This option displays the "ATM OAM Settings Menu" on page 5-41.

PVC/PVP Management Menu

Main Menu\ATM Circuit Management\PVC/PVP Management\

NOTE

If expansion mode is enabled (refer to "Expansion Menu" on page 5-87), the Select Shelf menu (see Figure 5-10) displays. A host or client unit must be chosen in order to access the PVC/PVP Management menu.

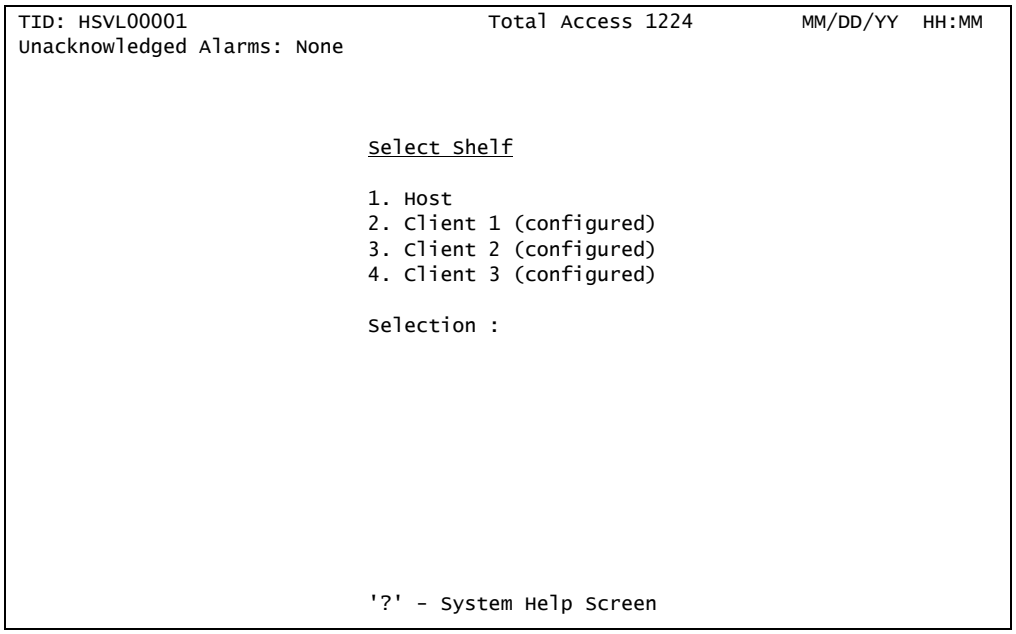

Figure 5-10. Select Shelf Menu

The PVC/PVP Management menu (see Figure 5-11) is used to create, modify, view, or delete PVCs.

NOTE

If there are no current PVCs, the PVC/PVP Management menu only provides the create (c) hot key. In order to show all the available hot key choices on the PVC/PVP Management menu, one PVC has been created in Figure 5-11.

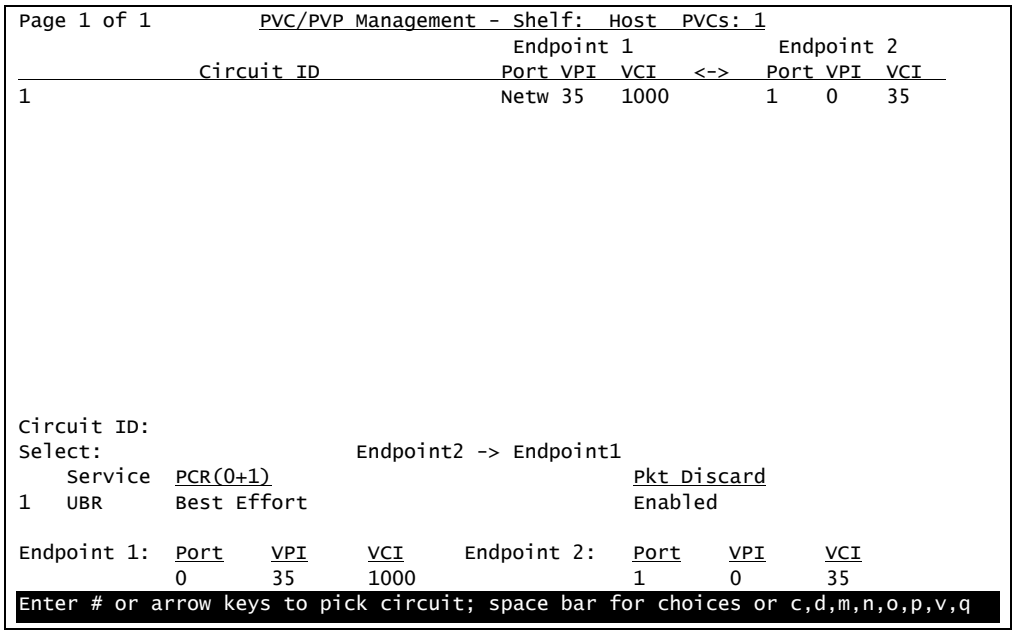

Figure 5-11. PVC/PVP Management Menu

The PVC/PVP Management hot keys are shown in Table 5-9.

Table 5-6. PVC/PVP Management Hot Keys

Hot Key	Description	Function
C	Create a new PVC/PVP	This hot key displays the "Create a New PVC/PVP Screen" on page 5-19.
D	Delete a PVC/PVP	This hot key displays the "Delete an Existing PVC/PVP Screen" on page 5-21.
M	Modify a PVC/PVP	This hot key displays the "Modify an Existing PVC/PVP Screen" on page 5-22.
N	Display next PVC/PVP page	This hot key is used to display the next PVC/PVP page.
O	Display ATM OAM statistics	This hot key displays the "Current ATM OAM Statistics Menu" on page 5-24.
P	Display previous PVC/PVP page	This hot key is used to display the previous PVC/PVP page.
Q	Display quick provisioning menu	This hot key displays the "ATM Quick Provisioning Menu" on page 5-31.
V	Display ATM PVC performance menu	This hot key displays the "Current ATM PVC Performance Menu" on page 5-29.

Create a New PVC/PVP Screen

Main Menu\ATM Circuit Management\PVC/PVP Management\Create New PVC/PVP

The Create a New PVC/PVP screen (see Figure 5-12) is used to create the PVC/PVPs for ADSL connections. Each ADSL connection has at least one PVC/PVP per ATM circuit provisioned for data flow. PVC/PVPs map ATM circuits from the network to the ADSL ports.

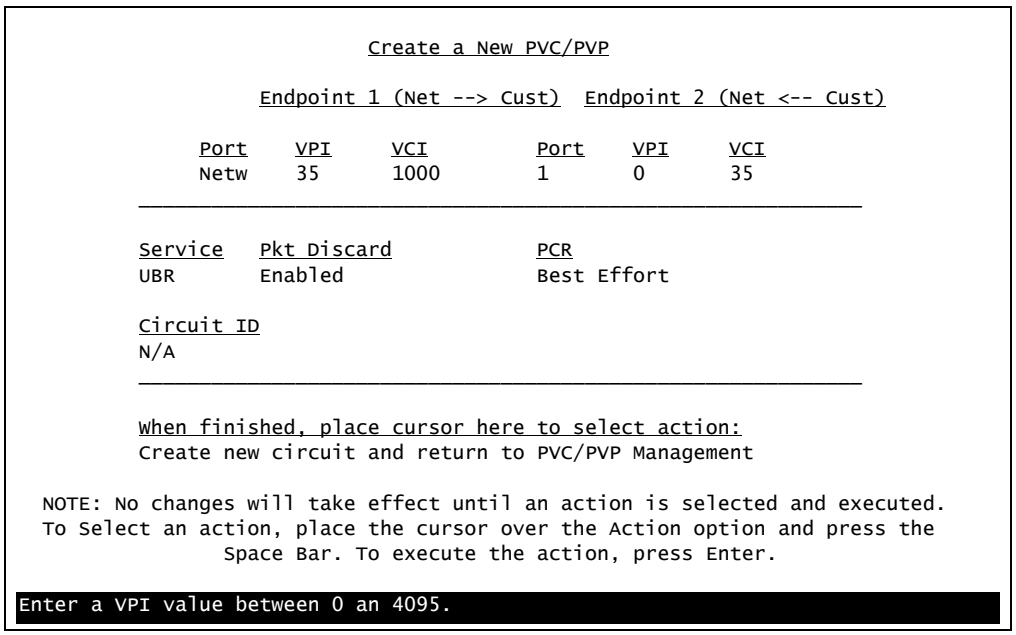

Figure 5-12. Create a New PVC/PVP Screen

The Create a New PVC/PVP screen fields are shown in Table 5-7.

Table 5-7. Create a New PVC/PVP Screen Fields

Field	Description
Endpoint 1 Port	This field displays the network port.
Endpoint 1 VPI	This field displays the Virtual Path Identifier for the ATM port from the Network. Valid values range from 0 to 4095.
Endpoint 1 VCI	This field displays the Virtual Channel Identifier for the ATM port from the network. Valid values range from 0 to 65535.
Endpoint 2 Port	This field displays the ATM port that is being created. Valid values range from 1 to 24.
Endpoint 2 VPI	This field displays the Virtual Path Identifier for the ATM port. Valid values range from 0 to 4095.
Endpoint 2 VCI	This field displays the Virtual Channel Identifier for the ATM. Valid values range from 0 to 65535.

Table 5-7. Create a New PVC/PVP Screen Fields (Continued)

Field	Description
Service	This field identifies ATM Traffic Class. There are four service options (Traffic Descriptors) available for the Total Access 1224 system: • UBR • CBR • VBR-rt • VBR-nrt The options available for each service and their descriptions are shown in Table 5-8.
Circuit ID	This field displays the identifier given to a specific circuit. This is a user defined value.
Pkt Discard	This field displays the status of packet discard: Enabled or Disabled.

Table 5-8. PVC/PVP Service Options

Service	Description	T1 Settings	E1 Settings
UBR	Unspecified bit rate		
CBR • PCR	Constant bit rate • Peak Cell Rate	0-14488	0-19316
VBR-rt • PCR • SCR • MBS	Variable bit rate real time • Peak Cell Rate • Sustained Cell Rate • Maximum Burst Size	0-14488 0-14488 0-65535	0-19316 0-19316 0-65535
VBR-nrt • PCR • SCR • MBS	Variable bit rate non-real time • Peak Cell Rate • Sustained Cell Rate • Maximum Burst Size	0-14488 0-14488 0-65535	0-19316 0-19316 0-65535

Delete an Existing PVC/PVP Screen

Main Menu\ATM Circuit Management\PVC/PVP Management\Delete Existing PVC/PVP

When the D hot key is selected to delete a PVC/PVP, a confirmation prompt at the bottom of the screen (see Figure 5-13) displays.

```
Page 1 of 1          PVC/PVP Management - Shelf:  Host  PVCs: 1
                                          Endpoint 1            Endpoint 2
               Circuit ID                 Port VPI  VCI   <->   Port VPI  VCI
1                                         Netw 35   1000        1    0    35









Circuit ID:
Select:                      Endpoint2 -> Endpoint1
    Service  PCR(0+1)                                Pkt Discard
1   UBR      Best Effort                             Enabled

Endpoint 1:  Port    VPI     VCI     Endpoint 2:    Port    VPI     VCI
             0       35      1000                   1       0       35
Delete this circuit (y/n)?
```

Figure 5-13. Delete an Existing PVC/PVP Screen

Modify an Existing PVC/PVP Screen

Main Menu\ATM Circuit Management\PVC/PVP Management\Modify Existing PVC/PVP

The Modify an Existing PVC/PVP screen (see Figure 5-14) is used to modify existing PVC/PVPs.

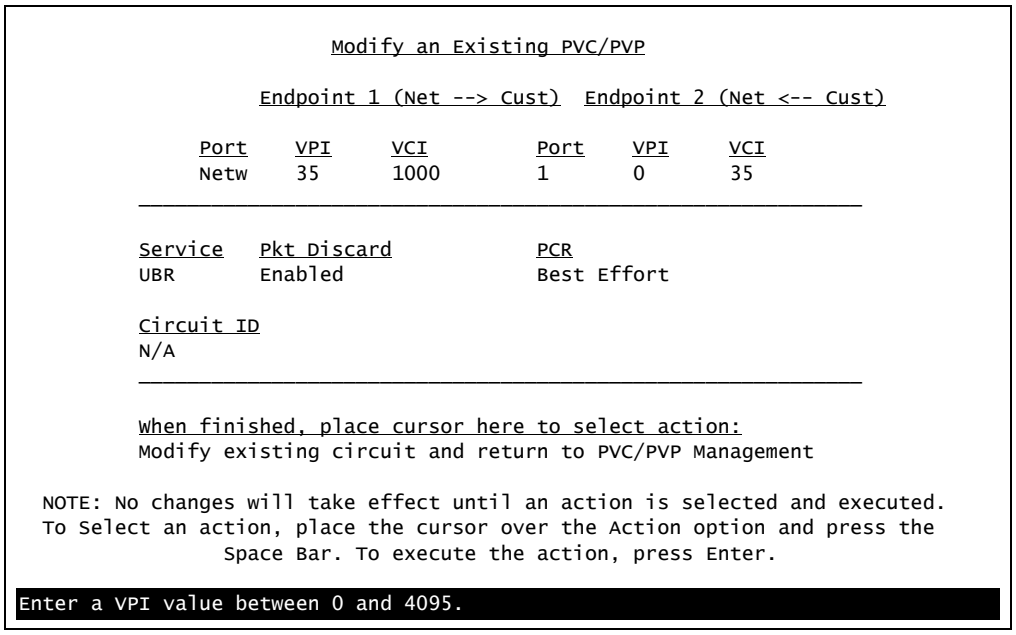

Figure 5-14. Modify an Existing PVC/PVP Screen

The Modify an Existing PVC/PVP screen fields are shown in Table 5-9.

Table 5-9. Modify an Existing PVC/PVP Screen Fields

Field	Description
Endpoint 1 Port	This field displays the network port.
Endpoint 1 VPI	This field displays the Virtual Path Identifier for the ATM port from the Network. Valid values range from 0 to 4095.
Endpoint 1 VCI	This field displays the Virtual Channel Identifier for the ATM port from the network. Valid values range from 0 to 65535.
Endpoint 2 Port	This field displays the ATM port that is being created. Valid values range from 1 to 24.
Endpoint 2 VPI	This field displays the Virtual Path Identifier for the ATM port. Valid values range from 0 to 4095.
Endpoint 2 VCI	This field displays the Virtual Channel Identifier for the ATM. Valid values range from 0 to 65535.

Table 5-9. Modify an Existing PVC/PVP Screen Fields (Continued)

Field	Description
Service	This field identifies ATM Traffic Class. There are four service options (Traffic Descriptors) available for the Total Access 1224 system: • UBR • CBR • VBR-rt • VBR-nrt The options available for each service and their descriptions are shown in Table 5-10.
Circuit ID	This field displays the identifier given to a specific circuit. This is a user defined value.
Pkt Discard	This field displays the status of packet discard: Enabled or Disabled.

Table 5-10. PVC/PVP Service Options

Service	Description	T1 Settings	E1 Settings
UBR	Unspecified bit rate		
CBR • PCR	Constant bit rate • Peak Cell Rate	0-14488	0-19316
VBR-rt • PCR • SCR • MBS	Variable bit rate real time • Peak Cell Rate • Sustained Cell Rate • Maximum Burst Size	0-14488 0-14488 0-65535	0-19316 0-19316 0-65535
VBR-nrt • PCR • SCR • MBS	Variable bit rate non-real time • Peak Cell Rate • Sustained Cell Rate • Maximum Burst Size	0-14488 0-14488 0-65535	0-19316 0-19316 0-65535

Current ATM OAM Statistics Menu

Main Menu\ATM Circuit Management\PVC/PVP Management\Current ATM OAM Statistics

The Current ATM Operations and Maintenance (OAM) Statistics menu (see Figure 5-15) displays the network and line side OAM information for each ATM circuit.

OAM is the group of network management functions that provide network fault indication and performance information.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None


                          Current ATM OAM Statistics

    Endpoint 1                              Endpoint 2          Modem Status
    Port VPI  VCI                           Port VPI  VCI       Down
    0    35   1000                          1    0    35

    Endpoint 1 (Net --> Cust)               Endpoint 2 (Net <-- Cust)
    Rx OAM Cells          : 0               Rx OAM Cells          : 0
    AIS State             : FALSE           AIS State             : FALSE
    RDI State             : FALSE           RDI State             : FALSE


                              1. OAM Loopback Test Screen
                              2. Clear Current PVC OAM Stats
                              3. Clear All PVC OAM Stats

                              Selection :

            'N' - Next PVC    'P' - Previous PVC    'S' - Select PVC
```

Figure 5-15. Current ATM OAM Statistics Menu

The Current ATM OAM Statistics menu options are shown in Table 5-11.

Table 5-11. Current ATM OAM Statistics Menu Options

Option	Description	Function
1	OAM Loopback Test Screen	This option displays the "OAM Loopback Test Menu" on page 5-26.
2	Clear Current PVC OAM Stats	This option clears the currently displayed PVC OAM statistics.
3	Clear All PVC OAM Stats	This option clears all PVCs OAM statistics.

The Current ATM OAM Statistics menu fields are shown in Table 5-12.

Table 5-12. Current ATM OAM Statistics Menu Fields

Field	Description
Endpoint 1	
Rx OAM Cells	This field displays the total number of received OAM cells for Endpoint 1.
AIS State	This field indicates if the Endpoint is in AIS state (True) or not (False).
RDI State	This field indicates if the Endpoint is in the RDI state (True) or not (False).
Endpoint 2	
Rx OAM Cells	This field displays the total number of received OAM cells for Endpoint 2.
AIS State	This field indicates if the Endpoint is in AIS state (True) or not (False).
RDI State	This field indicates if the Endpoint is in the RDI state (True) or not (False).

OAM Loopback Test Menu

Main Menu\ATM Circuit Management\PVC/PVP Management\Current ATM OAM Statistics\OAM Loopback Test

The OAM Loopback Test menu (see Figure 5-16) displays the network and line side information for each ATM circuit.

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None
                          OAM Loopback Test

    Endpoint 1                          Endpoint 2        Modem Status
    Port VPI  VCI                       Port VPI  VCI     Down
    0    35   1000                      1    0    35

    Endpoint 1 (Net --> Cust)           Endpoint 2 (Net <-- Cust)
    Tx Loopback Request   : 0          Tx Loopback Request   : 0
    Rx Loopback Request   : 0          Rx Loopback Request   : 0
    Tx Loopback Response  : 0          Tx Loopback Response  : 0
    Rx Loopback Response  : 0          Rx Loopback Response  : 0
    Loopback Passed       : 0          Loopback Passed       : 0
    Loopback Failed       : 0          Loopback Failed       : 0

1. Endpoint 1 Remote OAM Loopback Location ID : FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
2. Endpoint 2 Remote OAM Loopback Location ID : FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
3. Type of OAM Loopback Cell       : Segment
4. Send from Endpoint 1 to Network
5. Send from Endpoint 2 to Customer
6. Reset Loopback Statistics

                             Selection :
```

Figure 5-16. OAM Loopback Test Menu

The OAM Loopback Test menu options are shown in Table 5-13.

Table 5-13. OAM Loopback Test Menu Options

Option	Description	Function
1	Endpoint 1 Remote OAM Loopback Location ID	This option is used to enter the remote loopback location ID for Endpoint 1. The remote loopback location ID is in hexadecimal 16 byte format.
2	Endpoint 2 Remote OAM Loopback Location ID	This option is used to enter the remote loopback location ID for Endpoint 2. The remote loopback location ID is in hexadecimal 16 byte format.
3	Type of OAM Loopback Cell	This option is used to specify the type of OAM Loopback cell. Options include the following: • Segment • End-to-End

Table 5-13. OAM Loopback Test Menu Options (Continued)

Option	Description	Function
4	Send from Endpoint 1 to Network	This option is used to initiate a loopback from Endpoint 1 to the network.
5	Send from Endpoint 2 to Customer	This option is used to initiate a loopback from Endpoint 2 to the customer.
6	Reset Loopback Statistics	This option clears the loopback statistics for this circuit.

The OAM Loopback Test menu fields are shown in Table 5-14.

Table 5-14. OAM Loopback Test Menu Fields

Field	Description
Endpoint 1	
Port	This field displays the physical port.
VPI	This field displays the VPI for Endpoint 1.
VCI	This field displays the VCI for Endpoint 1.
Endpoint 2	
Port	This field displays the physical port.
VPI	This field displays the VPI for Endpoint 2.
VCI	This field displays the VCI for Endpoint 2.
Endpoint 1 (Net --> Cust)	
Tx Loopback Request	This field displays the total number of transmitted loopback requests.
Rx Loopback Request	This field displays the total number of received loopback requests.
Tx Loopback Response	This field displays the total number of transmitted loopback responses.
Rx Loopback Response	This field displays the total number of received loopback responses.
Loopback Passed	This field displays the total number of loopback request that passed.
Loopback Failed	This field displays the total number of loopback request that failed.

Table 5-14. OAM Loopback Test Menu Fields (Continued)

Field	Description
Endpoint 2 (Net <-- Cust)	
Tx Loopback Request	This field displays the total number of transmitted loopback requests.
Rx Loopback Request	This field displays the total number of received loopback requests.
Tx Loopback Response	This field displays the total number of transmitted loopback responses.
Rx Loopback Response	This field displays the total number of received loopback responses.
Loopback Passed	This field displays the total number of loopback request that passed.
Loopback Failed	This field displays the total number of loopback request that failed.
Modem Status	This field displays the modem status.

Current ATM PVC Performance Menu

Main Menu\ATM Circuit Management\PVC/PVP Management\Current ATM PVC Performance

The Current ATM PVC Performance menu (see Figure 5-17) displays the network and port side information for each ATM circuit.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None


                          Current ATM PVC Performance

    Endpoint 1                              Endpoint 2          Modem Status
    Port VPI  VCI                           Port VPI  VCI       Down
    0    35   1000                          1    0    35

    Endpoint 1 (Net --> Cust)               Endpoint 2 (Net <-- Cust)
    Tx Cells               : 0              Tx Cells               : 0
    Discarded Queue Full   : 0              Discarded Queue Full   : 0
    Cells/Sec (Last Sec)   : 0              Cells/Sec (Last Sec)   : 0
    Cells/Sec (60 Sec Avg): 0               Cells/Sec (60 Sec Avg): 0

                               1. Clear Current PVC PM
                               2. Clear All PVC PM

                               Selection :

           'N' - Next PVC     'P' - Previous PVC     'S' - Select PVC

                               '?' - System Help Screen
```

Figure 5-17. Current ATM PVC Performance Menu

The Current ATM PVC Performance menu options are shown in Table 5-15.

Table 5-15. Current ATM PVC Performance Menu Options

Option	Description	Function
1	Clear Current PVC PM	This option clears the currently displayed PVC performance monitoring statistics.
2	Clear All PVC PM	This option clears all the PVCs performance monitoring statistics.

The Current ATM PVC Performance menu fields are shown in Table 5-16.

Table 5-16. Current ATM Port Performance Menu Fields

Field	Description
Endpoint 1 (Net --> Cust)	
Tx Cells	This field displays the total number of transmit cells for Endpoint 1 for the current performance period.
Discarded Queue Full	This field displays the number of cells discarded for Endpoint 1 because of a full queue.
Cells/Sec (Last Sec)	This field displays the number of cells transmitted per second for Endpoint 1.
Cells/Sec (60 Sec Avg)	This field displays the average number of cells transmitted every 60 seconds for Endpoint 1.
Endpoint 2 (Net <-- Cust)	
Tx Cells	This field displays the total number of received cells for Endpoint 2 for the current performance period.
Discarded Queue Full	This field displays the number of cells discarded because of a full queue.
Cells/Sec (Last Sec)	This field displays the number of cells received per second for Endpoint 2.
Cells/Sec (60 Sec Avg)	This field displays the average number of cells received every 60 seconds for Endpoint 2.

ATM Quick Provisioning Menu

Main Menu\ATM Circuit Management\PVC/PVP Management\ATM Quick Provisioning

The ATM Quick Provisioning menu (see Figure 5-18) is used to quickly create ATM circuits based on reference circuits.

```
TID: HSVL00001                  Total Access 1224
Unacknowledged Alarms: None

                              ATM Quick Provisioning

                        Endpoint 1                      Endpoint 2
                   Port     VPI     VCI           Port     VPI     VCI
                   Netw     35      1000          1       0       35

                   Type     Pkt Discard           PCR
                   UBR      Enabled               Best Effort

                   1. Increment Endpoint 1 VPI?          NO
                   2. Increment Endpoint 1 VCI?          YES
                   3. Increment Endpoint 2 Port?         YES
                   4. Increment Endpoint 2 VPI?          NO
                   5. Increment Endpoint 2 VCI?          NO
                   6. Number of Circuits to Create:      23
                   7. Create New ATM Circuits.

                                 Selection :
This screen allows quick creation of ATM circuits based on the reference circuit
    above. All the highlighted attributes will increment by one 47 times.
                                 '?' - System Help Screen
```

Figure 5-18. ATM Quick Provisioning Menu

The ATM Quick Provisioning menu options are described in Table 5-17. Note that options are dependent on each other.

Table 5-17. ATM Quick Provisioning Menu Options

Option	Description	Function
1	Increment Endpoint 1 VPI	This option increments the Endpoint 1 VPI value by one.
2	Increment Endpoint 1 VCI	This option increments the Endpoint 1 VCI value by one.
3	Increment Endpoint 2 Port	This option increments the Endpoint 2 Port value by one.
4	Increment Endpoint 2 VPI	This option increments the Endpoint 2 VPI value by one.
5	Increment Endpoint 2 VCI	This option increments the Endpoint 2 VCI value by one.
6	Number of Circuits to Create	This option is used to indicate the number of circuits to be created.
7	Create New ATM Circuits	This option is used to create the new ATM circuit.

Figure 5-19 shows the ATM PVC/PVP Management menu after creating new ATM circuits using the ATM Quick Provisioning menu with the settings shown in Figure 5-18.

```
Page 1 of 5          PVC/PVP Management - Shelf:  Host  PVCs: 24
                                          Endpoint 1              Endpoint 2
                Circuit ID                Port VPI  VCI   <->    Port VPI  VCI
1                                         Netw 35   1000          1    0    35
2                                         Netw 35   1001          2    0    35
3                                         Netw 35   1002          3    0    35
4                                         Netw 35   1003          4    0    35
5                                         Netw 35   1004          5    0    35
6                                         Netw 35   1005          6    0    35
7                                         Netw 35   1006          7    0    35
8                                         Netw 35   1007          8    0    35
9                                         Netw 35   1008          9    0    35
10                                        Netw 35   1009          10   0    35
11                                        Netw 35   1010          11   0    35
12                                        Netw 35   1011          12   0    35

Circuit ID:
Select:                      Endpoint2 -> Endpoint1
    Service  PCR(0+1)                                Pkt Discard
3   UBR      Best Effort                             Enabled

Endpoint 1:  Port     VPI      VCI      Endpoint 2:   Port     VPI      VCI
             0        35       1002                   3        0        35
Enter # or arrow keys to pick circuit; space bar for choices or c,d,m,n,o,p,v,q
```

Figure 5-19. ATM PVC/PVP Management Menu with 24 PVCs

ATM Traffic Parameter Defaults Screen

Main Menu\ATM Circuit Management\ATM Traffic Parameter Defaults

The ATM Traffic Parameter Defaults screen (see Figure 5-20) displays the system defaults for the ATM circuits. Traffic parameters represent priorities given to ATM cell transmissions. Once traffic parameters are set from this screen, all PVC/PVPs provisioned from that point forward will use these parameter defaults.

```
TID: HSVL00001                  Total Access 1224
Unacknowledged Alarms: None

                        ATM Traffic Parameter Defaults

                             Endpoint 2 -> Endpoint 1
Traffic Type       PCR(0+1)        SCR(0+1)        MCR(0+1)        MBS(0+1)
UBR                Best Effort     N/A             N/A             N/A
CBR                0               N/A             N/A             N/A
VBR-rt             0               0               N/A             0
VBR-nrt            0               0               N/A             0


Traffic Type       Pkt Discard
UBR                Enabled
CBR                Enabled
VBR-rt             Enabled
VBR-nrt            Enabled

Note: This screen allows modification of the DEFAULT traffic parameter settings,
 which can be overridden on a per PVC/PVP basis in the PVC/PVP Management menu.
```

Figure 5-20. ATM Traffic Parameter Defaults Screen

The ATM Traffic Parameters Defaults screen Traffic Types are shown in Table 5-18.

Table 5-18. ATM Parameters Defaults Screen Traffic Types

Traffic Type	Definition
PCR	The Peak Cell Rate designates an upper limit that the traffic information rate cannot exceed.
SCR	The Sustainable Cell Rate specifies the average traffic rate that is transmitted and received.
MCR	The Minimum Cell Rate designates a minimum limit that the traffic information rate cannot fall below.
MBS	The Maximum Burst Size specifies the maximum number of cells per second (CPS) that can be transmitted at the PCR.

Restore ATM Factory Defaults Menu

Main Menu\ATM Circuit Management\Restore ATM Factory Defaults

The Total Access 1224 provisioning system provides the ability to restore the ATM parameters to the factory defaults. Figure 5-21 displays the Restore ATM Factory Defaults menu.

```
TID: HSVL00001                          Total Access 1224         MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                              Restore ATM Factory Defaults

                         WARNING! THIS IS SERVICE AFFECTING!

                  This is for defaulting the ATM parameters only. This
                   will delete all of the selected PVCs and reset the
                      traffic descriptors to their default values.

                              1. Delete All PVCs and Restore Default Settings
                              2. Delete Host PVCs
                              3. Delete Client 1 PVCs
                              4. Delete Client 2 PVCs
                              5. Delete Client 3 PVCs

                                   Selection :



                                   '?' - System Help Screen
```

Figure 5-21. Restore ATM Factory Defaults Menu

CAUTION

This action is service affecting. All traffic descriptors and PVCs are removed.

The Restore ATM Factory Defaults menu options are shown in Table 5-19.

Table 5-19. Restore ATM Factory Defaults Menu Options

Option	Description	Function
1	Delete All PVCs and Restore Default Settings	This option deletes all PVCs and restores ATM factory defaults without additional prompting.
2	Delete Host PVCs	This option deletes Host PVCs without additional prompting.
3	Delete Client 1 PVCs	This option deletes Client 1 PVCs without additional prompting, if enabled.
4	Delete Client 2 PVCs	This option deletes Client 2 PVCs without additional prompting, if enabled.
5	Delete Client 3 PVCs	This option deletes Client 3 PVCs without additional prompting, if enabled.

ATM Performance Monitoring Mode Menu

Main Menu\ATM Circuit Management\ATM Performance Monitoring Mode\

NOTE

If expansion mode is enabled (refer to "Expansion Menu" on page 5-87), the Select Shelf menu (see Figure 5-22) displays. A host or client unit must be chosen in order to access the ATM Performance Monitoring Mode menu.

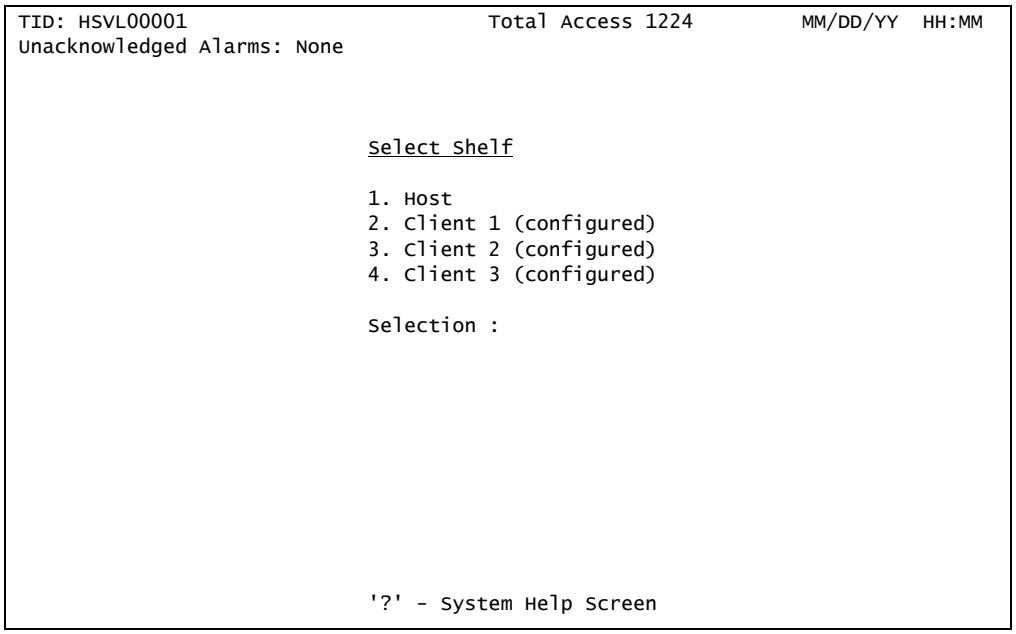

Figure 5-22. Select Shelf Menu

The Total Access 1224 tracks performance statistics for ATM ports via the ATM Performance Monitoring Mode menu (see Figure 5-23).

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None


                              ATM Performance Monitoring Mode

                              Port: Network

                              1. Change ATM Port Number     Network
                              2. ATM Performance Data
                              3. ATM Port Cell Count Summary
                              4. Clear All PM for All Ports

                              Selection :




      This screen allows you to view the ATM stats for a particular port.
        Enter 0 for the network port or 1 - 24 for the customer ports.

                              '?' - System Help Screen
```

Figure 5-23. ATM Performance Monitoring Mode Menu

The ATM Performance Monitoring Mode menu options are shown in Table 5-20.

Table 5-20. ATM Performance Monitoring Mode Menu Options

Option	Description	Function
1	Change ATM Port Number	This option is used to change the ATM port number without additional prompting. The current port number is displayed above the menu items on the ATM Performance Monitoring Mode menu.
2	ATM Performance Data	This option displays the "ATM Performance Monitoring Status Screen" on page 5-37.
3	ATM Port Cell Count Summary	This option displays the "ATM Port Cell Count Summary Screen" on page 5-39.
4	Clear All PM for All Ports	This option displays the "Clear All PM for All Ports Menu" on page 5-40.

ATM Performance Monitoring Status Screen

Main Menu\ATM Circuit Management\ATM Performance Monitoring Mode\ATM Performance Monitoring Status

The ATM Performance Monitoring Status screen (see Figure 5-24) displays the port performance for the port selected. This menu lists the cell transmitted to the Network, cells transmitted to the customer, discarded cells, and the HEC Error count for the selected performance period.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None
                       ATM Performance Monitoring Status
                       Shelf: HOST          Port: Network
                     TX (to net)  TX (to cust)  Discarded Cells  HEC Error Cnt
   24 Hr  - Current            0             0                0              0
              MM/DD            0             0                0              0

      Avg CPS (60s)            0             0
        Current CPS            0             0

   15 Min - Current            0             0                0              0
              16:15            0             0                0              0
              16:00            0             0                0              0
              15:45            0             0                0              0
              15:30            0             0                0              0
              15:15            0             0                0              0
              15:00            0             0                0              0
              14:45            0             0                0              0
              14:30            0             0                0              0

 B - Backward(2hrs/15min PM)
 S - Select Port    P - Previous Port    N - Next Port    C - Clear PM Status
                             '?' - System Help Screen
```

Figure 5-24. ATM Performance Monitoring Status Screen

The ATM Performance Monitoring Status screen options are shown in Table 5-21.

Table 5-21. ATM Performance Monitoring Status Screen Fields

Field	Description
Port	This field displays the port number for the cell count summary.
TX (to net)	This field displays the number of cells transmitted to the network.
RX (to cust)	This field displays the number of cells received from the network and transmitted to the customer.
Discarded Cells	This field displays the number of discarded cells.
HEC Error Cnt	This field displays the HEC errors, which are Cyclical Redundancy Check (CRC) errors in the last byte of the ATM cell header used for checking integrity.

The ATM Performance Monitoring Status hot keys are shown in Table 5-22.

Table 5-22. ATM Performance Monitoring Status Hot Keys

Hot Key	Description	Function
B	Backward (2hrs/15min PM)	This hot key is used to display performance monitoring statistics for the last 2 hours, in 15 minute intervals.
C	Clear PM Status	This hot key is used to clear the performance monitoring statistics.
F	Forward (2hrs/15min PM)	This hot key is used to display performance monitoring statistics for the next 2 hours, in 15 minute intervals.
P	Previous Port	This hot key is used to display the previous port.
N	Next Port	This hot key is used to display the next port.
S	Select Port	This hot key is used to select a specific port.

ATM Port Cell Count Summary Screen

Main Menu\ATM Circuit Management\ATM Performance Monitoring Mode\ATM Port Cell Count Summary

The ATM Port Cell Count Summary screen (see Figure 5-25) displays a summary of cell counts for all ports simultaneously.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None


                              ATM Port Cell Count Summary

  Port    Tx        Rx        Disc.     Port    Tx        Rx        Disc.
  1       0         0         0         13      0         0         0
  2       0         0         0         14      0         0         0
  3       0         0         0         15      0         0         0
  4       0         0         0         16      0         0         0
  5       0         0         0         17      0         0         0
  6       0         0         0         18      0         0         0
  7       0         0         0         19      0         0         0
  8       0         0         0         20      0         0         0
  9       0         0         0         21      0         0         0
  10      0         0         0         22      0         0         0
  11      0         0         0         23      0         0         0
  12      0         0         0         24      0         0         0

    NOTE: Tx is to network, Rx is to customer, Disc. is discarded cells
          Highlighted Port indicates the ADSL loop is trained.
                                  'N' - Next Page
                               '?' - System Help Screen
```

Figure 5-25. ATM Port Cell Count Summary Screen

The ATM Port Cell Count Summary screen fields are shown in Table 5-23.

Table 5-23. ATM Port Cell Count Summary Screen Fields

Field	Description
Port	This field displays the port number for the cell count summary.
Tx	This field displays the number of cells transmitted to the network.
Rx	This field displays the number of cells received from the network and transmitted to the customer.
Disc.	This field displays the number of discarded cells.

Clear All PM for All Ports Menu

Main Menu\ATM Circuit Management\ATM Performance Monitoring Mode\Clear All PM for All Ports

The Clear All PM for All Ports menu (see Figure 5-26) is selected from the ATM Performance Monitoring Mode Menu.

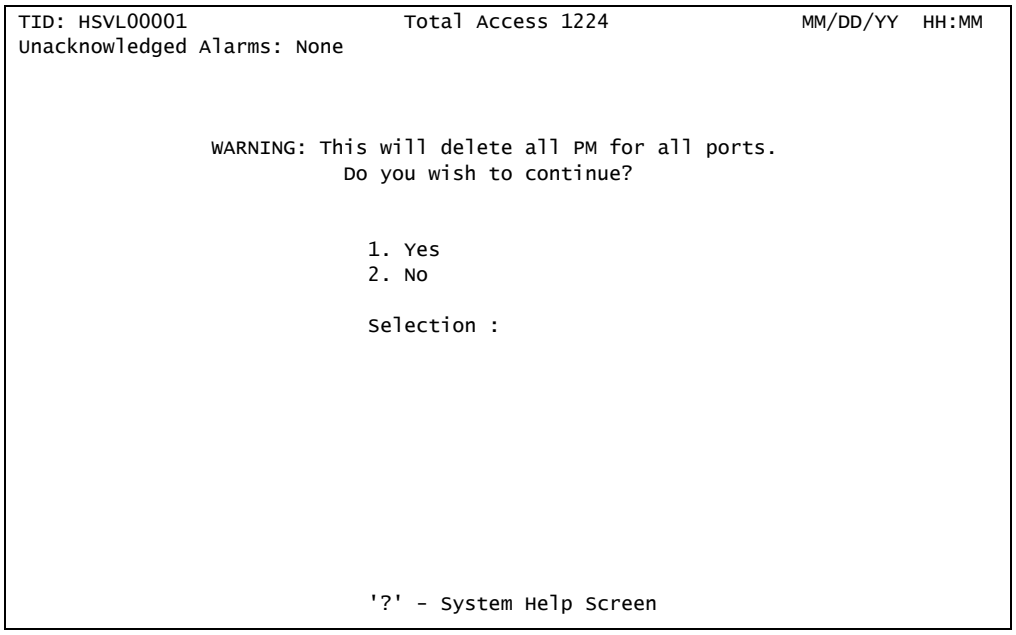

Figure 5-26. Clear All PM for All Ports Menu

The Clear All PM for All Ports menu options are shown in Table 5-24.

Table 5-24. Clear All PM for All Ports Menu Options

Option	Description	Function
1	Yes	This option clears the performance monitoring data for all of the ports.
2	No	This option returns the display to the "ATM Performance Monitoring Mode Menu" on page 5-35 and does not clear the performance monitoring data.

ATM OAM Settings Menu

Main Menu\ATM Circuit Management\ATM OAM Settings\

The ATM OAM Settings menu (see Figure 5-27) is used to provision the Total Access 1224 OAM settings and to test the Inband channel PVC for an ATM fed system.

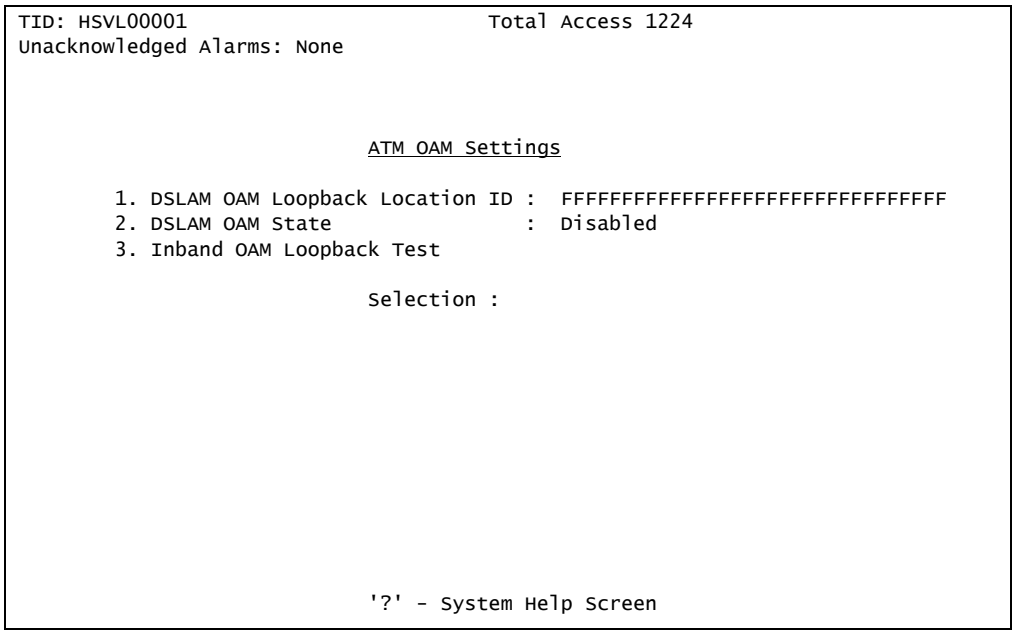

Figure 5-27. ATM OAM Settings Menu

The ATM OAM Settings menu options are shown in Table 5-25.

Table 5-25. ATM OAM Settings Menu Options

Option	Description	Function
1	DSLAM OAM Loopback Location ID	This is option is used to enter the loopback location ID for the Total Access 1224. The remote loopback location ID is in hexadecimal 16 byte format.
2	DSLAM OAM State	This option is used to toggle the Total Access 1224 OAM state between Disabled and Enabled.
3	Inband OAM Loopback Test	This option displays the "Inband OAM Loopback Test Menu" on page 5-42.

Inband OAM Loopback Test Menu

Main Menu\ATM Circuit Management\ATM OAM Settings\Inband OAM Loopback Test

The Inband OAM Loopback Test menu (see Figure 5-28) is used to provision the Total Access 1224 OAM Loopback settings and to test the Inband channel PVC for an ATM fed box.

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None


                          Inband OAM Loopback Test

        Port VPI  VCI
        0    0    32

          Tx Loopback Request   : 0        Rx OAM Cells : 0
          Rx Loopback Request   : 0        AIS State    : FALSE
          Tx Loopback Response  : 0        RDI State    : FALSE
          Rx Loopback Response  : 0
          Loopback Passed       : 0
          Loopback Failed       : 0

       1. Remote OAM Loopback Location ID : FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
       2. Type of OAM Loopback Cell       : Segment
       3. Send Loopback Cell
       4. Reset Loopback Statistics
       5. Reset All Statistics

                            Selection :
                            '?' - System Help Screen
```

Figure 5-28. Inband OAM Loopback Test Menu

The Inband OAM Loopback Test menu options are shown in Table 5-26.

Table 5-26. Inband OAM Loopback Test Menu Options

Option	Description	Function
1	Remote OAM Loopback Location ID	This is option is used to enter the remote loopback location ID. The remote loopback location ID is in hexadecimal 16 byte format.
2	Type of OAM Loopback Cell	This option is used to specify the type of OAM Loopback cell. Options include the following: • Segment • End-to-End
3	Send Loopback Cell	This option is used to send a loopback cell.
4	Reset Loopback Statistics	This option clears the OAM loopback statistics for this circuit.
5	Reset All Statistics	This option clears all OAM loopback statistics.

The Inband OAM Loopback Test menu fields are shown in Table 5-27.

Table 5-27. Inband OAM Loopback Test Menu Fields

Field	Description
Port	This field displays the physical port.
VPI	This field displays the VPI for the circuit.
VCI	This field displays the VCI for the circuit.
Tx Loopback Request	This field displays the total number of transmitted loopback requests.
Rx Loopback Request	This field displays the total number of received loopback requests.
Tx Loopback Response	This field displays the total number of transmitted loopback responses.
Rx Loopback Response	This field displays the total number of received loopback responses.
Loopback Passed	This field displays the total number of loopback request that passed.
Loopback Failed	This field displays the total number of loopback request that failed.
Rx OAM Cells	This field displays the total number of received OAM cells.
AIS State	This field indicates if the Endpoint is in AIS state (True) or not (False).
RDI State	This field indicates if the Endpoint is in the RDI state (True) or not (False).

System Management Menu

Main Menu\System Management

The System Management menu (see Figure 5-29) is used to manage system settings. The following subsections describe these settings in detail.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                                System Management

                                1. Password Control
                                2. IP Address
                                3. Test IP Address
                                4. Time/Date
                                5. Baud Rate
                                6. TFTP Configuration Upload/Download
                                7. SNMP/TL1
                                8. Download New Code
                                9. Restore Factory Defaults
                               10. Reset System
                               11. Self Test Results
                               12. External Alarms
                               13. Expansion Menu
                                   System Uptime:  2 hrs 33 mins 44 secs


                                Selection :         '?' - System Help Screen
```

Figure 5-29. System Management Menu

The System Management menu options are shown in Table 5-28.

Table 5-28. System Management Menu Options

Option	Description	Function
1	Password Control	This option displays the "Password Control Menu" on page 5-46.
2	IP Address	This option displays the "Mode Selection and Current IP Settings Menu" on page 5-49.
3	Test IP Address	This option displays the "Test IP Address Menu" on page 5-63.
4	Time/Date	This option displays the "Time/Date Adjust Menu" on page 5-64.
5	Baud Rate	This option displays the "Current Baud Rate Menu" on page 5-65.
6	TFTP Configuration Upload/ Download	This option displays the "TFTP Configuration Storage/ Retrieval Screen" on page 5-66.

Table 5-28. System Management Menu Options (Continued)

Option	Description	Function
7	SNMP/TL1	This option displays the "SNMP/TL1 Configuration Menu" on page 5-68.
8	Download New Code	This option displays the "Code Download Method Menu" on page 5-74.
9	Restore Factory Defaults	This option displays the "Restore Factory Defaults Menu" on page 5-81.
10	Reset System	This option displays the "Reset System Menu" on page 5-82.
11	Self Test Results	This option displays the "Self Test Menu" on page 5-83.
12	External Alarms	This option displays the "External Alarms Menu" on page 5-85.
13	Expansion Menu	This option displays the "Expansion Menu" on page 5-87.
N/A	System Uptime	This field displays the length of time the Total Access 1224 system has been running. Each time the system is reset, this value resets to 0 days, 0 hours, 0 minutes, and 0 seconds.

Password Control Menu

Main Menu\System Management\Password Control

The Password Control menu (see Figure 5-30) is used to set and modify passwords, logout times, and restore default passwords. The system provides up to eleven user accounts.

```
TID: HSVL00001                Total Access 1224
Unacknowledged Alarms: None




                              Password Control

                        1. Set Passwords                     None Configured
                        2. Allow SNMP security management    Disabled
                        3. Set Menus Idle Logout Time        10  minutes
                        4. Set TL1 Menus Idle Logout Time    30  minutes
                        5. Set TL1 Inband Idle Logout Time   120  minutes
                        6. Restore Default Passwords

                              Selection :









                              '?' - System Help Screen
```

Figure 5-30. Password Control Menu

The Password Control menu options are shown in Table 5-29.

Table 5-29. Password Control Menu Options

Option	Description	Function
1	Set Passwords	This option displays the "Password Control Levels Screen" on page 5-47.
2	Allow SNMP Security Management	This option displays the "Allow SNMP Security Management" on page 5-48.
3	Set Menus Idle Logout Time	This option displays the "Set Menus Idle Logout Time" on page 5-48.\
4	Set TL1 Menus Idle Logout Time	This option displays the "Set TL1 Menus Idle Logout Time" on page 5-48.
5	Set TL1 Inband Idle Logout Time	This option displays the "Set TL1 Inband Idle Logout Time" on page 5-48.
6	Restore Default Passwords	This option displays the "Restore Default Passwords" on page 5-48.

Password Control Levels Screen

Main Menu\System Management\Password Control\Password Control Levels

The Password Control Levels screen (see Figure 5-31) is used to manage the usernames and associated passwords that access the system.

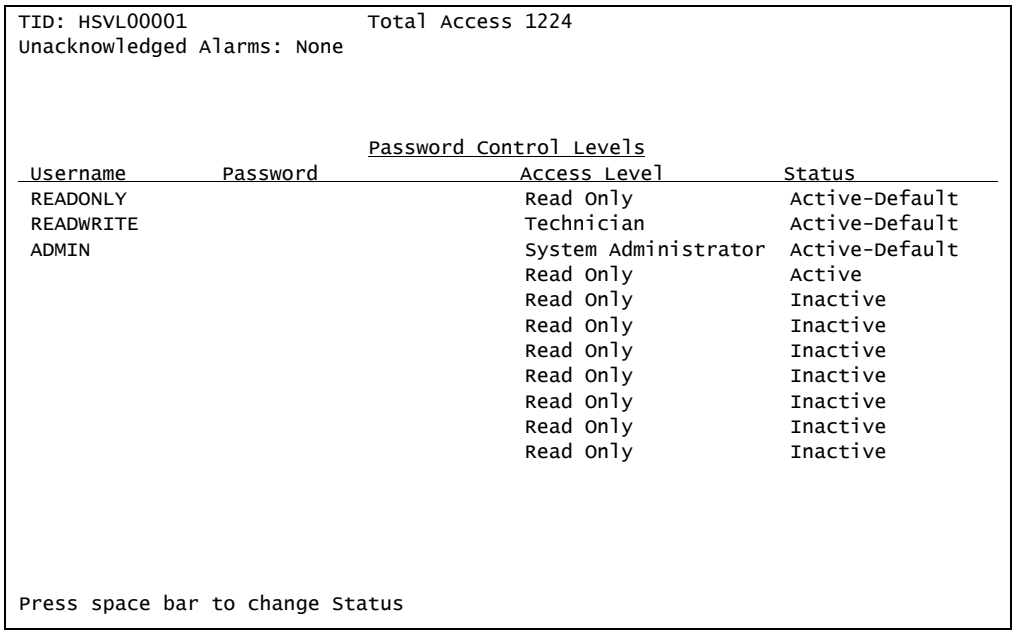

Figure 5-31. Password Control Levels Screen

The password control levels for the default usernames are shown in Table 5-30.

Table 5-30. Password Control Levels for Default Usernames

Username	Access Level	Control Level
ADMIN	System Administrator	Read/Write and password control
READWRITE	Technician	Read/Write
READONLY	Read only	Read only

To set or change a username or password, perform the following steps:

1. Navigate to a Username field with the arrow keys.

   The Username field displays in reverse video.
2. Press the spacebar to open the field, type a username, and press ENTER.
3. Press the TAB key to navigate to the Password field.

   The Password field displays in reverse video.
4. Press the spacebar to open the field, type a password, and press ENTER.

5. Enter the password again when prompted to verify, and press ENTER.
6. Press the TAB key to navigate to the Access Level field.

   The Access Level field displays in reverse video.
7. Press the spacebar to change the access level, and press ENTER.
8. Press the TAB key to navigate to the Status field.

   The Status field displays in reverse video.
9. Press the spacebar to change the status, and press ENTER.

Allow SNMP Security Management

Main Menu\System Management\Password Control\Allow SNMP Security Management

The Allow SNMP Security Management option can be toggled to either Enabled or Disabled.

Set Menus Idle Logout Time

Main Menu\System Management\Password Control\Set Menus Idle Logout Time

The Set Menus Idle Logout Time option can be set between 1 and 60 minutes.

Set TL1 Menus Idle Logout Time

Main Menu\System Management\Password Control\Set TL1 Menus Idle Logout Tim

The Set TL1 Menus Idle Logout Time option can be set between 1 and 120 minutes.

Set TL1 Inband Idle Logout Time

Main Menu\System Management\Password Control\Set TL1 Inband Idle Logout Time

The Set TL1 Inband Idle Logout Time option can be set between 1 and 120 minutes.

Restore Default Passwords

Main Menu\System Management\Password Control\Restore Default Passwords

The Restore Default Passwords option is used to restore all passwords to the default settings.

CAUTION

When the Restore Default Passwords option is selected, the password controls automatically restore to the default setting without additional prompting.

Mode Selection and Current IP Settings Menu

Main Menu\System Management\Mode Selection and Current IP Settings

To remotely manage the Total Access 1224 system, the IP settings must be configured using the Mode Selection and Current IP Settings menu (see Figure 5-32).

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None



                          Mode Selection and Current IP Settings

                          1. IP Feed                    RFC1483 Routed
                          2. Mode                       Static
                          3. Configure IP

                          IP address                    192.168.1.1
                          Subnet mask                   255.255.255.0
                          Default Gateway               192.168.1.254
                          TFTP IP address               Not Configured
                          MAC Address                   00-a0-c8-12-6d-f9
                          Rx/Tx Packets                 2015/1247
                          Rx/Tx Cells                   5162/6192

                          Selection :



                          '?' - System Help Screen
```

Figure 5-32. Mode Selection and Current IP Settings Menu

The Mode Selection and Current IP Settings menu items are shown in Table 5-31.

Table 5-31. Mode Selection and Current IP Settings Menu Items

Option	Description	Function
1	IP Feed	This option provides 3 choices for the selection of IP Feed type: • RFC1483 Routed Encapsulation • IP over Ethernet • RFC1483 Bridged Encapsulation The VPI and VCI of the ATM circuit must be assigned by configuring the IP settings.
2	Mode	This option is used to select either Static or Dynamic. • In Static Mode, the IP address, Subnet mask, and Default Gateway are configured manually for inband management of the device. • In Dynamic Mode, the Total Access 1224 acts as a Dynamic Host Configuration Protocol (DHCP) client and a DHCP server is required upstream from the device to configure the IP settings. When a DHCP server is properly configured, the Total Access 1224 system obtains the IP address, Subnet mask, and Default Gateway from the server and applies these settings to the device.
3	Configure IP	Depending on the setting of the IP Feed and Mode options, the Configure IP option displays one of the following menus: • "Static IP Settings - for IP over ATM Menu" on page 5-51 • "Dynamic IP Settings - for IP over ATM Menu" on page 5-54 • "Static IP Settings - for IP over Ethernet Menu" on page 5-57. • "Dynamic IP Settings - for IP over Ethernet Menu" on page 5-60.

NOTE

The Media Access Control (MAC) address, which is set at the factory, is required to configure the DHCP server.

Static IP Settings - for IP over ATM Menu

Main Menu\System Management\Mode Selection and Current IP Settings\Static IP Settings - for IP over ATM

The Static IP Settings - for IP over ATM menu (see Figure 5-33) is used to manually provision all of the IP settings.

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None



                              Static IP Settings - for IP over ATM

                              1. IP address                  192.168.1.1
                              2. Subnet mask                 255.255.255.0
                              3. VPI/VCI                     0/32
                              4. PCR                         3000
                              5. Default Gateway             192.168.1.254
                              6. TFTP IP address             Not Configured
                              7. TL1 Port Number(set >1023)  13001
                              8. TL1 IP Transport type       TCP
                              9. Reset IP Factory Defaults
                                 MAC Address                 00-a0-c8-12-6d-f9
                                 Encapsulation is via rfc1483 SNAP

                              Selection :



                              '?' - System Help Screen
```

Figure 5-33. Static IP Settings - for IP over ATM Menu

The Static IP Settings - for IP over ATM menu options are shown in Table 5-32.

Table 5-32. Static IP Settings - for IP over ATM Menu Options

Option	Description	Function
1	IP address	This option is used to configure the IP address in decimal dot format (i.e., ###.###.###.###).
2	Subnet mask	This option is used to configure the subnet mask in decimal dot format.
3	VPI/VCI	This option is used to configure the VPI/VCI setting. The VPI and VCI are used to identify the next destination of a cell as it passes through a series of ATM switches. The VPI/VCI must also be provisioned at the upstream ATM device.
4	PCR	This option is used to configure the Peak Cell Rate (PCR). The PCR is the maximum number of cells per second that the ATM can transmit. The PCR default is 3000. Valid values range from 0 to 14488.

Table 5-32. Static IP Settings - for IP over ATM Menu Options (Continued)

Option	Description	Function
5	Default Gateway	This option is used to configure the Default Gateway. The Default Gateway is used to forward traffic to a destination outside of the subnet of the Total Access 1224. The Default Gateway is configured in decimal dot format.
6	TFTP IP address	This option is used to configure the TFTP IP address. The TFTP IP Address must be configured to use TFTP for software upgrade. The TFTP address is configured in decimal dot format.
7	TL1 Port Number (set >1023)	This field is used to configure the Transaction Language 1 Port Number. The default TL1 Port Number is 13001, however, it can be modified to any number greater than 1023.
8	TL1 IP Transport type	This option is used to configure the TL1 IP Transport Type. Each time the TL1 IP Transport type option is selected, the setting is toggled between User Datagram Protocol (UDP) and Transmission Control Protocol (TCP). The default is TCP.
9	Reset IP Factory Defaults	This option displays the "Restore IP Factory Defaults Menu" on page 5-53.

NOTE

The Media Access Control (MAC) address is set at the factory.

Restore IP Factory Defaults Menu

Main Menu\System Management\Mode Selection and Current IP Settings\Static IP Settings - for IP over ATM\Restore IP Factory Defaults

The Restore IP Factory Defaults menu (see Figure 5-34) is used to reset all IP settings to the factory defaults.

CAUTION

If Restore IP Factory Defaults is selected remotely, IP connectivity is lost.

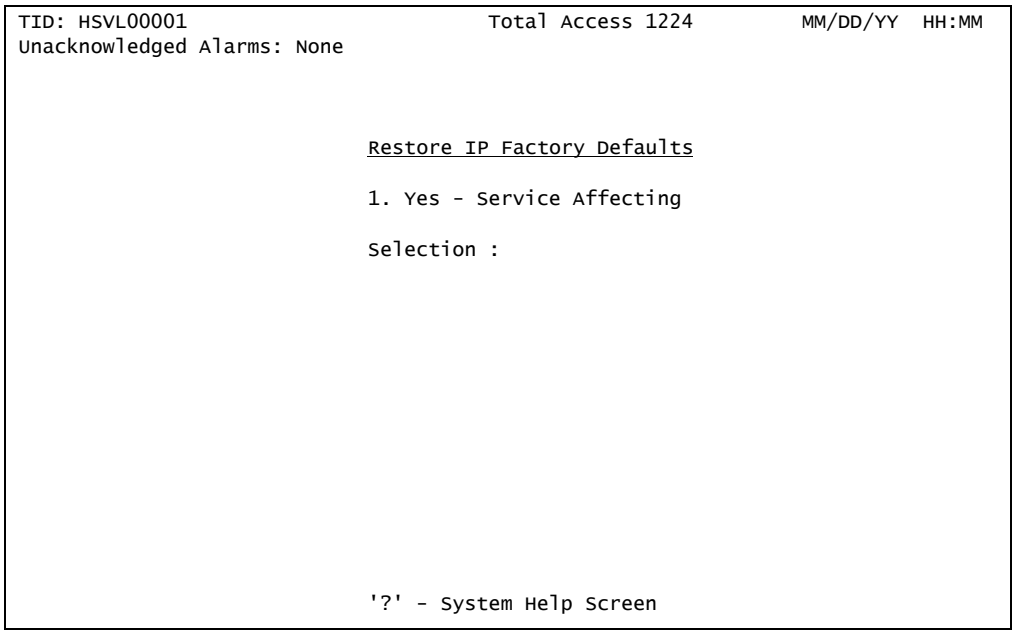

Figure 5-34. Restore IP Factory Defaults Menu

The Restore IP Factory Defaults menu option is shown in Table 5-33.

Table 5-33. Restore IP Factory Defaults Menu Option

Option	Definition	Function
1	Yes - Service Affecting	This option restores all options to the IP factory default settings.

Dynamic IP Settings - for IP over ATM Menu

Main Menu\System Management\Mode Selection and Current IP Settings\Dynamic IP Settings - for IP over ATM

The Dynamic IP Settings - for IP over ATM menu (see Figure 5-35) is used to provision some of the IP settings. When the Mode option is set to Dynamic, the Total Access 1224 system automatically retrieves the IP address, Subnet mask, and Default Gateway from the remote DHCP server. The remaining menu items can be provisioned manually.

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None



                              Dynamic IP Settings - for IP over ATM

                                 IP address                 0.0.0.0
                                 Subnet mask                0.0.0.0
                              3. VPI/VCI                    0/32
                              4. PCR                        3000
                                 Default Gateway            Not Configured
                              6. TFTP IP address            Not Configured
                              7. TL1 Port Number(set >1023) 13001
                              8. TL1 IP Transport type      TCP
                              9. Reset IP Factory Defaults
                                 MAC Address                00-a0-c8-12-6d-f9
                                 Encapsulation is via rfc1483 SNAP

                              Selection :



                              '?' - System Help Screen
```

Figure 5-35. Dynamic IP Settings - for IP over ATM Menu

The Dynamic IP Settings - for IP over ATM menu items are shown in Table 5-34.

Table 5-34. Dynamic IP Settings - for IP over ATM Menu Items

Option	Description	Function
N/A	IP address	This option cannot be changed. The IP address is automatically retrieved from the DHCP server.
N/A	Subnet mask	This option cannot be changed. The Subnet mask is automatically retrieved from the DHCP server.
3	VPI/VCI	This option is used to configure the VPI/VCI setting. The VPI and VCI are used to identify the next destination of a cell as it passes through a series of ATM switches. The VPI/VCI must also be provisioned at the upstream ATM device.
4	PCR	This option is used to configure the Peak Cell Rate (PCR). The PCR is the maximum number of cells per second that the ATM can transmit. The PCR default is 3000. Valid values range from 0 to 14488.
N/A	Default Gateway	This option cannot be changed. The Default Gateway is automatically retrieved from the DHCP server.
6	TFTP IP address	This option is used to configure the TFTP IP address. The TFTP IP Address must be configured to use TFTP for software upgrade. The TFTP address is configured in decimal dot format.
7	TL1 Port Number (set >1023)	This field is used to configure the Transaction Language 1 Port Number. The default TL1 Port Number is 13001, however, it can be modified to any number greater than 1023.
8	TL1 IP Transport type	This option is used to configure the TL1 IP Transport Type. Each time the TL1 IP Transport type option is selected, the setting is toggled between User Datagram Protocol (UDP) and Transmission Control Protocol (TCP). The default is TCP.
9	Reset IP Factory Defaults	This option displays the "Restore IP Factory Defaults Menu" on page 5-56.

NOTE

The Media Access Control (MAC) address is set at the factory.

Restore IP Factory Defaults Menu

Main Menu\System Management\Mode Selection and Current IP Settings\Dynamic IP Settings - for IP over ATM\Restore IP Factory Defaults

The Restore IP Factory Defaults menu (see Figure 5-36) is used to reset all of the IP factory defaults.

CAUTION

If Restore IP Factory Defaults is selected remotely, IP connectivity is lost.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None


                                Restore IP Factory Defaults

                                1. Yes - Service Affecting

                                Selection :









                                '?' - System Help Screen
```

Figure 5-36. Restore IP Factory Defaults Menu

The Restore IP Factory Defaults menu option is shown in Table 5-35.

Table 5-35. Restore IP Factory Defaults Menu Option

Option	Definition	Function
1	Yes - Service Affecting	This option restores all options to the IP factory default settings.

Static IP Settings - for IP over Ethernet Menu

Main Menu\System Management\Mode Selection and Current IP Settings\Static IP Settings - for IP over Ethernet

The Static IP Settings - for IP over Ethernet menu (see Figure 5-37) is used to manually provision all of the IP settings.

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None



                            Static IP Settings - for IP over Ethernet

                            1. IP address                  192.168.1.1
                            2. Subnet mask                 255.255.255.0
                            3. Default Gateway             192.168.1.254
                            4. TFTP IP address             Not Configured
                            5. TL1 Port Number(set >1023) 13001
                            6. TL1 IP Transport type       TCP
                            7. Reset IP Factory Defaults
                               MAC Address                 00-a0-c8-12-6d-f9

                            Selection :









                            '?' - System Help Screen
```

Figure 5-37. Static IP Settings - for IP over Ethernet Menu

The Static IP Settings - for IP over Ethernet menu options are shown in Table 5-36.

Table 5-36. Static IP Settings - for IP over Ethernet Menu Options

Option	Description	Function
1	IP address	This option is used to configure the IP address in decimal dot format (i.e., ###.###.###.###).
2	Subnet mask	This option is used to configure the subnet mask in decimal dot format.
3	Default Gateway	This option is used to configure the Default Gateway. The Default Gateway is used to forward traffic to a destination outside of the subnet of the Total Access 1224. The Default Gateway is configured in decimal dot format.
4	TFTP IP address	This option is used to configure the TFTP IP address. The TFTP IP Address must be configured to use TFTP for software upgrade. The TFTP address is configured in decimal dot format.
5	TL1 Port Number (set >1023)	This field is used to configure the Transaction Language 1 Port Number. The default TL1 Port Number is 13001, however, it can be modified to any number greater than 1023.
6	TL1 IP Transport type	This option is used to configure the TL1 IP Transport Type. Each time the TL1 IP Transport type option is selected, the setting is toggled between User Datagram Protocol (UDP) and Transmission Control Protocol (TCP). The default is TCP.
7	Reset IP Factory Defaults	This option displays the "Restore IP Factory Defaults Menu" on page 5-59.

NOTE

The Media Access Control (MAC) address is set at the factory.

Restore IP Factory Defaults Menu

Main Menu\System Management\Mode Selection and Current IP Settings\Static IP Settings - for IP over Ethernet\Restore IP Factory Defaults

The Restore IP Factory Defaults menu (see Figure 5-38) is used to reset all IP settings to the factory defaults.

CAUTION

If Restore IP Factory Defaults is selected remotely, IP connectivity is lost.

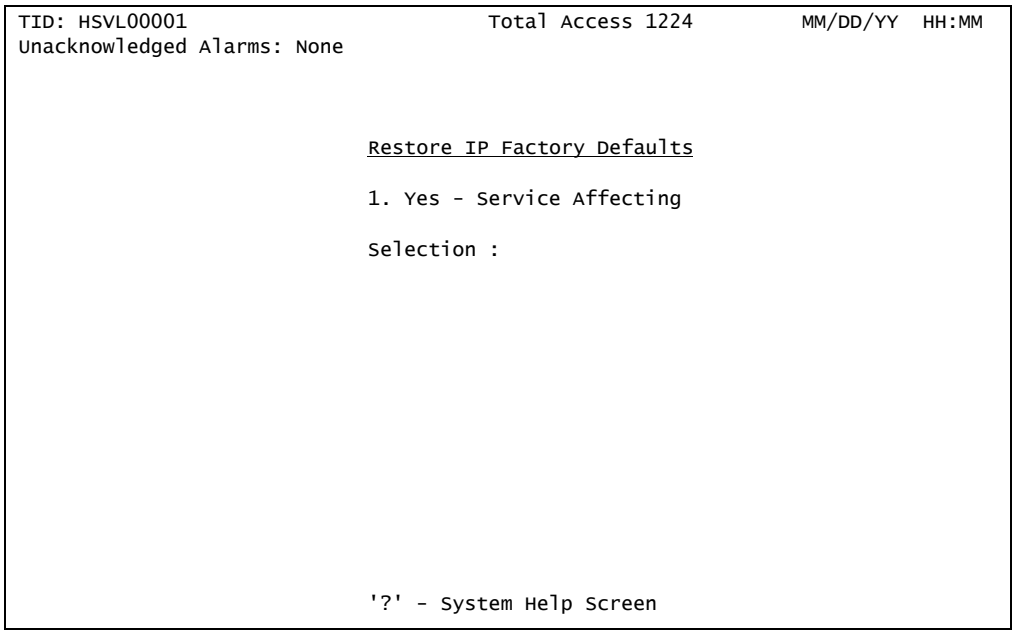

Figure 5-38. Restore IP Factory Defaults Menu

The Restore IP Factory Defaults menu option is shown in Table 5-37.

Table 5-37. Restore IP Factory Defaults Menu Option

Option	Definition	Function
1	Yes - Service Affecting	This option restores all options to the IP factory default settings.

Dynamic IP Settings - for IP over Ethernet Menu

Main Menu\System Management\Mode Selection and Current IP Settings\Dynamic IP Settings - for IP over Ethernet

The Dynamic IP Settings - for IP over Ethernet menu (see Figure 5-39) is used to provision some of the IP settings. When the Mode option is set to Dynamic, the Total Access 1224 system automatically retrieves the IP address, Subnet mask, and Default Gateway from the remote DHCP server. The remaining menu items can be provisioned manually.

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None



                              Dynamic IP Settings - for IP over Ethernet

                                 IP address                  0.0.0.0
                                 Subnet mask                 0.0.0.0
                                 Default Gateway             Not Configured
                              4. TFTP IP address             Not Configured
                              5. TL1 Port Number(set >1023)  13001
                              6. TL1 IP Transport type       TCP
                              7. Reset IP Factory Defaults
                                 MAC Address                 00-a0-c8-12-6d-f9

                              Selection :









                              '?' - System Help Screen
```

Figure 5-39. Dynamic IP Settings - for IP over Ethernet Menu

The Dynamic IP Settings - for IP over Ethernet menu items are shown in Table 5-38.

Table 5-38. Dynamic IP Settings - for IP over Ethernet Menu Items

Option	Description	Function
N/A	IP address	This option cannot be changed. The IP address is automatically retrieved from the DHCP server.
N/A	Subnet mask	This option cannot be changed. The Subnet mask is automatically retrieved from the DHCP server.
N/A	Default Gateway	This option cannot be changed. The Default Gateway is automatically retrieved from the DHCP server.
4	TFTP IP address	This option is used to configure the TFTP IP address. The TFTP IP Address must be configured to use TFTP for software upgrade. The TFTP address is configured in decimal dot format.
5	TL1 Port Number (set >1023)	This field is used to configure the Transaction Language 1 Port Number. The default TL1 Port Number is 13001, however, it can be modified to any number greater than 1023.
6	TL1 IP Transport type	This option is used to configure the TL1 IP Transport Type. Each time the TL1 IP Transport type option is selected, the setting is toggled between User Datagram Protocol (UDP) and Transmission Control Protocol (TCP). The default is TCP.
7	Reset IP Factory Defaults	This option displays the "Restore IP Factory Defaults Menu" on page 5-62.

NOTE

The Media Access Control (MAC) address is set at the factory.

Restore IP Factory Defaults Menu

Main Menu\System Management\Mode Selection and Current IP Settings\Dynamic IP Settings - for IP over Ethernet\Restore IP Factory Defaults

The Restore IP Factory Defaults menu (see Figure 5-40) is used to reset all of the IP factory defaults.

CAUTION

If Restore IP Factory Defaults is selected remotely, IP connectivity is lost.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None


                                Restore IP Factory Defaults

                                1. Yes - Service Affecting

                                Selection :









                                '?' - System Help Screen
```

Figure 5-40. Restore IP Factory Defaults Menu

The Restore IP Factory Defaults menu option is shown in Table 5-39.

Table 5-39. Restore IP Factory Defaults Menu Option

Option	Definition	Function
1	Yes - Service Affecting	This option restores all options to the IP factory default settings.

Test IP Address Menu

Main Menu\System Management\Test IP Address

Ping and Traceroute utilities are included on the Test IP Address menu (see Figure 5-41) for testing the IP configurations.

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None




                            Test IP Address

    1. IP Address       Not configured
    2. Ping Timeout     1 secs              4. Start Ping
    3. Number of Pings  4 pings             5. Start Traceroute

                            Selection :









                            '?' - System Help Screen
```

Figure 5-41. Test IP Address Menu

The Test IP Address menu options are shown in Table 5-40.

Table 5-40. Test IP Address Menu Options

Option	Description	Function
1	IP Address	This option is used to set the IP address that is to be tested.
2	Ping Timeout	This option is used to set the number of seconds that should pass between pings.
3	Number of Pings	This option is used to set the number of pings that are to be sent during testing of the IP address.
4	Start Ping	This option is used to initiate the ping test.
5	Start Traceroute	This option is used to display the route taken to reach the IP address that is being tested.

Time/Date Adjust Menu

Main Menu\System Management\Time/Date Adjust

The Time/Date Adjust menu (see Figure 5-42) is used to set the system time and date. The time and date appear on most screens and is used for performance monitoring displays.

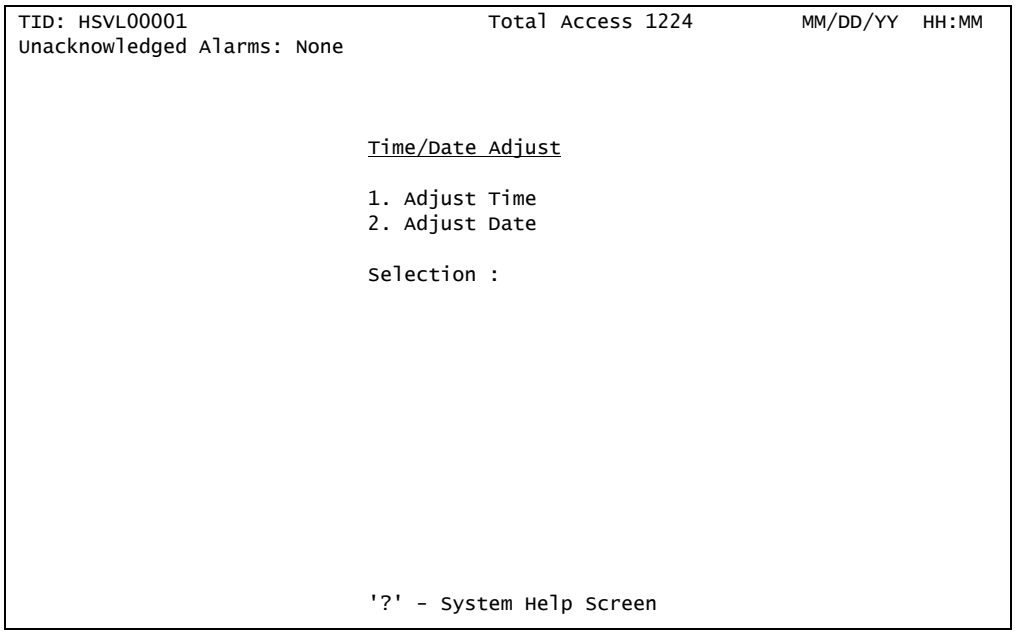

Figure 5-42. Time/Date Adjust Menu

The Time/Date Adjust menu options are shown in Table 5-41.

Table 5-41. Time/Date Adjust Menu Options

Option	Description	Function
1	Adjust Time	This option is used to set the time in a 24-hour format.
2	Adjust Date	This option is used to set the date in MM/DD/YY format.

Current Baud Rate Menu

Main Menu\System Management\Current Baud Rate

The Current Baud Rate menu (see Figure 5-43) displays the current baud rate. The default management port baud rate is 9600 bps.

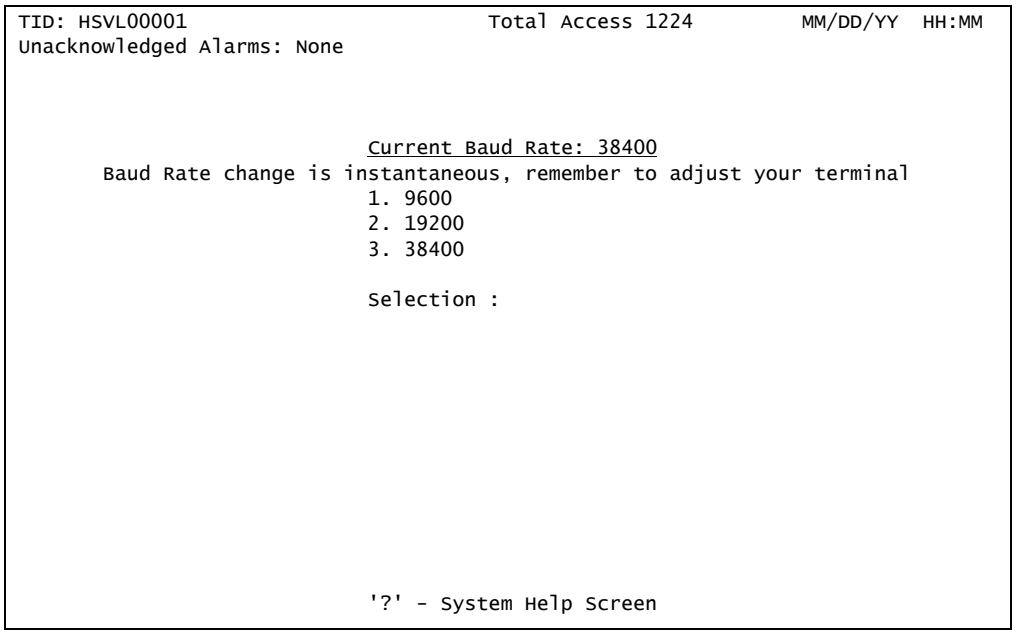

Figure 5-43. Current Baud Rate Menu

The Current Baud Rate menu options are shown in Table 5-42.

Table 5-42. Current Baud Rate Menu Options

Option	Description	Function
1	9600	This option configures the baud rate to 9600 bps.
2	19200	This option configures the baud rate to 19200 bps.
3	38400	This option configures the baud rate to 38400 bps.

CAUTION

If the baud rate is changed, the rate changes immediately, and the terminal emulation software must be updated to reflect the change.

TFTP Configuration Storage/Retrieval Screen

Main Menu\System Management\TFTP Configuration Storage/Retrieval

The TFTP Configuration Storage/Retrieval screen (see Figure 5-44) is used to save provisioning information for the Total Access 1224 system to a remote TFTP server for possible restoration at a later time. In addition to its obvious use for fast recovery of shelf provisioning information, the TFTP Configuration Storage/Retrieval screen can be used to "clone" baseline system configurations to new installations so that only a few system-specific provisioning options need to be altered.

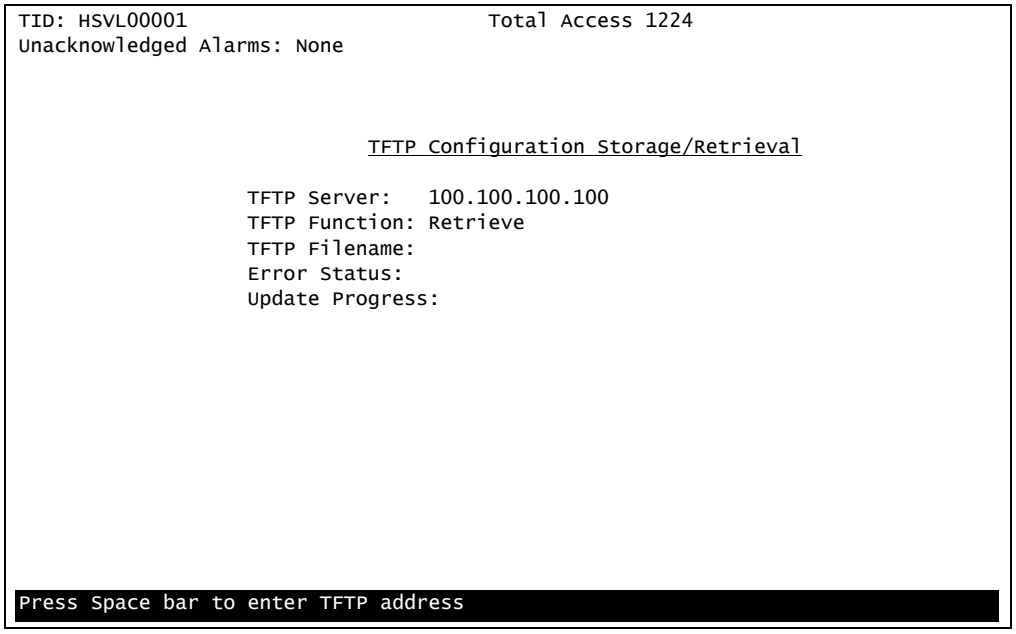

Figure 5-44. TFTP Configuration Storage/Retrieval Screen

The TFTP Configuration Storage/Retrieval screen options are shown in Table 5-43.

Table 5-43. TFTP Configuration Storage/Retrieval Screen Fields

Field	Description
TFTP Server	Press the spacebar to enter the TFTP address.
TFTP Function	This field is used to select the configuration function to perform via TFTP. Options include the following: • Retrieve - Restores the units provisioning information based on the information contained in the specified TFTP filename on the TFTP server. • Store - Stores the units provisioning information contained in the specified TFTP filename to a remote TFTP server. Press the spacebar to select the configuration function to perform.
TFTP Filename	This field is used to enter the filename to download from/to the server via TFTP. The filename must end with a .cfg extension. Press the spacebar to enter the filename.
Error Status	This field displays the status of the TFTP download. The Error Status messages are as follows: • File Not Found: This status indicates that the TFTP network server was unable to locate the specified file name or path in the TFTP Server Filename field. • Access Violation: This status indicates that the TFTP network server denied Total Access 1224 access to the given update filename and path. Please verify appropriate user rights are selected for the specified path.
Update Progress	This field displays the progress of the TFTP download. Progress messages are as follows: • Contacting Server: This message indicates that an attempt to establish communication with the TFTP network server specified by the server address in the TFTP Server IP Address field is in progress. • Beginning TFTP Transfer: This message indicates that communication with the TFTP network server has been established and the update file is being transferred between TFTP network server and the Total Access 1224. • Completed: This message indicates that the Total Access 1224 successfully received the update file.

NOTE

For alternate methods to store or retrieve the Total Access 1224 System Configuration Archive (SCA) file see "SNMP/TFTP and TL1 Configuration Storage and Retrieval" on page 6-1.

SNMP/TL1 Configuration Menu

Main Menu\System Management\SNMP/TL1 Configuration

The Simple Network Management Protocol (SNMP)/TL1 Configuration menu (see Figure 5-45) is used to provision contact information, community names, trap hosts, and the traps enabled option, which provide control to manage SNMP remote access to the system through inband management. The TL1 Target ID (TID) is also set from the SNMP/TL1 Configuration menu.

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None



                              SNMP/TL1 Configuration

                              1. Contact Information
                              2. Community Names
                              3. Trap Hosts
                              4. Traps Enabled              Yes
                              5. TL1 Target ID HSVL00001

                              Selection :









                              '?' - System Help Screen
```

Figure 5-45. SNMP Configuration Menu

The SNMP/TL1 Configuration menu options are shown in Table 5-44.

Table 5-44. SNMP/TL1 Configuration Menu Options

Option	Description	Function
1	Contact Information	This option displays the "SNMP Contact Information Menu" on page 5-69.
2	Community Names	This option displays the "SNMP Community Names Menu" on page 5-70.
3	Trap Hosts	This option displays the "SNMP Trap Hosts Menu" on page 5-72.
4	Traps Enabled	This option is used to toggle between Yes and No to enable or disable the traps.
5	TL1 Target ID	This option is used to set the TID. The TID is required to use TL1.

SNMP Contact Information Menu

Main Menu\System Management\SNMP/TL1 Configuration\SNMP Contact Information

The SNMP Contact Information menu (see Figure 5-46) contains contact information and can be customized to reflect any contact, name, and location.

```
TID: HSVL00001                Total Access 1224
Unacknowledged Alarms: None




                              SNMP Contact Information

    1. Contact                ADTRAN, Inc. (256)963-8000
    2. Name                   HSVL00001
    3. Location

                              Selection :









                              '?' - System Help Screen
```

Figure 5-46. SNMP Contact Information Menu

The SNMP Contact Information menu options are shown in Table 5-45.

Table 5-45. SNMP Contact Information Menu Options

Option	Description	Function
1	Contact	This option is used to set the name, phone number, or e-mail address of a person responsible for the SNMP. Up to 55 alphanumeric characters can be entered in this field, including spaces and special characters (such as an underscore).
2	Name	This option is used to set a name for the Total Access 1224. This names is used to distinguish the Total Access 1224 among different installations. Up to 55 alphanumeric characters can be entered in this field, including spaces and special characters (such as an underscore).
3	Location	This option is used to identify the physical location of the unit. Up to 55 alphanumeric characters can be entered in this field, including spaces and special characters (such as an underscore).

SNMP Community Names Menu

Main Menu\System Management\SNMP/TL1 Configuration\SNMP Community Names

The SNMP Community Names menu (see Figure 5-47) is used to establish up to three named accounts which specify unique IP addresses and privileges for network management. To restrict SNMP remote access to a single IP Address, assign the IP Address to a community. An IP Address of 0.0.0.0 allows access from all IP Addresses.

```
TID: HSVL00001                Total Access 1224
Unacknowledged Alarms: None




                              SNMP Community Names
                        Set Name to 0 to delete Community
    1. Name                   private
         2. IP Address        0.0.0.0
         3. Privileges        Read/Write
    4. Name                   public
         5. IP Address        0.0.0.0
         6. Privileges        Read
    7. Name                   Not Configured
         8. IP Address        0.0.0.0
         9. Privileges

                              Selection :




                              '?' - System Help Screen
```

Figure 5-47. SNMP Community Names Menu

The SNMP Community Names menu options are shown in Table 5-46.

Table 5-46. SNMP Community Names Menu Options

Option	Description	Function
1	Name	This option is used to configure the first SNMP community. Settings include private and public.
2	IP Address	This option is used to configure the first SNMP community IP address in decimal dot format (i.e., ###.###.###.###).
3	Privileges	This option is used to configure the first SNMP community privilege level. Options include Read/Write and Read.
4	Name	This option is used to configure the second SNMP community. Settings include private and public.
5	IP Address	This option is used to configure the second SNMP community IP address in decimal dot format (i.e., ###.###.###.###).
6	Privileges	This option is used to configure the second SNMP community privilege level. Options include Read/Write and Read.
7	Name	This option is used to configure the third SNMP community. Settings include private and public.
8	IP Address	This option is used to configure the third SNMP community IP address in decimal dot format (i.e., ###.###.###.###).
9	Privileges	This option is used to configure the third SNMP community privilege level. Options include Read/Write and Read.

SNMP Trap Hosts Menu

Main Menu\System Management\SNMP/TL1 Configuration\SNMP Trap Hosts

The SNMP Trap Hosts Menu (see Figure 5-48) is used to set multiple IP Addresses (trap destinations) and SNMP versions for notification of a trap. A trap is an automatic alert, or notification, sent to an IP Address. The Total Access 1224 system forwards SNMP traps to all configured hosts as the traps occur.

```
TID: HSVL00001                Total Access 1224
Unacknowledged Alarms: None



                              SNMP Trap Hosts
   Set IP address to enter Trap Host. Set IP address to D to delete Trap Host
         1. IP Address        0.0.0.0
         2. Version
         3. IP Address        0.0.0.0
         4. Version
         5. IP Address        0.0.0.0
         6. Version
         7. Trap Port         162

                              Selection :









                              '?' - System Help Screen
```

Figure 5-48. SNMP Trap Hosts Menu

The SNMP Trap Hosts menu options are shown in Table 5-47.

Table 5-47. SNMP Trap Hosts Menu Options

Option	Description	Function
1	IP Address	This option is used to configure the first SNMP trap host IP address in decimal dot format (i.e., ###.###.###.###).
2	Version	This option is used to configure the SNMP version for the first SNMP trap host. Options include the following: • SNMPv1 • SNMPv2
3	IP Address	This option is used to configure the second SNMP trap host IP address in decimal dot format (i.e., ###.###.###.###).
4	Version	This option is used to configure the SNMP version for the second SNMP trap host. Options include the following: • SNMPv1 • SNMPv2
5	IP Address	This option is used to configure the third SNMP trap host IP address in decimal dot format (i.e., ###.###.###.###).
6	Version	This option is used to configure the SNMP version for the third SNMP trap host. Options include the following: • SNMPv1 • SNMPv2
7	Trap Port	This option is used to configure the SNMP trap port. The trap port is defaulted to port 162.

NOTE

The SNMP version should match the agent used for SNMP on the network management side.

Code Download Method Menu

Main Menu\System Management\Code Download Method

The Code Download Method menu displays two methods to download code (see Figure 5-49).

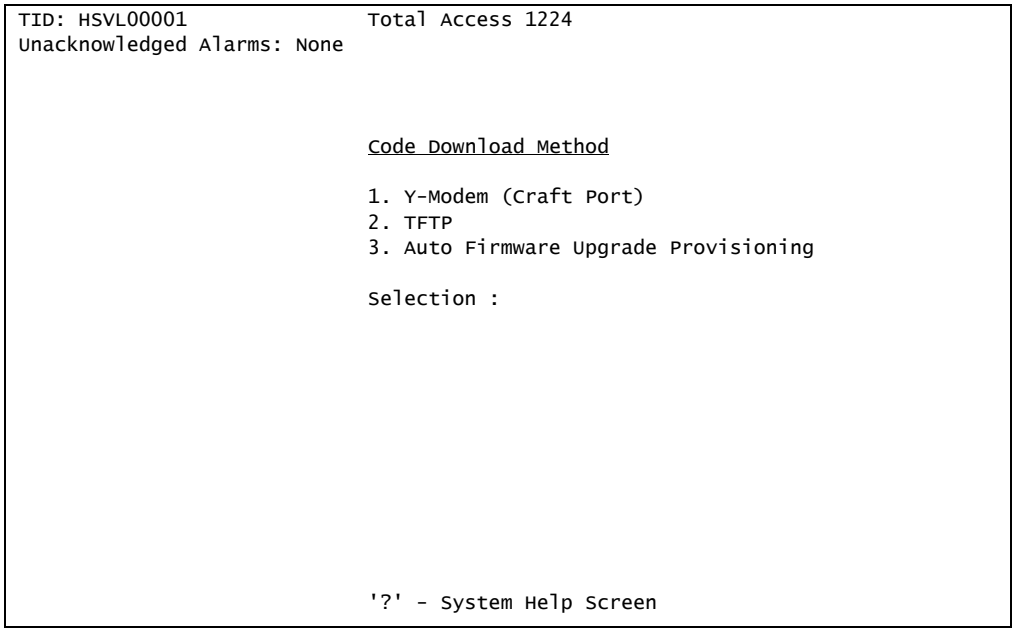

Figure 5-49. Code Download Method Menu

The Code Download Method menu options are shown in Table 5-48.

Table 5-48. Code Download Method Menu Options

Option	Description	Function
1	Y-Modem	This option displays the "Y-Modem Menu" on page 5-75.
2	TFTP	This option displays the "TFTP Download Screen" on page 5-76.
3	Auto Firmware Upgrade Provisioning	This option displays the "Auto Upgrade Configuration (AUC) Status Menu" on page 5-78.

CAUTION

Downloading new code is service affecting.

NOTE

The System Management menu TFTP IP address option must be configured to use TFTP.

Y-Modem Menu

Main Menu\System Management\Code Download Method\Y-Modem

The Y-Modem menu (see Figure 5-50) is used to download code stored from a computer to the Total Access 1224 through the craft port.

NOTE

To expedite the download time, change the baud rate to 38400 bps prior to downloading code. For more information, refer to "Current Baud Rate Menu" on page 5-65.

```
TID: HSVL00001                      Total Access 1224        MM/DD/YY  HH:MM
Unacknowledged Alarms: None




                    WARNING! THIS IS SERVICE AFFECTING!



              Y-Modem is the file transfer protocol.
              This function cannot be initiated via a telnet
              connection (use TFTP instead).



                      1. Download Network Module Code
                      2. Exit

                           Selection :



                           '?' - System Help Screen
```

Figure 5-50. Y-Modem Menu

To download code via the Y-Modem menu, perform the following steps:

1. Access the system with System Administrator privileges using a terminal application that allows file transfers, such as HyperTerminal.
2. From the Y-Modem menu, select Download Network Module Code, and press ENTER.

   The Y-Modem receive utility begins.
3. If using HyperTerminal, select Transfer from the menu, and select Send File.

4. Browse to the file containing the code, select Ymodem for the drop-down menu, and select SEND.

NOTE

The code begins transmitting from the terminal emulation package. When the download is complete, the unit restarts automatically.

NOTE

If the download is cancelled due to inactivity, press ESC to return to the Code Download Method menu and restart the procedure.

TFTP Download Screen

Main Menu\System Management\Code Download Method\TFTP Download

The TFTP Download screen (see Figure 5-51) is used to download code stored from a computer to the Total Access 1224 through a TFTP server.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                                TFTP Download

                    TFTP Server:   10.13.254.20
                    Get Code For:  Network Module
                    TFTP Filename:
                    Update progress:
                    Error Status:









Press Space bar to select which card will be upgraded via TFTP
```

Figure 5-51. TFTP Download Screen

The TFTP Download screen fields are shown in Table 5-49.

Table 5-49. TFTP Download Screen Fields

Field	Description
TFTP Server	This field displays the IP address of the TFTP server. The TFTP IP address must be configured prior to attempting a TFTP download.
Get Code For	This field displays the module that will be upgraded.
TFTP Filename	This field displays the TFTP filename that will be used to upgrade the module shown in the Get Code For field. The TFTP filename must be known and must match the part number.
Update Progress	This field displays the progress of the TFTP download. Progress messages are as follows: • Contacting Server: This message indicates that an attempt to establish communication with the TFTP network server specified by the server address in the TFTP Server IP Address field is in progress. • Beginning TFTP Transfer: This message indicates that communication with the TFTP network server has been established and the update file is being transferred between TFTP network server and the Total Access 1224. • Completed: This message indicates that the Total Access 1224 successfully received the update file.
Error Status	This field displays the status of the TFTP download. The Error Status messages are as follows: • File Not Found: This status indicates that the TFTP network server was unable to locate the specified file name or path in the TFTP Server Filename field. • Access Violation: This status indicates that the TFTP network server denied Total Access 1224 access to the given update filename and path. Please verify appropriate user rights are selected for the specified path.

Auto Upgrade Configuration (AUC) Status Menu

Main Menu\System Management\Code Download Method\Auto Upgrade Configuration (AUC) Status

The Auto Upgrade Configuration (AUC) Status menu (see Figure 5-52) provides methods to manually or automatically upgrade the Total Access 1224 firmware. When enabled, the Auto Upgrade operation performs the following tasks:

- reads the AUC Configuration file from the designated AUC TFTP server
- validates the file
- upgrades the parameters that need to be updated
- updates the unit with new firmware as required
- reboots the unit if new firmware has been downloaded

All required parameter changes will occur first, followed by the checking of each unit for a required upgrade.

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None




                            Auto Upgrade Configuration (AUC) Status

              1. AUC Config File      1224.auc
              2. AUC Mode             Manual
              3. AUC Refresh Interval 5  hour(s)
              4. AUC Upgrade Retries  3
              5. AUC TFTP Server      192.168.1.105

                            Selection :


         Comp/Errs/Pend Last Action      / Status (Current or Last)
AUC File    2/   1      MM/DD/YY HH:MM:SS/AUC parsing complete
Host        2/   0/No   MM/DD/YY HH:MM:SS/Update Complete on Host



C - Clear AUC Status   R - Read AUC File      S - Start Upgrade Process
                              '?' - System Help Screen
```

Figure 5-52. Auto Upgrade Configuration (AUC) Status Menu

The Auto Upgrade Configuration (AUC) Status menu options are shown in Table 5-50.

Table 5-50. Auto Upgrade Configuration (AUC) Status Menu Options

Option	Description	Function
1	AUC Config File	This option is used to enter the AUC Config File name. The text entry field is limited to 40 characters and must end with the **.auc* file extension.
2	AUC Mode	This option is used to specify the auto upgrade mode. Options include the following: • Auto - indicates that unit should be automatically checked and upgraded. • Manual - indicates that unit should be checked at the AUC Refresh Interval rate and upgraded only when instructed via SNMP or the menus. • Disable - all automatic upgrade operations are disabled.
3	AUC Refresh Interval	This option specifies how often (in hours) the unit should check the AUC TFTP Server for changes to the AUC Config File. Valid entries are 0 - 744. A value of zero (0) indicates the server should not be checked and disables any further Auto Upgrade operations.
4	AUC Upgrade Retries	This option specifies the number of software upgrade attempts that are to be made as a result of a failure. Valid entries are 0 - 10.
5	AUC TFTP Server	This option specifies the IP address of the AUC TFTP Server.

NOTE

Auto Upgrade operations will not be initiated if the AUC Refresh Interval option is set to zero, the AUC Config File option is empty, the configuration file cannot be retrieved from the AUC TFTP Server, or the configuration file contains errors.

Separate status information is provided for the file retrieval operation and the actual upgrade operation. The Auto Upgrade Configuration (AUC) Status menu status fields are defined in Table 5-51.

Table 5-51. Auto Upgrade Configuration (AUC) Status Menu Status Fields

Field	Description
Comp/Errs/Pend	This field displays the number of operations completed (Comp), the number of errors (Errs), and pending (Pend) operations.
Last Action	This field displays a Date/Time stamp for when the last action completed.
Status (Current or Last)	This field displays a brief comment describing the current state of the Auto Upgrade system or the progress of an active operation.

The three hot keys associated with the Auto Upgrade Configuration (AUC) Status menu are defined in Table 5-52.

Table 5-52. Auto Upgrade Configuration (AUC) Status Menu Hot Keys

Hot Key	Function	Description
C	Clear AUC Status	This hot key clears all the status information from the menu and updates the Status Information Cleared: field with the date and time that the action occurred. This hot key is available in all AUC modes.
R	Read AUC File	This hot key initiates a retrieve of the configuration file from the file server. This hot key is available in the Auto and Manual AUC modes.
S	Start Upgrade Process	This hot key starts the upgrade process. This hot key is available in the Manual AUC mode.

Restore Factory Defaults Menu

Main Menu\System Management\Restore Factory Defaults

The Restore Factory Defaults menu (see Figure 5-53) is used to remotely restore the system to factory defaults.

CAUTION

This action is service affecting. If the system is accessed remotely through a static IP address, the system resets and access is lost.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                              Restore Factory Defaults

                        WARNING! THIS IS SERVICE AFFECTING!

                  All parameters will be returned to their factory defaults
                  and the card will be restarted.


                                  1. Restore
                                  2. Exit

                                  Selection :









                                  '?' - System Help Screen
```

Figure 5-53. Restore Factory Defaults Menu

The Restore Factory Defaults menu options are shown in Table 5-53.

Table 5-53. Restore Factory Defaults Menu Options

Option	Description	Function
1	Restore	This option restores all options to the factory default settings.
2	Exit	This option returns the display to the "System Management Menu" on page 5-44. The factory defaults are not restored.

Reset System Menu

Main Menu\System Management\Reset System

The Reset System menu (see Figure 5-54) is used to reboot the entire system.

CAUTION

This action is service affecting. If the system is accessed remotely through a static IP address, the system resets and access is lost until the system reboot is completed.

CAUTION

When the Reset System option is selected, the system resets the host unit and all client units without additional prompting.

```
TID: HSVL00001                      Total Access 1224        MM/DD/YY  HH:MM
Unacknowledged Alarms: None


                              Reset System

                        WARNING! THIS IS SERVICE AFFECTING!

                     This option resets the entire system.
                   All system parameters will be retained.
                          Reset occurs immediately.


                              1. Reset
                              2. Exit

                              Selection :




                              '?' - System Help Screen
```

Figure 5-54. Reset System Menu

The Reset System menu options are shown in Table 5-54.

Table 5-54. Reset System Menu Options

Option	Description	Function
1	Reset	This option reboots the Total Access 1224. All system options are retained.
2	Exit	This option returns the display to the "System Management Menu" on page 5-44. The system does not reboot.

Self Test Menu

Main Menu\System Management\Self Test\

NOTE

If expansion mode is enabled (refer to "Expansion Menu" on page 5-87), the Select Shelf menu (see Figure 5-55) displays. A host or client unit must be chosen in order to access the Self Test menu.

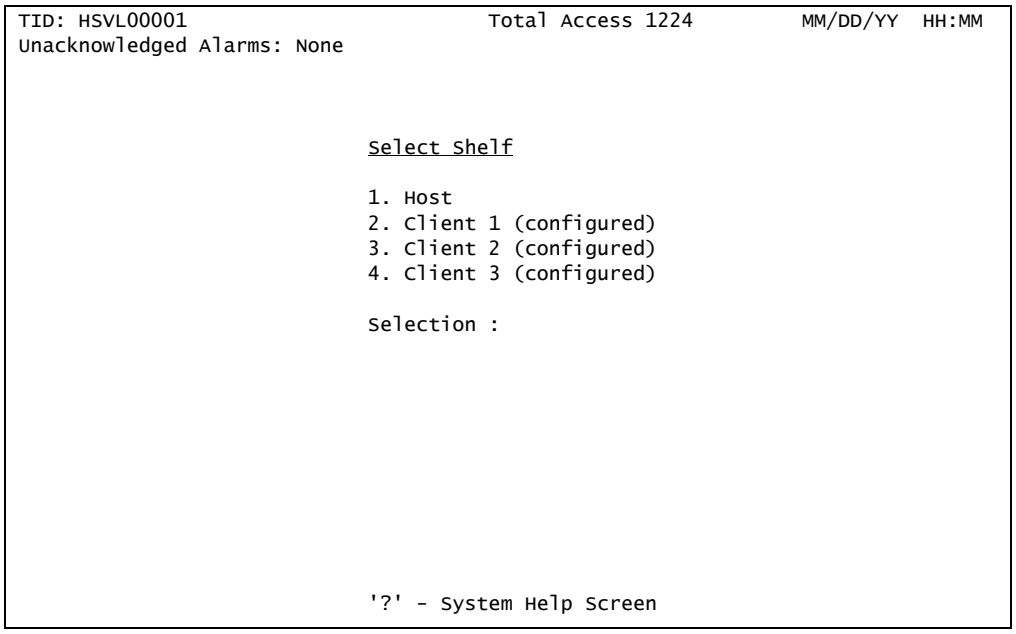

Figure 5-55. Select Shelf Menu

The Self Test menu (see Figure 5-56) displays ROM, RAM, and EEPROM test results after a reboot of the Total Access 1224 system. If any tests result in a failed status, the word "Failed" displays next to that test and the **PWR** LED turns red. An option is provided to test the Total Access 1224 fans.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None
                                                                   Shelf = Host


                              Self Test

                              1. Run Fan Self Test

                              Selection :


                        Fan #1 Test          Ready to Test
                        Fan #2 Test          Ready to Test
                        Fan #3 Test          Ready to Test
                        Fan #4 Test          Ready to Test

                        ROM Test             PASSED
                        RAM Test             PASSED
                        EEPROM Test          PASSED



                              '?' - System Help Screen
```

Figure 5-56. Self Test Menu

The Self Test menu option is shown in Table 5-55.

Table 5-55. Self Test Menu Option

Option	Description	Function
1	Run Fan Self Test	This option initiates the Total Access 1224 fan self test.

External Alarms Menu

Main Menu\System Management\External Alarms

The External Alarms menu (see Figure 5-57) is used to customize the profiles for up to three external alarms. The alarms can be assigned unique names and an associated severity level (refer to "External Alarm Severity Menu" on page 5-86).

```
TID: HSVL00001                Total Access 1224
Unacknowledged Alarms: None




                              External Alarms

1. Alarm #1 Text - External Alarm Input #1       4. Severity - Minor
2. Alarm #2 Text - External Alarm Input #2       5. Severity - Minor
3. Alarm #3 Text - External Alarm Input #3       6. Severity - Minor
                         7. Fan Alarm Delay  10 Min
                         8. Restore External Alarm Defaults

                              Selection :









                              '?' - System Help Screen
```

Figure 5-57. External Alarms Menu

The External Alarms menu options are shown in Table 5-56.

Table 5-56. External Alarms Menu Options

Option	Description	Function
1-3	Alarm #n Text	Options 1 to 3 are used to enter a 25-character text string used to identify each of the three external alarms.
4-6	Severity	Options 4 to 6 are used to assign severity levels to each of the three external alarms. For more information, refer to "External Alarm Severity Menu" on page 5-86.
7	Fan Alarm Delay	This option is used to set the fan alarm activation delay. Valid values range from 0 to 15 minutes.
8	Restore External Alarm Defaults	This option is used to restore all of the External Alarms to factory default values.

External Alarm Severity Menu

Main Menu\System Management\External Alarms\External Alarm Severity

The External Alarm Severity menu (see Figure 5-58) is used to set customized alarm profiles for each of the three external alarms.

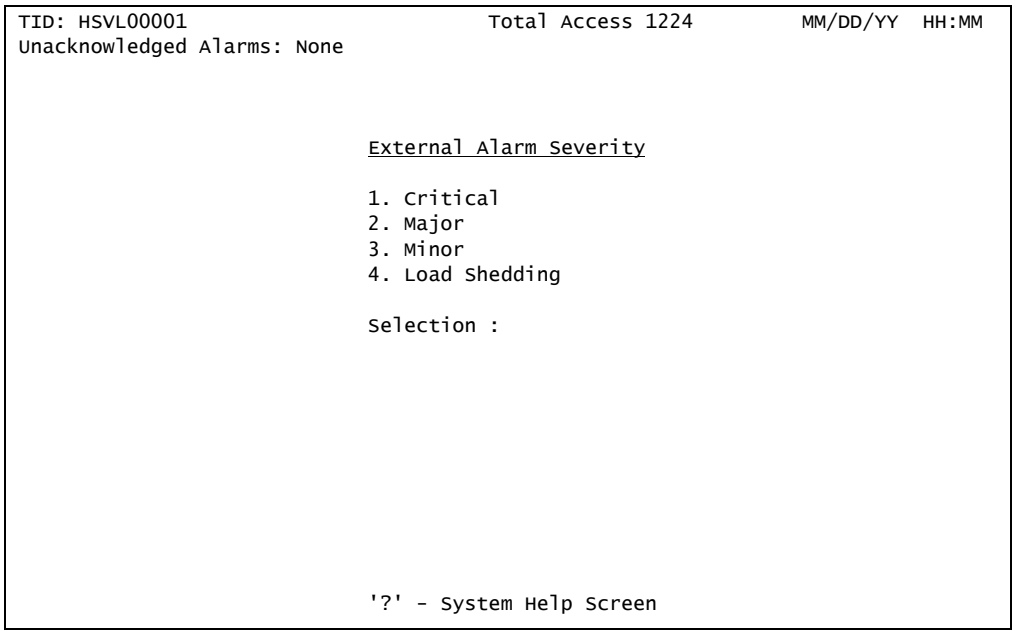

Figure 5-58. External Alarm Severity Menu

The External Alarm Severity menu options are shown in Table 5-57.

Table 5-57. External Alarm Severity Menu Options

Option	Description	Function
1	Critical	This option is used to designate a critical alarm.
2	Major	This option is used to designate a major alarm.
3	Minor	This option is used to designate a minor alarm.
4	Load Shedding	This option is used to designate a critical alarm to shutdown ADSL services. When Load shedding is engaged, power usage in the Total Access 1224 is reduced.

NOTE

The alarm severity levels are user-defined based on the impact to customer service.

Expansion Menu

Main Menu\System Management\Expansion

The Expansion Menu (see Figure 5-59) is used to enable or disable expansion capabilities for up to four Total Access 1224 units (one host and three clients). The expansion mode can only be enabled on the host units.

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None


                              Expansion Menu

                              1. Mode                        Enabled (Host)
                              2. Clear Packet Counts

                              Selection :


                     Maintenance Packets:(TX/RX)  0/0


                     Expansion Out Link: DOWN




                              '?' - System Help Screen
```

Figure 5-59. Expansion Menu

The Expansion Menu options are shown in Table 5-58. The Expansion Menu fields are shown in Table 5-59.

Table 5-58. Expansion Menu Options

Option	Description	Function
1	Mode	This option is used to designate Enabled (Host) or Disabled.
2	Clear Packet Counts	This option is used to clear all packet counts.

Table 5-59. Expansion Menu Fields

Field	Description
Maintenance Packets	This field displays the number of packets that have been transmitted and received.
Expansion Out Link	This displays the status of the expansion link.

Network Port Menu

Main Menu\Network Port

The Network Port menu (see Figure 5-60) is used to view T1 or E1 circuits, configure the IMA Group, and access the T1 or E1 interfaces.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None


                                Network Port

                                1. T1
                                2. IMA
                                3. Select T1/E1 Mode

                                Selection :









                                '?' - System Help Screen
```

Figure 5-60. Network Port Menu

NOTE

The proper mode should be selected prior to configuring a T1 or E1 circuit.

The Network Port menu options are shown in Table 5-60.

Table 5-60. Network Port Menu Options

Option	Description	Function
1	T1/E1	This option displays the "T1 Main Menu" on page 5-89. or This option displays the "E1 Main Menu" on page 5-98.
2	IMA	This option displays the "IMA Main Menu" on page 5-105.
3	Select T1/E1 Mode	This option displays the "T1/E1 Menu" on page 5-128.

T1 Main Menu

Main Menu\Network Port\T1 Main Menu

From the T1 Main Menu (see Figure 5-61), all T1 provisioning, status reporting and performance monitoring can be viewed.

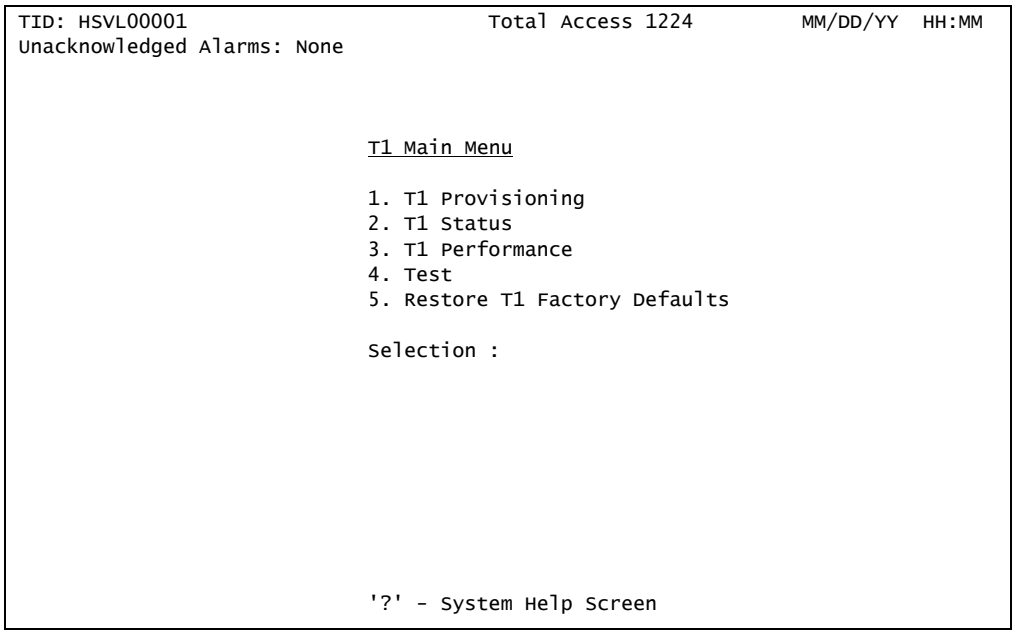

Figure 5-61. T1 Main Menu

The T1 Main Menu options are shown in Table 5-61.

Table 5-61. T1 Main Menu Options

Option	Description	Function
1	T1 Provisioning	This option displays the "T1 Provisioning Menu" on page 5-90.
2	T1 Status	This option displays the "T1 Status Menu" on page 5-92.
3	T1 Performance	This option displays the "T1 PM Main Menu" on page 5-94.
4	Test	This option displays the "T1 Test Menu" on page 5-96.
5	Restore T1 Factory Defaults	This option displays the "Restore T1 Factory Defaults Menu" on page 5-97.

T1 Provisioning Menu

Main Menu\Network Port\T1 Main Menu\T1 Provisioning

The T1 Provisioning screen (see Figure 5-62) displays the current T1 settings.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                              T1 Provisioning for # 1

                              1. Type                          DSX
                              2. Framing                       ESF
                              3. Line Code                     B8ZS
                              4. Line Build Out                0 - 133 ft

                              'N' - Next T1 Port  'P' - Previous T1 Port

                              Selection :









                              '?' - System Help Screen
```

Figure 5-62. T1 Provisioning Menu

The T1 Provisioning menu options are shown in Table 5-62.

Table 5-62. T1 Provisioning Menu Options

Option	Description	T1 Function
1	Type	This field displays the T1 circuit type.
2	Framing	This field displays the framing setting for the T1 circuit. Settings include the following: • SF • ESF
3	Line Code	This field displays the line code setting for the T1 circuit. Settings include the following: • B8ZS • AMI
4	Line Build Out	This field displays the line build out settings based upon the Type setting. Settings include the following: Type = DSX • 0-133 feet • 133-266 feet • 266-399 feet • 399-533 feet • 533-655 feet Type = T1 • 0 dB • –7.5 dB • –15 dB • –22.5 dB

T1 Status Menu

Main Menu\Network Port\T1 Main Menu\T1 Status

The T1 Status menu (see Figure 5-63) displays the status of the T1 network circuits and a summary of the associated alarm counts.

```
TID: HSVL00001                    Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None




                                    T1 Status
                        1       2       3       4
Type                    DSX     DSX     DSX     DSX
Framing                 ESF     ESF     ESF     ESF
Line Code               B8ZS    B8ZS    B8ZS    B8ZS
Line Build Out          0-133   0-133   0-133   0-133
T1 Alarm                None    None    None    None
Total Red Alarms        3       2       1       1
Total Yellow Alarms     4       3       4       3
Total Blue Alarms       0       0       0       0
9. Reset Alarm Counts   Cleared: MM/DD/YY HH:MM:SS

                              Selection :




                              '?' - System Help Screen
```

Figure 5-63. T1 Status Menu

The T1 Status menu fields are shown in Table 5-63.

Table 5-63. T1 Status Menu Options

Option	Field	Function
N/A	Type	This field displays the T1 circuit type.
N/A	Framing	This field displays the framing setting for the T1 circuit. For more information, see Table 5-62 on page 5-91.
N/A	Line Code	This field displays the line code setting for the T1 circuit. For more information, see Table 5-62 on page 5-91.
N/A	Line Build Out	This field displays the line build out setting. For more information, see Table 5-62 on page 5-91.
N/A	T1 Alarm	This field indicates if there are any T1 alarms.
N/A	Total Red Alarms	This field indicates the number of Loss of Signal (Red) alarms.
N/A	Total Yellow Alarms	This field indicates the number of Receive Remote Alarm Indication (Yellow) alarms.
N/A	Total Blue Alarms	This field indicates the number of Receive Alarm Indication Signal (Blue) alarms.
9	Reset Alarm Counts	This option is used to clear all the T1 Status alarm fields.

T1 PM Main Menu

Main Menu\Network Port\T1 Main Menu\T1 PM

The T1 PM Main Menu (see Figure 5-64) is used to access the T1 performance monitoring displays in 24-hour and 15-minute increments for the current port selected and to clear all T1 performance monitoring data.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None


                                T1 PM Main Menu

                                1. T1 PM
                                2. Clear All T1 PM

                                Selection :









                                '?' - System Help Screen
```

Figure 5-64. T1 PM Main Menu

The T1 PM Main Menu options are shown in Table 5-64.

Table 5-64. T1 PM Main Menu Options

Option	Definition	Function
1	T1 PM	This option displays the "T1 Performance Monitoring Status Screen" on page 5-95.
2	Clear All T1 PM	This option clears T1 performance monitoring data for all ports.

T1 Performance Monitoring Status Screen

Main Menu\Network Port\T1 Main Menu\T1 PM\T1 Performance Monitoring Status

The T1 Performance Monitoring Status screen (see Figure 5-65) displays performance monitoring in 24-hour and 15-minute increments for the current port selected.

NOTE

To display the Abbreviations screen, press "?".

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None
                 T1    Performance Monitoring Status - T1 Port:1

                     UAS-P  ES-P   SES-P  CV-P    CV-L    ES-L
   24 Hr  - Current  00000  00000  00000  000000  000000  56410
            --/--/-- -----  -----  -----  ------  ------  -----

   15 Min - Current  000    000    000    00000   00000   56410
            --:--    ---    ---    ---    -----   -----   ---
            --:--    ---    ---    ---    -----   -----   ---
            --:--    ---    ---    ---    -----   -----   ---
            --:--    ---    ---    ---    -----   -----   ---
            --:--    ---    ---    ---    -----   -----   ---
            --:--    ---    ---    ---    -----   -----   ---
            --:--    ---    ---    ---    -----   -----   ---
            --:--    ---    ---    ---    -----   -----   ---
            --:--    ---    ---    ---    -----   -----   ---
            --:--    ---    ---    ---    -----   -----   ---
            --:--    ---    ---    ---    -----   -----   ---
            --:--    ---    ---    ---    -----   -----   ---

 S - Select Port    P - Previous Port    N - Next Port    C - Clear PM Stats
                              '?' - System Help Screen
```

Figure 5-65. T1 Performance Monitoring Status Screen

The T1 Performance Monitoring Status screen codes are shown in Table 5-65.

Table 5-65. T1 Performance Monitoring Status Screen Codes

Code	Definition	Description
UAS-P	Unavailable Seconds	This code indicates seconds with a loss of signal or synchronization on the path.
ES-P	Errored Seconds	This code indicates seconds with either a bipolar violation or a CRC-6 error on the path.
SES-P	Severely Errored Seconds	This code indicates seconds with 1544 bipolar violations or 320 CRC-6 errors on the path.
CV-P	Code Violations	This code indicates an occurrence of either a CRC-6 error or frame bit error on the path.
CV-L	Code Violations	This code indicates an occurrence of either a CRC-6 error or frame bit error on the line.
ES-L	Errored Seconds	This code indicates seconds with either a bipolar violation or a CRC-6 error on the line.

T1 Test Menu

Main Menu\Network Port\T1 Main Menu\T1 Test

Figure 5-66 shows the T1 Test Menu.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                              T1 Test Menu for Port # 1 - No Loopback

                              1. Payload Loopback
                              2. Line Loopback
                              3. Local Loopback
                              4. No Loopback
                              5. Clear T1 Loopbacks On All Ports

                              'N' - Next T1 Port  'P' - Previous T1 Port

                              Selection :









                              '?' - System Help Screen
```

Figure 5-66. T1 Test Menu

The T1 Test Menu options are shown in Table 5-66.

Table 5-66. T1 Test Menu Options

Option	Definition	Function
1	Payload Loopback	This option is used to select a payload loopback test.
2	Line Loopback	This option is used to select a line loopback test.
3	Local Loopback	This option is used to select a local loopback test.
4	No Loopback	This option is used to deselect a loopback test or to indicate no loopback is specified.
5	Clear T1 Loopbacks On All Ports	This option clears all T1 loopbacks on all ports without further prompting.

Restore T1 Factory Defaults Menu

Main Menu\Network Port\T1 Main Menu\Restore T1 Factory Defaults

The Restore T1 Factory Defaults menu (see Figure 5-67) provides the option to restore the line settings for all T1 ports.

CAUTION

This action is service affecting. If the system is accessed remotely through a static IP address, the system resets and access is lost.

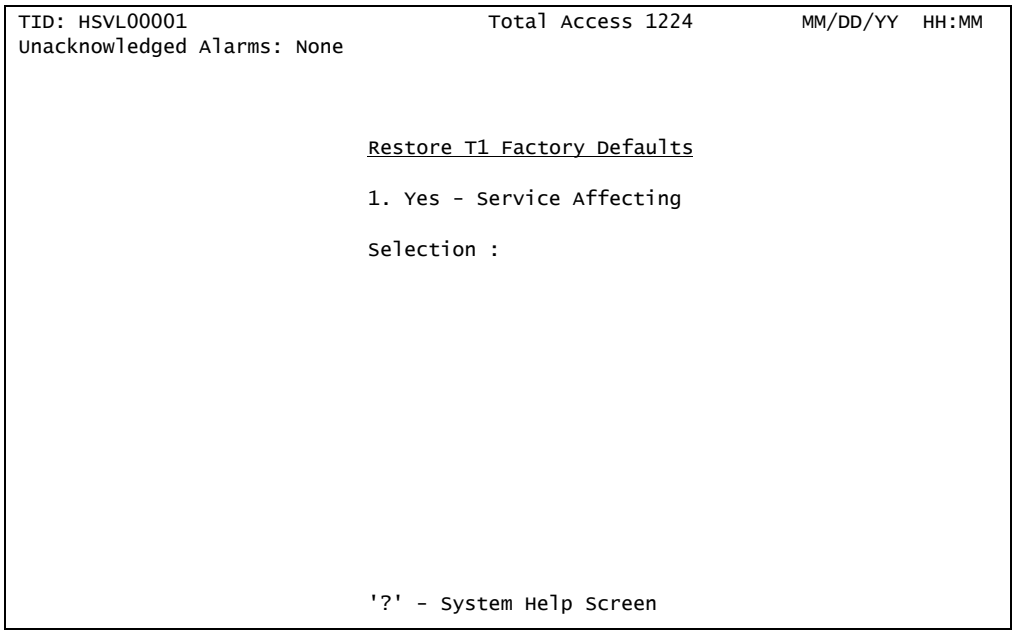

Figure 5-67. Restore T1 Factory Defaults Menu

The Restore T1 Factory Defaults menu option is shown in Table 5-67.

Table 5-67. Restore T1 Factory Defaults Menu Option

Option	Definition	Function
1	Yes - Service Affecting	This option restores all options to the T1 factory default settings.

E1 Main Menu

Main Menu\Network Port\E1 Main Menu

From the E1 Main Menu (see Figure 5-68), all E1 provisioning, status reporting and performance monitoring can be viewed.

```
TID: HSVL00001                          Total Access 1224         MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                                E1 Main Menu

                                1. E1 Provisioning
                                2. E1 Status
                                3. E1 Performance
                                4. Test
                                5. Restore E1 Factory Defaults

                                Selection :









                                '?' - System Help Screen
```

Figure 5-68. E1 Main Menu

The E1 Main Menu options are shown in Table 5-68.

Table 5-68. E1 Main Menu Options

Option	Description	Function
1	E1 Provisioning	This option displays the "E1 Provisioning Menu" on page 5-99.
2	E1 Status	This option displays the "E1 Status Menu" on page 5-100.
3	E1 Performance	This option displays the "E1 PM Main Menu" on page 5-101.
4	Test	This option displays the "E1 Test Menu" on page 5-103.
5	Restore E1 Factory Defaults	This option displays the "Restore E1 Factory Defaults Menu" on page 5-104.

E1 Provisioning Menu

Main Menu\Network Port\E1 Main Menu\E1 Provisioning

The E1 Provisioning screen (see Figure 5-69) displays the current E1 settings.

```
TID: HSVL00001                        Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                              E1 Provisioning for # 1

                              1. Framing                    FAS+CRC
                              2. Line Code                  HDB3

                              'N' - Next E1 Port  'P' - Previous E1 Port

                              Selection :









                              '?' - System Help Screen
```

Figure 5-69. E1 Provisioning Menu

The E1 Provisioning menu fields are shown in Table 5-69.

Table 5-69. E1 Provisioning Menu Options

Option	Description	Function
1	Framing	This field displays the framing setting for the E1 circuit. Settings include the following: • FAS+CRC • FAS
2	Line Code	This field displays the line code setting for the E1 circuit. Settings include the following: • HDB3 • AMI

E1 Status Menu

Main Menu\Network Port\E1 Main Menu\E1 Status

The E1 Status Menu (see Figure 5-70) displays the status of the E1 network circuits and a summary of the associated alarm counts.

```
TID: HSVL00001                  Total Access 1224              MM/DD/YY  HH:MM
Unacknowledged Alarms: None




                                  E1 Status
                          1       2       3       4
Framing                   FAS+CRC FAS+CRC FAS+CRC FAS+CRC
Line Code                 HDB3    HDB3    HDB3    HDB3
E1 Alarm                  RED     RED     RED     RED
Total Red Alarms          2       2       2       2
Total Yellow Alarms       0       0       0       0
Total Blue Alarms         0       0       0       0
7. Reset Alarm Counts     Cleared: MM/DD/YY HH:MM:SS

                               Selection :









                               '?' - System Help Screen
```

Figure 5-70. E1 Status Menu

The E1 Status menu options are shown in Table 5-70.

Table 5-70. E1 Status Menu Options

Option	Field	Function
N/A	Framing	This field displays the framing setting for the E1 circuit. For more information, see Table 5-69 on page 5-99.
N/A	Line Code	This field displays the line code setting for the E1 circuit. For more information, see Table 5-69 on page 5-99.
N/A	E1 Alarm	This field indicates if there are any E1 alarms.
N/A	Total Red Alarms	This field indicates the number of Loss of Signal (Red) alarms.
N/A	Total Yellow Alarms	This field indicates the number of Receive Remote Alarm Indication (Yellow) alarms.
N/A	Total Blue Alarms	This field indicates the number of Receive Alarm Indication Signal (Blue) alarms.
7	Reset Alarm Counts	This option is used to clear all the E1 status alarm fields.

E1 PM Main Menu

Main Menu\Network Port\E1 Main Menu\E1 PM Main Menu

The E1 PM Main Menu (see Figure 5-71) is used to access the E1 performance monitoring displays in 24-hour and 15-minute increments for the current port selected and to clear all E1 performance monitoring data.

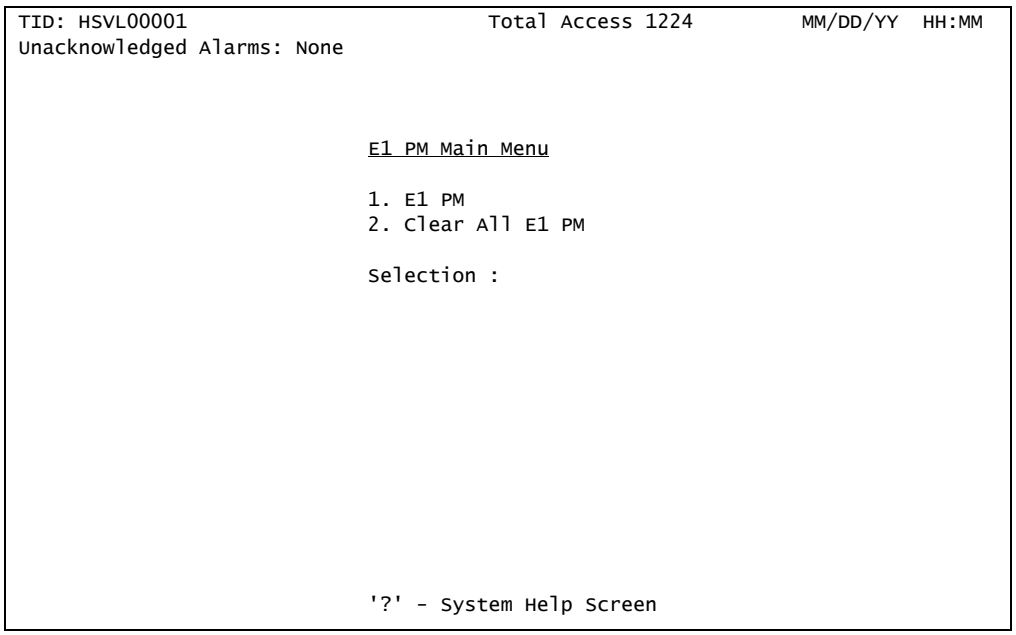

Figure 5-71. E1 PM Main Menu

The E1 PM Main Menu options are shown in Table 5-71.

Table 5-71. E1 PM Main Menu Options

Option	Definition	Function
1	E1 PM	This option displays the "E1 Performance Monitoring Status Screen" on page 5-102.
2	Clear All E1 PM	This option clears E1 performance monitoring data for all ports.

E1 Performance Monitoring Status Screen

Main Menu\Network Port\E1 Main Menu\E1 PM Main Menu\E1 Performance Monitoring Status

The E1 Performance Monitoring Status screen (see Figure 5-72) displays performance monitoring in 24-hour and 15-minute increments for the current port selected.

NOTE

To display the Abbreviations screen, press "?".

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None
                 E1    Performance Monitoring Status - E1 Port:1

                     UAS-P   ES-P  SES-P    CV-P    CV-L    ES-L
  24 Hr  - Current   10204       0      0       0       0       0
           MM/DD     16281       0      0       0       0       0



  15 Min - Current     305       0      0       0       0       0
           16:30       900       0      0       0       0       0
           16:15       900       0      0       0       0       0
           16:00       900       0      0       0       0       0
           15:45       900       0      0       0       0       0
           15:30       900       0      0       0       0       0
           15:15       900       0      0       0       0       0
           15:00       900       0      0       0       0       0
           14:45       900       0      0       0       0       0

 B - Backward(2hrs/15min PM)
 S - Select Port    P - Previous Port    N - Next Port    C - Clear PM Stats
                            '?' - System Help Screen
```

Figure 5-72. E1 Performance Monitoring Status Screen

The E1 Performance Monitoring Status screen codes are shown in Table 5-72.

Table 5-72. E1 Performance Monitoring Status Screen Codes

Code	Definition	Description
UAS-P	Unavailable Seconds	This code indicates seconds with a loss of signal or synchronization on the path.
ES-P	Errored Seconds	This code indicates seconds with either a bipolar violation or a CRC-6 error on the path.
SES-P	Severely Errored Seconds	This code indicates seconds with 1544 bipolar violations or 320 CRC-6 errors on the path.
CV-P	Code Violations	This code indicates an occurrence of either a CRC-6 error or frame bit error on the path.
CV-L	Code Violations	This code indicates an occurrence of either a CRC-6 error or frame bit error on the line.
ES-L	Errored Seconds	This code indicates seconds with either a bipolar violation or a CRC-6 error on the line.

E1 Test Menu

Main Menu\Network Port\E1 Main Menu\E1 Test

Figure 5-73 shows the E1 Test Menu.

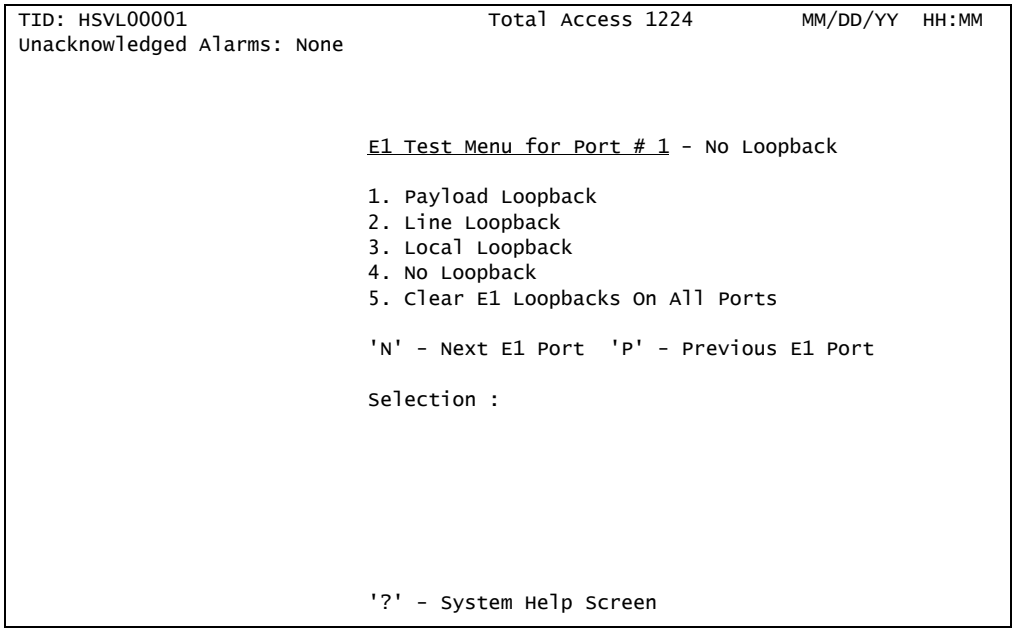

Figure 5-73. E1 Test Menu

The E1 Test Menu options are shown in Table 5-73.

Table 5-73. E1 Test Menu Options

Option	Definition	Function
1	Payload Loopback	This option is used to select a payload loopback test.
2	Line Loopback	This option is used to select a line loopback test.
3	Local Loopback	This option is used to select a local loopback test.
4	No Loopback	This option is used to deselect a loopback test or to indicate no loopback is specified.
5	Clear E1 Loopbacks On All Ports	This option clears all loopbacks without further prompting.

Restore E1 Factory Defaults Menu

Main Menu\Network Port\E1 Main Menu\Restore E1 Factory Defaults

The Restore E1 Factory Defaults menu (see Figure 5-74) provides the option to restore the line settings for all E1 ports.

CAUTION

This action is service affecting. If the system is accessed remotely through a static IP address, the system resets and access is lost.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None


                                Restore E1 Factory Defaults

                                1. Yes - Service Affecting

                                Selection :









                                '?' - System Help Screen
```

Figure 5-74. Restore E1 Factory Defaults Menu

The Restore E1 Factory Defaults menu option is shown in Table 5-74.

Table 5-74. Restore E1 Factory Defaults Menu Option

Option	Definition	Function
1	Yes - Service Affecting	This option restores all options to the E1 factory default settings.

IMA Main Menu

Main Menu\Network Port\IMA Main Menu

The Total Access 1224 system is fed by virtual circuits using IMA. The IMA Main menu (see Figure 5-75) is the central point for managing and provisioning the Total Access 1224 IMA related options.

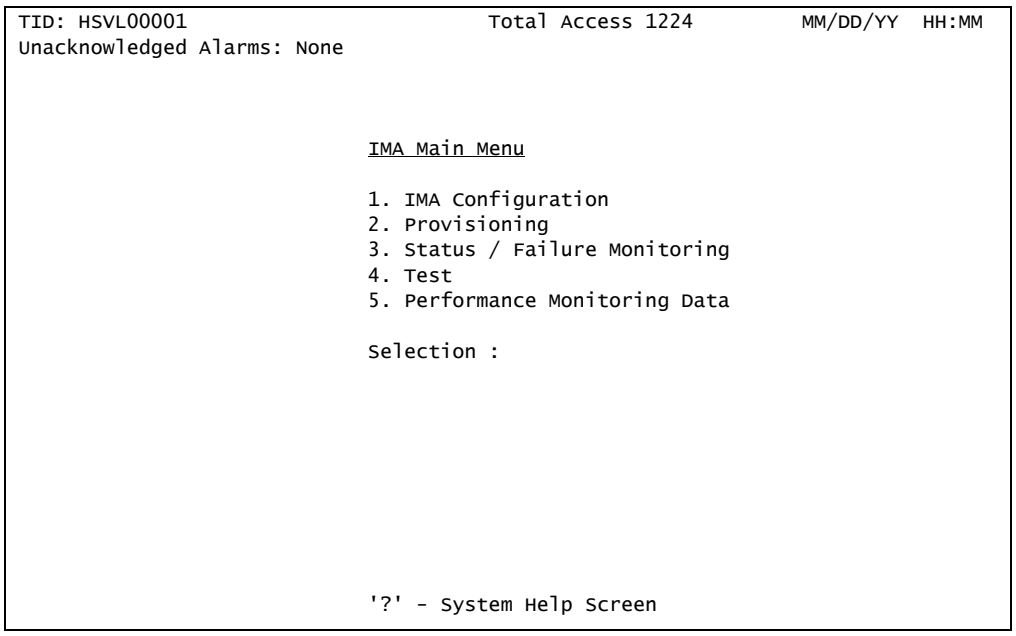

Figure 5-75. IMA Main Menu

The IMA Main Menu options are shown in Table 5-75.

Table 5-75. IMA Main Menu Options

Option	Description	Function
1	IMA Configuration	This option displays the "IMA Configuration Screen" on page 5-106.
2	Provisioning	This option displays the "IMA Provisioning Menu" on page 5-107.
3	Status/Failure Monitoring	This option displays the "Status/Failure Monitoring Menu" on page 5-116.
4	Test	This option displays the "IMA Loopback Menu" on page 5-123.
5	Performance Monitoring Data	This option displays the "IMA Performance Monitoring Menu" on page 5-124.

IMA Configuration Screen

Main Menu\Network Port\IMA Main Menu\IMA Configuration Screen

The IMA Configuration screen (see Figure 5-76) displays the IMA Firmware Revision and IMA Link type. This screen is informational only.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None


                              IMA Configuration

                              IMA Firmware Revision        18
                              IMA Link Type                DS1 / T1 (1.544 Mbps)









                              '?' - System Help Screen
```

Figure 5-76. IMA Configuration Screen

IMA Provisioning Menu

Main Menu\Network Port\IMA Main Menu\IMA Provisioning

The IMA Provisioning menu (see Figure 5-77) is used to provision and maintain IMA functions.

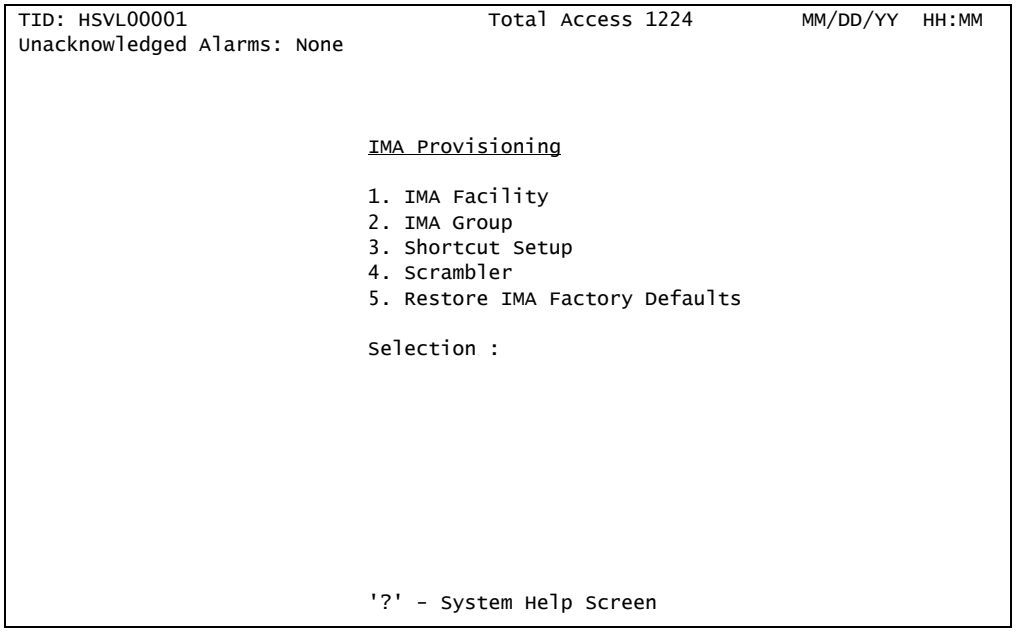

Figure 5-77. IMA Provisioning Menu

The IMA Provisioning menu options are shown in Table 5-76.

Table 5-76. IMA Provisioning Menu Options

Option	Description	Function
1	IMA Facility	This option displays the "IMA Facility Provisioning Menu" on page 5-108.
2	IMA Group	This option displays the "IMA Group Provisioning Menu" on page 5-111.
3	Shortcut Setup	This option displays the "IMA Shortcut Setup Menu" on page 5-113.
4	Scrambler	This option displays the "IMA Scrambler Menu" on page 5-114.
5	Restore IMA Factory Defaults	This option displays the "Restore IMA Factory Defaults Menu" on page 5-115.

IMA Facility Provisioning Menu

Main Menu\Network Port\IMA Main Menu\IMA Provisioning\IMA Facility Provisioning

The IMA Facility Provisioning menu (see Figure 5-78) provides provisioning of the IMA links on a per facility basis.

```
TID: HSVL00001                          Total Access 1224         MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                              IMA Facility Provisioning for # 1

                              1. All Facilities Summary
                              2. Facility Operation Mode     IMA_Group
                                 Receive Group               1
                                 Receive Link ID             0
                                 Receive ATM Address         N/A
                                 Transmit Group              1
                                 Transmit Link ID            0
                                 Transmit ATM Address        N/A

                          'N' - Next IMA Facility  'P' - Previous IMA Facility

                              Selection :




                              '?' - System Help Screen
```

Figure 5-78. IMA Facility Provisioning Menu

The IMA Facility Provisioning menu options are shown in Table 5-77.

Table 5-77. IMA Facility Provisioning Menu Options

Option	Description	Function
1	All Facilities Summary	This option displays the "IMA All Facilities Provisioning Screen" on page 5-109.
2	Facility Operation Mode	This option displays the "Operation Mode for Facility Menu" on page 5-110.

For information on the IMA Facility Provisioning fields, refer to Table 5-78 on page 5-109.

IMA All Facilities Provisioning Screen

Main Menu\Network Port\IMA Main Menu\IMA Provisioning\IMA Facility Provisioning\IMA All Facilities Provisioning

The IMA All Facilities Provisioning screen (see Figure 5-79) provides a summary of all the IMA facilities.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None

                        IMA All Facilities Provisioning

                  Fac1     Fac2     Fac3     Fac4

Operation Mode    IMA Grp  IMA Grp  IMA Grp  IMA Grp
RX Group          1        1        1        1
RX Link ID        0        1        2        3
RX ATM Address    N/A      N/A      N/A      N/A
TX Group          1        1        1        1
TX Link ID        0        1        2        3
TX ATM Address    N/A      N/A      N/A      N/A









                                '?' - System Help Screen
```

Figure 5-79. IMA All Facilities Provisioning Screen

The IMA All Facilities Provisioning screen fields are shown in Table 5-78.

Table 5-78. IMA All Facilities Provisioning Screen Fields

Field	Description
Operation Mode	This field displays the operation mode for the IMA facility. For more information, refer to "Operation Mode for Facility Menu" on page 5-110.
RX Group	This field displays the IMA Group ID being received from the Far End for the facility.
RX Link ID	This field displays the Link ID received from the Far End for the facility.
RX ATM Address	This field displays the receive ATM address. This field is applicable in Pass Thru mode only.
TX Group	This field displays the IMA Group transmit ID.
TX Link ID	This field displays the Link ID transmitting to Far End for the facility.
TX ATM Address	This field displays the transmit ATM address. This field is applicable in Pass Thru mode only.

Operation Mode for Facility Menu

Main Menu\Network Port\IMA Main Menu\IMA Provisioning\IMA Facility Provisioning\IMA All Facilities Provisioning\Operation Mode for Facility

The Operation Mode for Facility menu (see Figure 5-80) provides options for the operation mode for each IMA facility.

```
TID: HSVL00001                          Total Access 1224         MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                              Operation Mode for Facility for # 1 IMA_Group

                              1. IMA_Group
                              2. Unassigned
                              3. Pass Thru

                          'N' - Next IMA Facility  'P' - Previous IMA Facility

                              Selection :









                              '?' - System Help Screen
```

Figure 5-80. Operation Mode for Facility Menu

The Operation Mode for Facility menu options are shown in Table 5-79.

Table 5-79. Operation Mode for Facility Menu Options

Option	Description	Function
1	IMA_Group	This option is used to add a facility to the IMA group.
2	Unassigned	This option is used to remove a facility from the IMA group.
3	Pass Thru	This option is only available for facility #1. This option is used to allow ATM transport over a single facility without the IMA layer.

IMA Group Provisioning Menu

Main Menu\Network Port\IMA Main Menu\IMA Provisioning\IMA Group Provisioning

The IMA Group Provisioning menu (see Figure 5-81) is used to provision the IMA Group. An IMA Group is a collection of physical links bundled together.

NOTE

The IMA Group must be Out of Service-Unassigned in order to change the provisioning options.

```
TID: HSVL00001                        Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                              IMA Group Provisioning

                        1. Group Operation Mode             OOS - Unassigned
                        2. IMA Transmit ID (0-255)          101
                        3. IMA TX Frame Length              128
                        4. Min. TX Active Links             1
                        5. Min. RX Active Links             1
                        6. Max. Link Diff. Delay (0-100)    100
                        7. Group Version                    Version 1.1



                              Selection :




                              '?' - System Help Screen
```

Figure 5-81. IMA Group Provisioning Menu

The IMA Group Provisioning menu options are shown in Table 5-80.

Table 5-80. IMA Group Provisioning Menu Options

Option	Description	Function
1	Group Operation Mode	The IMA Group must be Out of Service-Unassigned in order to change the options. If the IMA Group is In Service or Out of Service-Maintenance, only the Group Operation Mode is available for changes. The Group Operation Mode settings are as follows: • Out of Service-Unassigned • Out of Service-Maintenance • In Service
2	IMA Transmit ID	Each IMA Group has an overall ID transmitted to the other end. The IMA Transmit ID is different from the Link ID. The IMA Transmit ID settings are from 0 to 255. The default is 101.
3	IMA TX Frame Length	This field displays the size of the IMA frame. For example, for a 128 frame length, there are 127 data cells and one IMA Control Protocol (ICP) cell. The IMA TX Frame Length settings are as follows: • 32 • 64 • 128 (default) • 256
4	Min. TX Active Links	This field displays the minimum number of transfer links necessary for the IMA Group to be considered active. The Minimum TX Active Links settings are from 1 to 8. The default is 1.
5	Min. RX Active Links	This field displays the minimum number of receive links necessary for the IMA Group to be considered active. The Minimum RX Active Links settings are from 1 to 8. The default is 1.
6	Max. Link Diff. Delay	This field displays the maximum delay allowed between individual links in the IMA Group. The Maximum Link Differential Delay settings are from 0 to 100 ms. The default is 100 ms.
7	Group Version	This field displays the IMA group version. Version 1.1 supports both versions 1.0 an 1.1, with automatic fallback from version 1.1 to 1.0 with legacy IMA equipment. The Group Version settings are Version 1.0 (ALT) or Version 1.1. The default is Version 1.1.

IMA Shortcut Setup Menu

Main Menu\Network Port\IMA Main Menu\IMA Provisioning\IMA Shortcut Setup

The IMA Shortcut Setup menu (see Figure 5-82) provides shortcuts to facilitate provisioning all of the IMA links simultaneously. To provision IMA links individually, refer to "IMA Facility Provisioning Menu" on page 5-108.

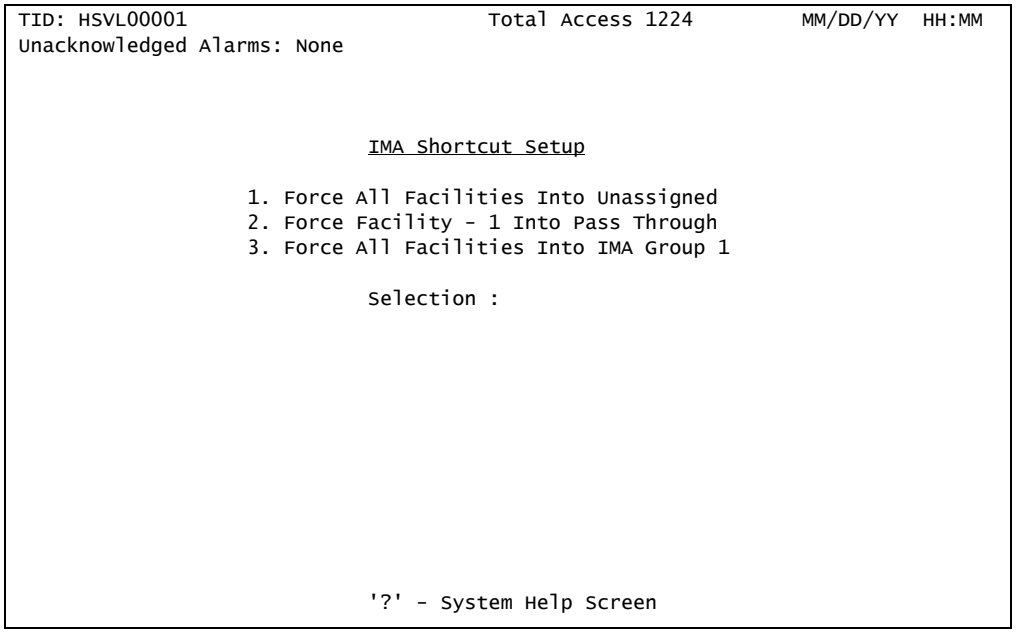

Figure 5-82. IMA Shortcut Setup Menu

The IMA Shortcut Setup menu options are shown in Table 5-81.

Table 5-81. IMA Shortcut Setup Menu Options

Option	Description	Function
1	Force All Facilities Into Unassigned	This option forces all facilities to be set to the Out of Service-Unassigned state. The T1s cannot link up to the network.
2	Force Facility - 1 Into Pass Through	This option forces Facility #1 to Pass Through and forces all other Facilities to Out of Service-Unassigned. This option is used to allow ATM transport over a single facility (#1) without the IMA layer.
3	Force All Facilities Into IMA Group 1	This option forces all traffic to go through IMA Group 1 and all four IMA links to train up to the upstream device.

IMA Scrambler Menu

Main Menu\Network Port\IMA Main Menu\IMA Provisioning\IMA Scrambler

The IMA Scrambler menu (see Figure 5-83) is used to enable or disable scrambling. Scrambling is designed to randomize the pattern of 1s and 0s carried in ATM cells. Randomizing the digital bits can prevent continuous, non-variable bit patterns (i.e., long strings of all 1s or all 0s). Several physical layer protocols rely on transitions between 1s and 0s to maintain clocking.

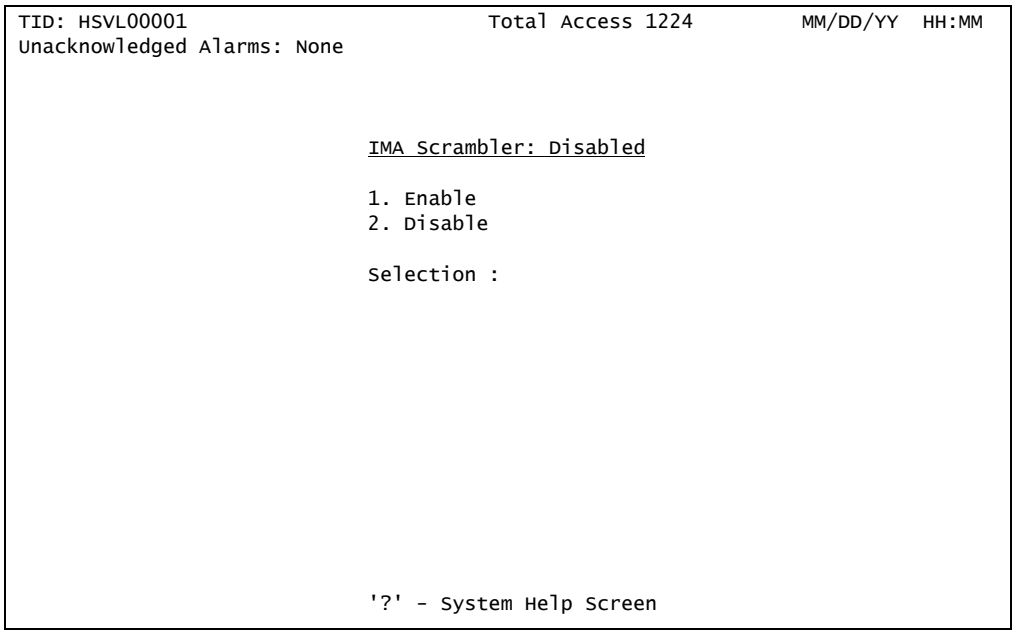

Figure 5-83. IMA Scrambler Menu

The IMA Scrambler menu options are shown in Table 5-82.

Table 5-82. IMA Scrambler Menu Options

Option	Description	Function
1	Enable	This option enables scrambling.
2	Disable	This option disables scrambling.

Restore IMA Factory Defaults Menu

Main Menu\Network Port\IMA Main Menu\IMA Provisioning\Restore IMA Factory Defaults\

The Restore IMA Factory Defaults menu (see Figure 5-84) is used to reset the IMA provisioning settings to factory defaults.

CAUTION

Depending on the system settings, this action can be service affecting. If the system is accessed remotely through a static IP address, the system resets and access is lost.

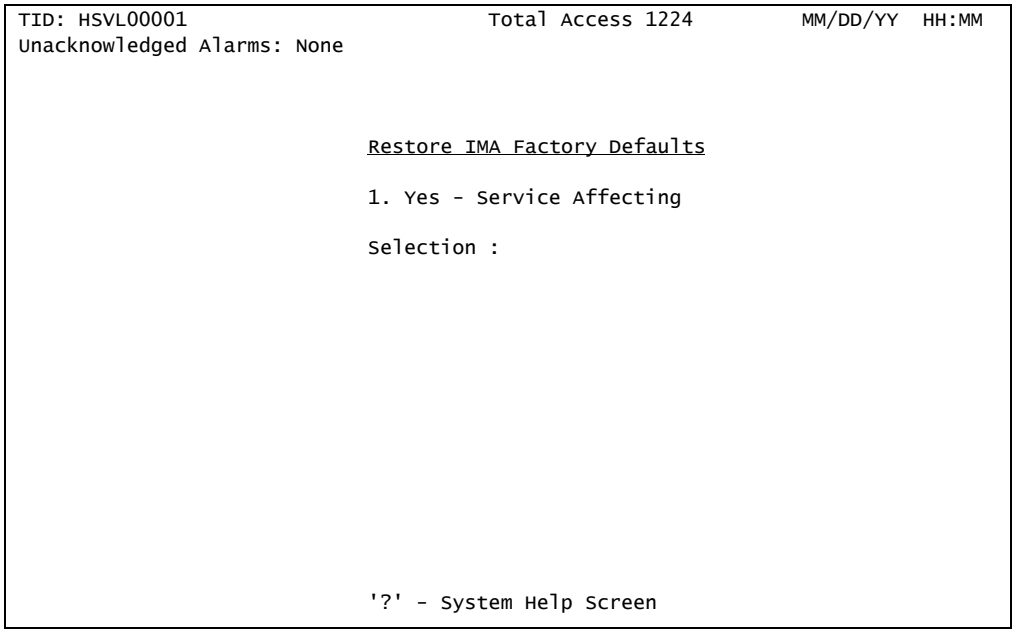

Figure 5-84. Restore IMA Factory Defaults Menu

The Restore IMA Factory Defaults menu option is shown in Table 5-83.

Table 5-83. Restore IMA Factory Defaults Menu Option

Option	Definition	Function
1	Yes - Service Affecting	This option restores all options to the IMA factory default settings.

Status/Failure Monitoring Menu

Main Menu\Network Port\IMA Main Menu\Status/Failure Monitoring

The Total Access 1224 system tracks Failure Monitoring (FM) for the IMA group and each of the links. The Status/Failure Monitoring menu (see Figure 5-85) provides two options that display information about transmitting and receiving states, receiving failure, relative delay, receiving Loss of IMA Framing (LIF) defect, receiving Link Out of Delay Synchronization (LODS), receiving defect, and the receiving link identifier for all facilities.

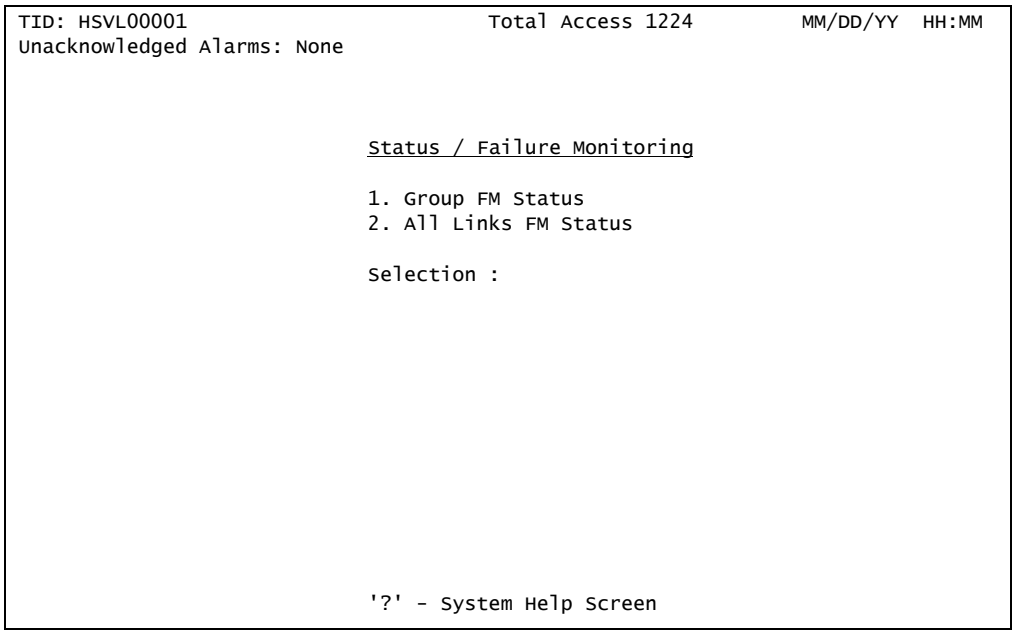

Figure 5-85. Status/Failure Monitoring Menu

The Status/Failure Monitoring menu options are shown in Table 5-84.

Table 5-84. Status/Failure Monitoring Menu Options

Option	Description	Function
1	Group FM Status	This option displays the "IMA Group 1 Failure Monitoring Status Screen" on page 5-117.
2	All Links FM Status	This option displays the "IMA Link Failure Monitoring Status Screen" on page 5-119.

IMA Group 1 Failure Monitoring Status Screen

Main Menu\Network Port\IMA Main Menu\Status/Failure Monitoring\IMA Group 1 Failure Monitoring Status

The IMA Group 1 Failure Monitoring Status screen (see Figure 5-86) displays the status of the group state and the Near End and Far End failure status.

```
TID: HSVL00001                        Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None

                    IMA Group 1 Failure Monitoring Status

                    NE Group State               : Operational
                    FE Group State               : Operational
                    NE Failure Status            : No Failure
                    FE Failure Status            : No Failure
                    Link With Least Delay        :
                    Max Link Differential Delay  :
                    Configured TX Links          : 4
                    Active Tx Links              : 4
                    Configured RX Links          : 4
                    Active Rx Links              : 4
                    FE Failure Data              : Available
                    FE Frame Length              : 128
                    Group Version                : Version 1.1
                    Timing Source                : Port 1
                    Last Timing Source Change    : MM/DD/YY HH:MM:SS



                              '?' - System Help Screen
```

Figure 5-86. IMA Group 1 Failure Monitoring Status Screen

The IMA Group 1 Failure Monitoring Status screen fields are shown in Table 5-85.

Table 5-85. IMA Group 1 Failure Monitoring Status Screen Fields

Field	Description
NE Group State	This field displays the Near End group status.
FE Group State	This field displays the Far End group status.
NE Failure Status	This field displays the Near End failure status.
FE Failure Status	This field displays the Far End failure status.
Link With Least Delay	This field displays the link with the least delay.
Max Link Differential Delay	This field displays the maximum link differential delay.
Configured TX Links	This field displays the number of transmitting links that are configured.
Active Tx Links	This field displays the number of transmitting links that are active.
Configured RX Links	This field displays the number of receiving links that are configured.
Active Rx Links	This field displays the number of receiving links that are active.
FE Failure Data	This field displays the Far End failure data.
FE Frame Length	This field displays the Far End frame length.
Group Version	This field displays the group version.
Timing Source	This field displays the port that is currently providing the T1 reference timing.
Last Timing Source Change	This field provides a timestamp for when the T1 reference timing is changed.

IMA Link Failure Monitoring Status Screen

Main Menu\Network Port\IMA Main Menu\Status/Failure Monitoring\IMA Link Failure Monitoring Status

The IMA Link Failure Monitoring Status screen (see Figure 5-87) displays the states for all of the facilities.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None

                      IMA Link Failure Monitoring Status

                  Fac1     Fac2     Fac3     Fac4

NE Tx State:      Active   Active   Active   Active
NE Rx State:      Active   Active   Active   Active
FE Tx State:      Active   Active   Active   Active
FE Rx State:      Active   Active   Active   Active
NE Rx Failure:    NoFault  NoFault  NoFault  NoFault
FE Rx Failure:    NoFault  NoFault  NoFault  NoFault
DiffDelay(ms):    >MaxDel  >MaxDel  >MaxDel  >MaxDel
Rx LIF Defect:
Rx LODS Defect:
Rx Link ID:       0        1        2        3

Timing Source              : Port 1
Last Timing Source Change  : MM/DD/YY HH:MM:SS


                              '?' - System Help Screen
```

Figure 5-87. IMA Link Failure Monitoring Status Screen

The IMA Link Failure Monitoring Status screen states and failure conditions are shown in Table 5-86.

Table 5-86. IMA Link Failure Monitoring Status Screen States and Failure Conditions

State	Definition	Failure Condition
Near End Tx States		
NotInGr	Not In Group, Unassigned	This condition indicates that no information about the link exists.
Deleted	Not In Group, Deleted	This condition indicates the link has been removed from the group. This transitional state ensures that the other end is still not receiving ATM layer cells before it moves to the Unassigned state.
Fault	Unusable, Fault	This condition indicates that a fault has been detected either on the link or in the link protocol.
No Reas	Unusable	This condition indicates that a reason was not given.

Table 5-86. IMA Link Failure Monitoring Status Screen States and Failure Conditions (Continued)

State	Definition	Failure Condition
Usable	Usable	This condition indicates that the link is ready to be used and is awaiting the FE to activate its receiver before sending any ATM layer cells. IMA frames containing only filler cells are being transmitted; but the link is not in a data round-robin state.
Active	Active	This condition indicates that the link is capable of passing cells from the ATM layer. The IMA transmitter considers the link to be in a data round-robin state.
Near End Rx States		
NotInGr	Not In Group, Unassigned	This condition indicates that no information about the link exists.
Deleted	Not In Group, Deleted	This condition indicates that the link has been removed from the group. This transitional state ensures that the other end is still not receiving ATM layer cells before it moves to the Unassigned state.
Blocked	Unusable, Blocked	This condition allows for a graceful transition to Unusable from the Active state without loss of ATM layer cells.
Fault	Unusable, Fault	This condition indicates that a fault has been detected either on the link or in the link protocol.
Usable	Usable	This condition indicates that the link is ready to be used for receiving ATM layer cells and it is awaiting the FE Tx to be Usable or Active before moving into the Active state. The link has been synchronized with the other receive links already in the Usable or Active state. The IMA receiver considers the link to not be in a data round-robin state.
Active	Active	This condition indicates that the link is capable of passing cells to the ATM layer. The IMA receiver considers this link to be in a data round-robin state.
Far End Tx States		
NotInGr	Not In Group, Unassigned	This condition indicates that no information about the link exists.

Table 5-86. IMA Link Failure Monitoring Status Screen States and Failure Conditions (Continued)

State	Definition	Failure Condition
Deleted	Not In Group, Deleted	This condition indicates that the link has been removed from the group. This transitional state ensures that the other end is still not receiving ATM layer cells before it moves to the Unassigned state.
Fault	Unusable, Fault	This condition indicates that a fault has been detected either on the link or in the link protocol.
Misconn	Unusable, Mis-connected	This condition indicates that mis-connectivity has been found as a result of a test.
Inhibit	Unusable, Inhibited	This condition indicates that operation of the link is blocked for a locally defined application or implementation dependent reason. The link may otherwise be used.
Usable	Usable	This condition indicates that the link is ready to be used, it is awaiting the FE to activate its receiver before sending any ATM layer cells. IMA frames containing only filler cells are being transmitted, but the link is not in a data round-robin state.
Active	Active	This condition indicates that the link is capable of passing cells from the ATM layer. The IMA transmitter considers the link to be in a data round-robin state.
Far End Rx States		
NotInGr	Not In Group, Unassigned	This condition indicates that no information about the link exists.
Deleted	Not In Group, Deleted	This condition indicates that the link has been removed from the group. This transitional state ensures that the other end is still not receiving ATM layer cells before it moves to the Unassigned state.
Failed	Unusable, Failed	This condition indicates that the receiver has failed due to the persistence of a defined defect. Examples of defects are LCD, LIF, and LODS.
Fault	Unusable, Fault	This condition indicates that a fault has been detected either on the link or in the link protocol.
Blocked	Unusable, Blocked	Allows a graceful transition into Unusable from Active state without loss of ATM layer cells.
No Reas	Unusable	This condition indicates that a reason was not given.

Table 5-86. IMA Link Failure Monitoring Status Screen States and Failure Conditions (Continued)

State	Definition	Failure Condition
Usable	Usable	This condition indicates that the link is ready to be used for receiving ATM layer cells and it is awaiting the FE Tx to be Usable or Active before moving into the Active state. The link has been synchronized with the other receive links already in the Usable or Active state. The IMA receiver considers the link to not be in a data round-robin state.
Active	Active	This condition indicates that the link is capable of passing cells to the ATM layer. The IMA receiver considers this link to be in a data round-robin state.
Near End and Far End Rx Failure		
Failure	Failure	This condition indicates that a reason was not given.
LIF	Loss of IMA Framing	This condition indicates a loss of IMA framing.
LODS	Link Out of Delay Synchronization	This condition indicates a link out of delay synchronization.
Misconn	Mis-connectivity	This condition indicates that mis-connectivity has been found as a result of a test.
Inhibit	Inhibit	This condition indicates that operation of the link is blocked for some locally defined application or implementation dependant reason. The link may be used for testing.
Blocked	Blocked	This condition indicates a transition into the unusable state without loss of ATM layer cells.
Fault	Fault	This condition indicates a fault on the link or in the link protocol.
FeTx UU	Far End Transmit Unusable	This condition indicates that the Far End transmitter is in the unusable state.
FeRx UU	Far End Receive Unusable	This condition indicates that the Far End receiver is in the unusable state.
NoFault	No fault	This condition indicates that there is no current failure condition.

IMA Loopback Menu

Main Menu\Network Port\IMA Main Menu\IMA Loopback

The IMA Loopback menu (see Figure 5-88) is used to initiate loopbacks for testing the IMA group. Each IMA Loopback menu option can be enabled or disabled.

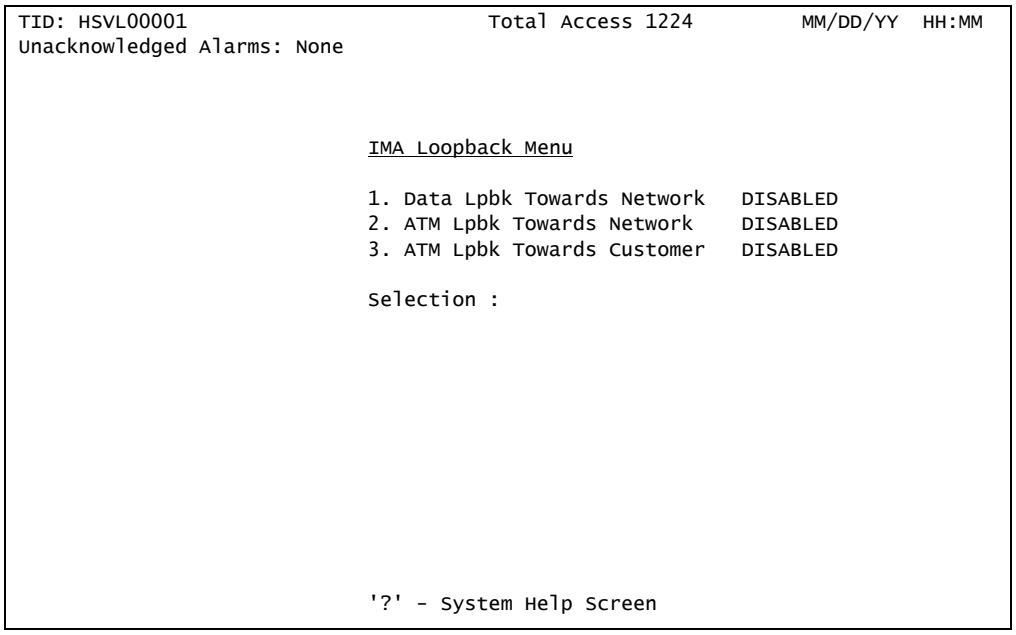

Figure 5-88. IMA Loopback Menu

The IMA Loopback menu options are shown in Table 5-87.

Table 5-87. IMA Loopback Menu Options

Option	Description	Function
1	Data Lpbk Towards Network	This option when enabled is used to perform a data loopback toward the network.
2	ATM Lpbk Towards Network	This option when enabled is used to perform an ATM loopback toward the network.
3	ATM Lpbk Towards Customer	This option when enabled is used to perform an ATM loopback toward the customer.

IMA Performance Monitoring Menu

Main Menu\Network Port\IMA Main Menu\IMA Performance Monitoring

The IMA Performance Monitoring menu (see Figure 5-89) is used to track the Total Access 1224 system performance statistics for the IMA groups.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                                IMA Performance Monitoring

                                1. IMA Group PM
                                2. Facilities PM
                                3. Clear All IMA Links PM

                                Selection :









                                '?' - System Help Screen
```

Figure 5-89. IMA Performance Monitoring Menu

The IMA Performance Monitoring menu options are show in Table 5-88.

Table 5-88. IMA Performance Monitoring Menu Options

Option	Description	Function
1	IMA Group PM	This option displays the "IMA Group 1 Performance Monitoring Status Screen" on page 5-125.
2	Facilities PM	This option displays the "IMA Performance Monitoring Status Facility 1 Near End PM Data Screen" on page 5-126.
3	Clear All IMA Links PM	This option is used to clear all the IMA performance monitoring data for all of the IMA links.

IMA Group 1 Performance Monitoring Status Screen

Main Menu\Network Port\IMA Main Menu\IMA Performance Monitoring\IMA Group 1 Performance Monitoring Status\

The IMA Group 1 Performance Monitoring Status screen displays IMA group performance monitoring statistics in 24-hour and 15-minute increments, as shown in Figure 5-90.

NOTE

The IMA Group 1 Performance Monitoring Status screen can be cleared by selecting C. All statistics are cleared without additional prompting.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY   HH:MM
Unacknowledged Alarms: None
                    IMA  Group 1 Performance Monitoring Status

                        TIIS     UAS     NEF     FEF    TxAvail RxAvail
   24 Hr  - Current    11750   11750       0       0          0       0
            --/--          -       -       -       -          -       -




   15 Min - Current      491     491       0       0          0       0
            16:30        900     900       0       0          0       0
            16:15        900     900       0       0          0       0
            16:00        900     900       0       0          0       0
            15:45        900     900       0       0          0       0
            15:30        900     900       0       0          0       0
            15:15        900     900       0       0          0       0
            15:00        900     900       0       0          0       0
            14:45        900     900       0       0          0       0

B - Backward(2hrs/15min PM)
                                                              C - Clear PM Stats
                              '?' - System Help Screen
```

Figure 5-90. IMA Group 1 Performance Monitoring Status Screen

The IMA Group 1 Performance Monitoring Status screen fields are shown in Table 5-89.

Table 5-89. IMA Group 1 Performance Monitoring Status Screen Fields

Field	Description
TIIS	This field displays the Time In Interval Seconds.
UAS	This field displays the Group Unavailable Seconds.
NEF	This field displays the Group Near End Failures.
FEF	This field displays the Group Far End Failures.
TxAvail	This field displays the Transmit Available cell rate.
RxAvail	This field displays the Receive Available cell rate.

IMA Performance Monitoring Status Facility 1 Near End PM Data Screen

Main Menu\Network Port\IMA Main Menu\IMA Performance Monitoring\IMA Performance Monitoring Status Facility 1 Near End PM Data

The IMA Performance Monitoring Status Facility 1 Near End PM Data screen displays IMA performance monitoring for IMA facilities in 24-hour and 15-minute increments, as shown in Figure 5-91.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None
         IMA  Performance Monitoring Status Facility 1 Near End PM Data

                       SES    UAS   TxUS   RxUS TxFail  RxFail
   24 Hr  - Current      0  11785  11784  11784      0       0
            --/--        -      -      -      -      -       -




   15 Min - Current      0    587    587    587      0       0
            16:30        0    900    900    900      0       0
            16:15        0    900    900    900      0       0
            16:00        0    900    900    900      0       0
            15:45        0    900    900    900      0       0
            15:30        0    900    900    900      0       0
            15:15        0    900    900    900      0       0
            15:00        0    900    900    900      0       0
            14:45        0    900    900    900      0       0

 B - Backward(2hrs/15min PM)                              T - Near/Far End PM
 S - Select Port    P - Previous Port    N - Next Port    C - Clear PM Stats
                             '?' - System Help Screen
```

Figure 5-91. IMA Performance Monitoring Status Facility 1 Near End Data Screen

The IMA Performance Monitoring Status Facility 1 Near End PM Data screen fields are shown in Table 5-90.

Table 5-90. IMA Performance Monitoring Status Facility 1 Near End PM Data Screen Fields

Field	Description
SES	This field displays the Severely Errored Seconds.
UAS	This field displays the Unavailable Seconds.
TxUS	This field displays the Transmit Unusable Seconds.
RxUS	This field displays the Receive Unusable Seconds.
TxFail	This field displays the Transmit Failure cell rate.
RxFail	This field displays the Receive Failure cell rate.

The IMA Facilities hot keys are shown in Table 5-91.

Table 5-91. IMA Facilities Hot Keys

Hot Key	Description	Function
B	Backward (2hrs/15min PM)	This hot key is used to display performance monitoring statistics for the last 2 hours, in 15 minute intervals.
C	Clear PM Stats	This hot key is used to clear the performance monitoring statistics.
F	Forward (2hrs/15min PM)	This hot key is used to display performance monitoring statistics for the next 2 hours, in 15 minute intervals.
P	Previous Port	This hot key is used to display the previous port.
N	Next Port	This hot key is used to display the next port.
S	Select Port	This hot key is used to select a specific port.
T	Near/Far End PM	This hot key is used to toggle between the Near End and Far End performance monitoring data.

T1/E1 Menu

Main Menu\Network Port\T1/E1 Menu

The T1/E1 menu (see Figure 5-92) is used to specify either a T1 or E1 interface.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                              T1/E1  T1

                              1. T1
                              2. E1

                              Selection :









                              '?' - System Help Screen
```

Figure 5-92. T1/E1 Menu

DSL Menus

Main Menu\DSL Menus

Each of the 24 DSL lines has a number of settings that can be provisioned. These settings affect the performance of the line. The class of service to be provisioned on the line and the type of modem at the distant end must be considered. DSL provisioning is accomplished by building profiles and then assigning them to the individual lines or groups of lines. Port provisioning is used to turn lines on and off and configure link down alarms. The DSL Menus break down the ADSL options between provisioning, status, and performance (see Figure 5-93).

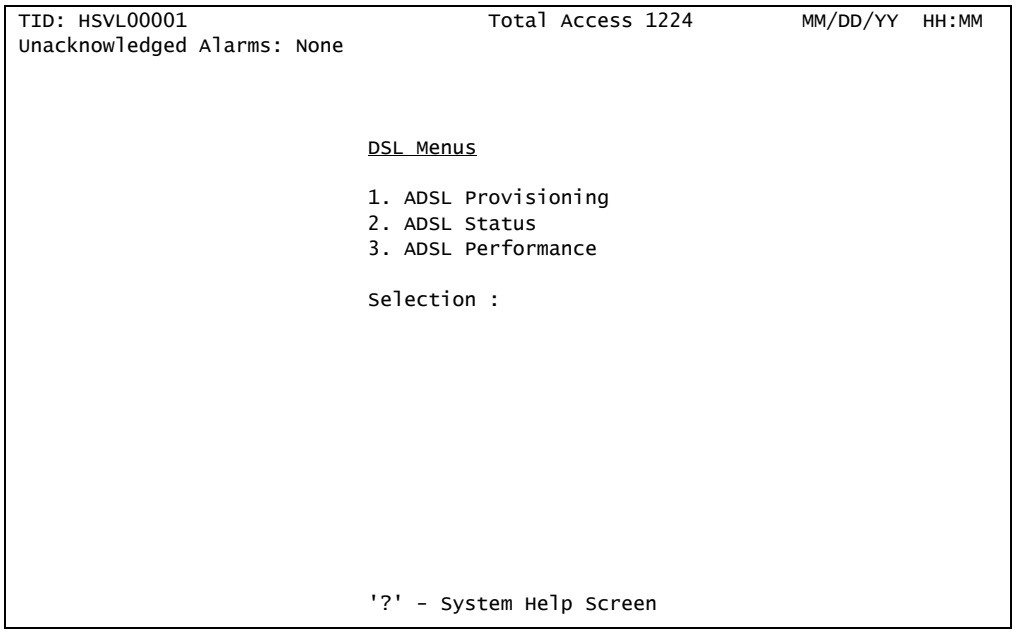

Figure 5-93. DSL Menus

The DSL Menus menu options are shown in Table 5-92.

Table 5-92. DSL Menus Menu Options

Option	Description	Function
1	ADSL Provisioning	This option displays the "DSL Provisioning Menu" on page 5-130.
2	ADSL Status	This option displays the "Status Menu" on page 5-148.
3	ADSL Performance	This option displays the "Performance Menu" on page 5-155.

DSL Provisioning Menu

Main Menu\DSL Menus\DSL Provisioning

The DSL Provisioning menu (see Figure 5-94) provides options to provision the DSL profiles and restore the ADSL provisioning information.

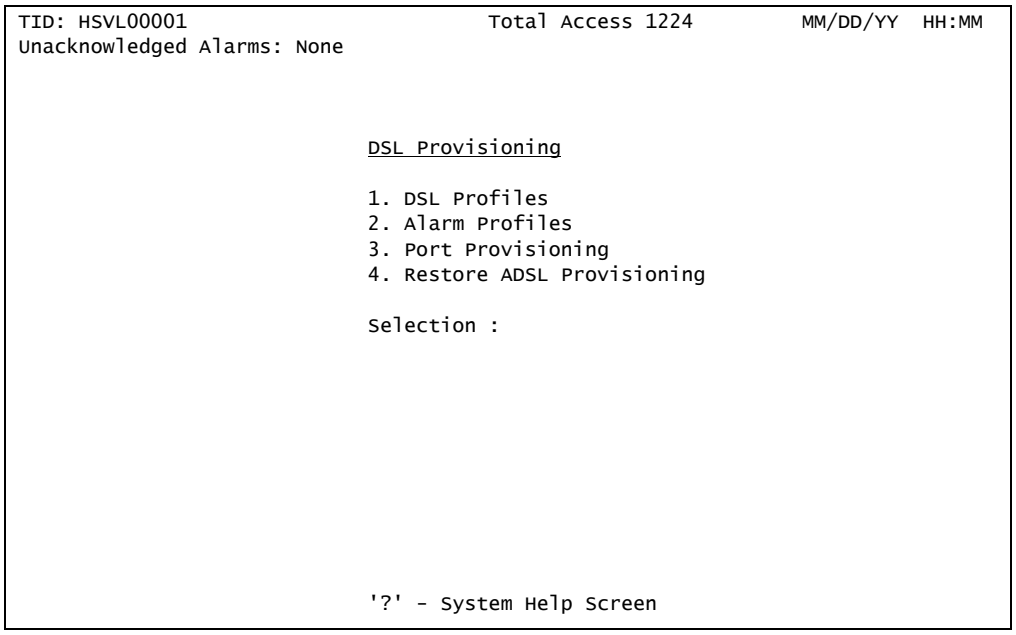

Figure 5-94. DSL Provisioning Menu

The DSL Provisioning menu options are as shown in Table 5-93.

Table 5-93. DSL Provisioning Menu Options

Option	Description	Function
1	DSL Profiles	This option displays the "ADSL Profiles Menu" on page 5-131.
2	Alarm Profiles	This option displays the "Alarm Profiles Menu" on page 5-135.
3	Port Provisioning	This option displays the "Port Provisioning Menu" on page 5-138.
4	Restore ADSL Provisioning	This option displays the "ADSL Restore Menu" on page 5-144.

ADSL Profiles Menu

Main Menu\DSL Menus\DSL Provisioning\ADSL Profiles

The ADSL Profiles menu (see Figure 5-95) is used to apply a set of values to several objects at the same time. At initial setup, all lines are set to the default values using the “DEFVAL” profile, which cannot be deleted or edited. Use the hot keys at the bottom of the screen to view, create, edit, and delete additional profiles.

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None


   Page 1 of 96                                          Total Profiles: 2
                            ADSL Profiles

Profile Name and Assigned Ports                                    State
 1. DEFVAL                                                         Active
    Host:  1-24
    Client 1:   (Not Present) 1-24
    Client 2:   (Not Present) 1-24
    Client 3:   (Not Present) 1-24
 2. Custom Name                                                    Inactive
    Host:  None
    Client 1:   (Not Present) None
    Client 2:   (Not Present) None
    Client 3:   (Not Present) None


'c' to Create a new profile    'e' to Edit a profile    'd' to Delete a profile
'v' to view profile            'p' for previous page    'n' for next page
's' to select page
                              '?' - System Help Screen
```

Figure 5-95. ADSL Profiles Menu

The ADSL Profiles hot keys are shown in Table 5-94.

Table 5-94. ADSL Profiles Hot Keys

Hot Key	Description	Function
C	to Create a new profile	This hot key is used to create a new profile.
D	to Delete a profile	This hot key is used to delete a specified profile.
E	to Edit a profile	This hot key is used to modify a specified profile.
N	for Next page	This hot key is used to display the next profile screen.
P	for Previous page	This hot key is used to display the previous profile screen.
V	to View profile	This hot key is used to display a specified profile.
S	to Select page	This hot key is used to display a specific page.

Figure 5-96 displays an example of the Edit ADSL Profiles menu. See **Table 5-95** on page 5-132 for details on ADSL line options.

NOTE

The *Custom Name* reference indicates the user assigned profile name.

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None

              Profile Settings for:      Custom Name
1. State:     Inactive
2. Host     : None
3. Client 1 : (Not Present) None
4. Client 2 : (Not Present) None
5. Client 3 : (Not Present) None
6. Rate Mode: Rate Adaptive              7. Line Type:  Fast

Downstream                                Upstream
8.  Target SNR Margin        6     dB     16. Target SNR Margin         6    dB
9.  Max SNR Margin           9     dB     17. Max SNR Margin            9    dB
10. Min SNR Margin           0     dB     18. Min SNR Margin            0    dB
11. Fast Max Tx Rate         8160  kbps   19. Fast Max Tx Rate          1024 kbps
12. Fast Min Tx Rate         32    kbps   20. Fast Min Tx Rate          32   kbps
13. Interleave Max Tx Rate   N/A          21. Interleave Max Tx Rate    N/A
14. Interleave Min Tx Rate   N/A          22. Interleave Min Tx Rate    N/A
15. Interleave Max Delay     N/A          23. Interleave Max Delay      N/A
                             Selection :

        NOTE:  Changes will only be saved when profile changes states!
                             '?' - System Help Screen
```

Figure 5-96. Edit ADSL Profile Menu

The Edit ADSL Profile menu options are shown in Table 5-95.

Table 5-95. Edit ADSL Profile Menu Options

Option	Description	Function	Settings	Default
1	State	This option is used to assign a state to the profile.	Active; Inactive	Inactive
2	Host	This option is used to assign a port to the profile for the host unit.	1-24	None
3	Client 1	This option is used to assign a port to a profile for the first client unit, if enabled.	1-24	None
4	Client 2	This option is used to assign a port to a profile for the second client unit, if enabled.	1-24	None

Table 5-95. Edit ADSL Profile Menu Options (Continued)

Option	Description	Function	Settings	Default
5	Client 3	This option is used to assign a port to a profile for the third client unit, if enabled.	1-24	None
6	Rate Mode	This option is used to select the rate mode. • Fixed rate provides a fixed transmission speed. • Rate adaptive determines the transfer rate, which allows the line to be used at a greater distance.	Fixed; Rate Adaptive	Rate Adaptive
7	Line Type	This option is used to select the line type.	Interleave; Fast	Fast
Downstream Options				
8	Target SNR Margin	This option indicates the Target Signal to Noise ratio in dB.	0 dB to 15 dB	6 dB
9	Max SNR Margin	This option indicates the Maximum Signal to Noise ratio allowed.	0 dB to 31 dB	9 dB
10	Min SNR Margin	This option indicates the Minimum Signal to Noise ratio allowed.	0 dB to 31 dB	0 dB
11	Fast Channel Max Tx Rate	This option is only available when the Link Type is set to Fast.	ADSL: 32 kbps to 8160 kbps ADSL2+: 32 kbps to 32736 kbps	8160 kbps
12	Fast Channel Min Tx Rate	This option is only available when the Link Type is set to Fast and the Rate Mode is set to Rate Adaptive.	ADSL: 32 kbps to 8160 kbps ADSL2+: 32 kbps to 32736 kbps	32 kbps
13	Interleave Channel Max Tx Rate	This option is only available when the Link Type is set to Interleave.	ADSL: 32 kbps to 8160 kbps ADSL2+: 32 kbps to 32736 kbps	7616 kbps
14	Interleave Channel Min Tx Rate	This option is only available when the Link Type is set to Interleave and the Rate Mode is set to Rate Adaptive.	ADSL: 32 kbps to 8160 kbps ADSL2+: 32 kbps to 32736 kbps	32 kbps

Table 5-95. Edit ADSL Profile Menu Options (Continued)

Option	Description	Function	Settings	Default
15	Interleave Channel Max Delay	The maximum delay allowed for the Interleaving of data. This option is only available when the Link Type is set to Interleave.	1 ms to 63 ms	5 ms
Upstream Options				
16	Target SNR Margin	This option indicates the Target Signal to Noise ratio in dB.	0 dB to 15 dB	6 dB
17	Max SNR Margin	This option indicates the Maximum Signal to Noise ratio allowed.	0 dB to 31 dB	9 dB
18	Min SNR Margin	This option indicates the Minimum Signal to Noise ratio allowed.	0 dB to 31 dB	0 dB
19	Fast Channel Max Tx Rate	This option is only available when the Link Type is set to Fast.	ADSL: 32 kbps to 1024 kbps ADSL2+: 32 kbps to 2048 kbps	896 kbps
20	Fast Channel Min Tx Rate	This option is only available when the Link Type is set to Fast and the Rate Mode is set to Rate Adaptive.	ADSL: 32 kbps to 1024 kbps ADSL2+: 32 kbps to 2048 kbps	32 kbps
21	Interleave Channel Max Tx Rate	This option is only available when the Link Type is set to Interleave.	ADSL: 32 kbps to 1024 kbps ADSL2+: 32 kbps to 2048 kbps	896 kbps
22	Interleave Channel Min Tx Rate	This option is only available when the Link Type is set to Interleave and the Rate Mode is set to Rate Adaptive.	ADSL: 32 kbps to 1024 kbps ADSL2+: 32 kbps to 2048 kbps	32 kbps
23	Interleave Channel Max Delay	This option is used to set the maximum delay allowed for the Interleaving of data. This option is only available when the Link Type is set to Interleave.	1 ms to 63 ms	5 ms

Alarm Profiles Menu

Main Menu\DSL Menus\DSL Provisioning\Alarm Profiles

Alarm options for the DSL lines are completed by setting up profiles using the Alarm Profiles menu (see Figure 5-97). At initial set up all ports are set to the default values in the "DEFVAL" profile. This profile cannot be deleted or edited. Use the hot keys at the bottom of the menu to view, create, edit, or delete profiles.

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None


   Page 1 of 96                                          Total Profiles: 2
                              Alarm Profiles

Profile Name and Assigned Ports                                    State
 1. DEFVAL                                                         Active
    Host:  1-24
    Client 1:   (Not Present) 1-24
    Client 2:   (Not Present) 1-24
    Client 3:   (Not Present) 1-24
 2. Custom Name                                                    Inactive
    Host:  None
    Client 1:   (Not Present) None
    Client 2:   (Not Present) None
    Client 3:   (Not Present) None


'c' to Create a new profile    'e' to Edit a profile    'd' to Delete a profile
'v' to view profile            'p' for previous page    'n' for next page
's' to select page
                              '?' - System Help Screen
```

Figure 5-97. Alarm Profiles Menu

From the Alarm Profile menu, press C to create a new profile. Enter the name of the new profile, and press ENTER. This returns the Settings for Profile: *Custom Name* screen (see Figure 5-98).

NOTE

The *Custom Name* reference indicates the user assigned profile name.

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None

              Profile Settings for:      Custom Name
1. State:     Inactive
2. Host     : None
3. Client 1 : (Not Present) None
4. Client 2 : (Not Present) None
5. Client 3 : (Not Present) None


Downstream                                Upstream


6. LOS Secs       Disabled                8. LOS Secs       Disabled
7. ES Secs        Disabled                9. ES Secs        Disabled

                             Selection :



        NOTE:  Changes will only be saved when profile changes states!
                             '?' - System Help Screen
```

Figure 5-98. Profile Settings for: *Custom Name* Menu

The Profile Settings for: *Custom Name* menu options are as shown in Table 5-96.

Table 5-96. Profile Settings for: *Custom Name* Menu Options

Option	Description	Function
1	State	This option is used to assign a state to the profile.
2	Host	This option is used to assign a port to the profile for the host unit.
3	Client 1	This option is used to assign a port to a profile for the first client unit, if enabled.
4	Client 2	This option is used to assign a port to a profile for the second client unit, if enabled.
5	Client 3	This option is used to assign a port to a profile for the third client unit, if enabled.
6	LOS Secs (Downstream)	The Loss of Signal Seconds (LOS Secs) option is used to configure downstream traffic. Valid values are 0 to 900 seconds. This option is disabled by setting the value to zero.
7	ES Secs (Downstream)	The Errored Seconds (ES Secs) option is used to configure downstream traffic. Valid values are 0 to 900 seconds. This option is disabled by setting the value to zero.
8	LOS Secs (Upstream)	The Loss of Signal Seconds (LOS Secs) option is used to configure upstream traffic. Valid values are 0 to 900 seconds. This option is disabled by setting the value to zero.
9	ES Secs (Upstream)	The Errored Seconds (ES Secs) option is used to configure upstream traffic. Valid values are 0 to 900 seconds. This option is disabled by setting the value to zero.

Port Provisioning Menu

Main Menu\DSL Menus\DSL Provisioning\Port Provisioning

NOTE

If expansion mode is enabled (refer to "Expansion Menu" on page 5-87), the Select Shelf menu (see Figure 5-99) displays. A host or client unit must be chosen in order to access the Port Provisioning menu.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                              Select Shelf

                              1. Host
                              2. Client 1 (configured)
                              3. Client 2 (configured)
                              4. Client 3 (configured)

                              Selection :









                              '?' - System Help Screen
```

Figure 5-99. Select Shelf Menu

The Port Provisioning menu (see Figure 5-100) is used to select and set the ADSL ports.

```
TID: HSVL00001                          Total Access 1224
Unacknowledged Alarms: None
                                                          Shelf = Host


                          Port Provisioning

                  1. Select Port                1
                  2. ADSL Card Service State    In Service
                  3. Line Service State         Out of Service-Maintenance
                  4. Service Mode               Multimode
                  5. Hamband Mask               Disabled
                  6. Cabinet Mode               Disabled
                  7. Link Down Alarm            Disabled
                  8. Ports to apply changes     1-24
                  9. Apply Provisioning to Ports

                          Selection :

                     'N' - Next Port 'P' - Previous Port



                          '?' - System Help Screen
```

Figure 5-100. Port Provisioning Menu

The Port Provisioning options are as shown in Table 5-97.

Table 5-97. Port Provisioning Menu Options

Option	Description	Function
1	Select Port	This option is used to designate which port provisioning information is to be entered.
2	ADSL Card Service State	This option displays the "Service State for ADSL Card Menu" on page 5-140.
3	Line Service State	This option displays the "Service State for Port: # Menu" on page 5-140.
4	Service Mode	This option displays the "Service Mode for Port: # Menu" on page 5-141.
5	Hamband Mask	This option displays the "Hamband Mask for Port: # Menu" on page 5-141.
6	Cabinet Mode	This option displays the "Cabinet Mode for Port: # Menu" on page 5-142.
7	Link Down Alarm	This option displays the "Link Down Alarm for Port: # Menu" on page 5-143.
8	Ports to apply changes	This option is used to designate the specific ports to which all changes are to be made.
9	Apply Provisioning to Ports	This option is used to apply port provisioning to the specific ports defined in the Ports to apply changes option.

NOTE

Use N for next port or P for previous port to select the port to be provisioned.

Service State for ADSL Card Menu

Main Menu\DSL Menus\DSL Provisioning\Port Provisioning\Service State for ADSL Card

The ADSL Card Service State option on the Port Provisioning Menu displays the Service State for ADSL Card menu, which refers to the ADSL card that is located on the main circuit board of the Total Access 1224 system.

The Service State for ADSL Card menu options are shown in Table 5-98.

Table 5-98. Service State for ADSL Card Menu Options

Option	Description	Function
1	In Service	This setting indicates that ADSL services are available, if installed, and Link Down and Threshold alarms are reported, if enabled.
2	Out of Service-Unassigned	This setting indicates that no ADSL services are available and Link Down and Threshold alarms are not reported.
3	Out of Service-Maintenance	This setting indicates that ADSL services are available and Link Down and Threshold alarms are not reported.

Service State for Port: # Menu

Main Menu\DSL Menus\DSL Provisioning\Port Provisioning\Service State for Port: #

The Line Service State option on the Port Provisioning Menu displays the Service State for Port # menu. The # represents the value displayed for the Select Port option. The default value for the Line Service State is Out of Service-Maintenance.

The Service State for Port: # menu options are shown in Table 5-99.

Table 5-99. Service State for Port: # Menu Options

Option	Description	Function
1	In Service	This setting indicates that an ADSL modem is allowed to train up and alarms are reported, if enabled.
2	Out of Service-Unassigned	This setting indicates that an ADSL modem is not allowed to train up and alarms are not reported.
3	Out of Service-Maintenance	This setting indicates that an ADSL modem is allowed to train up and alarms are not reported.

Service Mode for Port: # Menu

Main Menu\DSL Menus\DSL Provisioning\Port Provisioning\Service Mode for Port: #

The Service Mode option on the Port Provisioning Menu displays the Service Mode for Port: # menu. The # represents the value displayed for the Select Port option. The service mode refers to the data mode for the traffic between the DSLAM and the modem.

The Service Mode for Port: # menu options are shown in Table 5-100.

Table 5-100. Service Mode for Port: # Menu Options

Option	Description	Function
1	Multimode	Multimode allows the DSLAM and the modem to pick a mode for the line to use to train up.
2	T1.413	This option sets T1.413 as the Service Mode.
3	G.dmt	This option sets G.dmt as the Service Mode.
4	G.lite	This option sets G.lite as the Service Mode. If the mode is set to G.lite, the Line Type should be set to Interleave from the "ADSL Profiles Menu" on page 5-131 for these ports. Even if the Line Type remains set to Fast, the modem can only train up as Interleave.
5	ADSL2	This option sets ADSL2 as the Service Mode.
6	ADSL2.lite	This option sets ADSL2.lite as the Service Mode.
7	ADSL2+	This option sets ADSL2+ as the Service Mode.
8	READSL	This option sets READSL as the Service Mode.
9	Legacy Multimode (ADSL1)	This option sets Legacy Multimode as the Service Mode.

If a mode is specified, it must be one supported by the customer's modem.

Hamband Mask for Port: # Menu

Main Menu\DSL Menus\DSL Provisioning\Port Provisioning\Hamband Mask for Port: #

The Hamband Mask option on the Port Provisioning Menu displays the Hamband Mask for Port: # menu. The # represents the value displayed for the Select Port option. Hamband Mask is for masking out frequencies that are used by hamband (ham radios) so that those frequencies and their respective tones do not interrupt the training process.

The Hamband Mask for Port: # menu options are shown in Table 5-101.

Table 5-101. Hamband Mask for Port: # Menu Options

Option	Description	Function
1	Enabled	This option enables hamband masking.
2	Disabled	This option disables hamband masking.

Cabinet Mode for Port: # Menu

Main Menu\DSL Menus\DSL Provisioning\Port Provisioning\Cabinet Mode for Port: #

The Cabinet Mode option on the Port Provisioning Menu displays the Cabinet Mode for Port: # menu (see Figure 5-101). The # represents the value displayed for the Select Port option. This option permits the ADSL2+ line to only use downstream tones beginning at Tone 110, 130, and 250. The Cabinet Mode should only be enabled when using ADSL2+ capable modems.

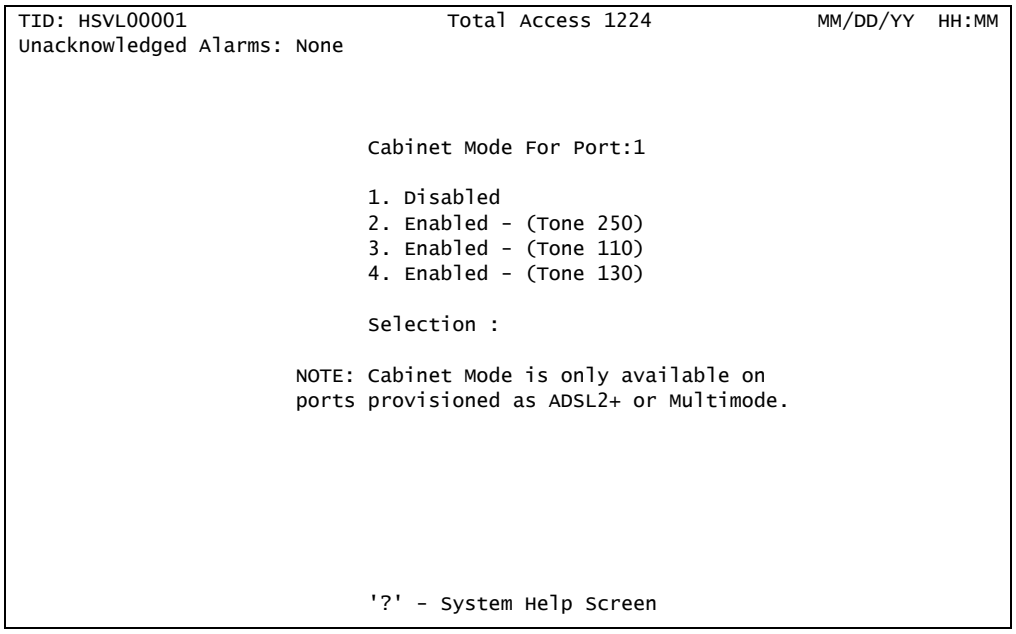

Figure 5-101. Cabinet Mode for Port # Menu

The Cabinet Mode for Port: # menu options are shown in Table 5-102.

Table 5-102. Cabinet Mode for Port: # Menu Options

Option	Description	Function
1	Disabled	This option disables Cabinet Mode.
2	Enabled - Tone 250	This option enables the downstream at Tone 250.
3	Enabled - Tone 110	This option enables the downstream at Tone 110.
4	Enabled - Tone 130	This option enables the downstream at Tone 130.

Link Down Alarm for Port: # Menu

Main Menu\DSL Menus\DSL Provisioning\Port Provisioning\Link Down Alarm for Port: #\

The Link Down Alarm option on the Port Provisioning Menu displays the Link Down Alarm for Port: # menu. The # represents the value displayed for the Select Port option. The Link Down Alarm option is used to enable and disable link down alarms. The default value is Disabled. If changed to Enabled, the system reports an alarm when the line to the customer is not trained up.

The Link Down Alarm for Port: # menu options are shown in Table 5-103.

Table 5-103. Link Down Alarm for Port: # Menu Options

Option	Description	Function
1	Enabled	This option enables the system to report an alarm when the line to the customer is not trained up.
2	Disabled	This option disables the Link Down Alarm option.

ADSL Restore Menu

Main Menu\DSL Menus\DSL Provisioning\ADSL Restore Menu

The ADSL Restore menu (see Figure 5-102) provides options to restore all ADSL provisioning or select the DSP Management menu.

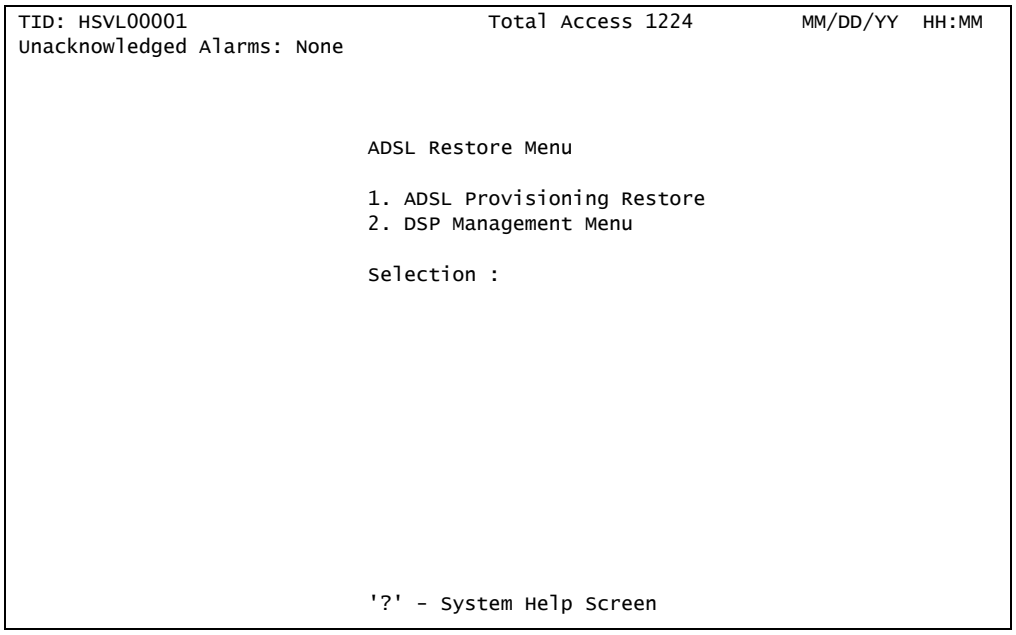

Figure 5-102. ADSL Restore Menu

The ADSL Restore Menu options are shown in Table 5-104.

Table 5-104. ADSL Restore Menu Options

Option	Description	Displays
1	ADSL Provisioning Restore	This option displays the “Reset all ADSL provisioning Menu”. Selection of the Reset option from this menu will reset all ADSL provisioning and ADSL profiles back to their default settings.
2	DSP Management Menu	This option displays the “DSP Management Menu” on page 5-145.

DSP Management Menu

Main Menu\DSL Menus\DSL Provisioning\ADSL Restore Menu\DSP Management Menu\

NOTE

If expansion mode is enabled (refer to "Expansion Menu" on page 5-87), the Select Shelf menu (see Figure 5-103) displays. A host or client unit must be chosen in order to access the DSP Management menu.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                              Select Shelf

                              1. Host
                              2. Client 1  (not present)
                              3. Client 2  (not present)
                              4. Client 3  (not present)

                              Selection :









                              '?' - System Help Screen
```

Figure 5-103. Select Shelf Menu

The DSP Management menu (see Figure 5-104) provides options to reset all or individual DSPs, and enable/disable the Auto Warm Start feature. Auto Warm Start resets the hardware modules within the DSPs.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                              DSP Management Menu

                              1. Reset All DSPs and reload firmware
                              2. Reset DSPs without reloading firmware
                              3. Auto Warm Start  ENABLED
                              4. Exit

                              Selection :









                              '?' - System Help Screen
```

Figure 5-104. DSP Management Menu

The DSP Management menu options are shown in Table 5-105.

Table 5-105. DSP Management Menu Options

Option	Description	Displays
1	Reset All DSPs and reload firmware	This option displays the “Reset all DSPs and reload firmware Menu”. Selection of the Reset option from this menu will reset all DSPs, reload them with firmware and force retrains on all ports.
2	Reset DSPs without reloading firmware	This option displays the “Reset DSP Menu” on page 5-147
3	Auto Warm Start	This option toggles between Auto Warm Start ENABLED and Auto Warm Start DISABLED.
4	Exit	This option exits the “ADSL Restore Menu” and returns to the “DSL Provisioning Menu” on page 5-130.

Reset DSP Menu

Main Menu\DSL Menus\DSL Provisioning\ADSL Restore Menu\DSP Management Menu\Reset DSP

The Reset DSP Menu (see Figure 5-105) selectively resets individual DSPs. Each DSP operates eight ports as listed in the menu commentary when a DSP is selected.

```
TID: HSVL00001                    Total Access 1224
Unacknowledged Alarms: None




                          Reset DSP

                 WARNING! THIS IS SERVICE AFFECTING!

                 This option will reset DSP 1 which operates
                 ports 1,2,9,10,17,18,19,20.


                          1. DSP:        1
                          2. Reset this DSP
                          3. Exit

                          Selection :




                          '?' - System Help Screen
```

Figure 5-105. Reset DSP Menu

The Reset DSP Menu options are shown in Table 5-106.

Table 5-106. Reset DSP Menu Options

Option	Description	Function
1	DSP:	Selection of this option provides a text entry field for selection of the DSP to be reset.
2	Reset this DSP	This option resets the specified DSP and returns to the "DSP Management Menu" on page 5-145.
3	Exit	This option returns to the "DSP Management Menu" on page 5-145.

Status Menu

Main Menu\DSL Menus\Status

NOTE

If expansion mode is enabled (refer to "Expansion Menu" on page 5-87), the Select Shelf menu (see Figure 5-106) displays. A host or client unit must be chosen in order to access the Status menu.

```
TID: HSVL00001                    Total Access 1224              MM/DD/YY  HH:MM
Unacknowledged Alarms: None


                              Select Shelf

                              1. Host
                              2. Client 1 (configured)
                              3. Client 2 (configured)
                              4. Client 3 (configured)

                              Selection :









                              '?' - System Help Screen
```

Figure 5-106. Select Shelf Menu

The Status menu (see Figure 5-107) offers different options for ADSL status reporting.

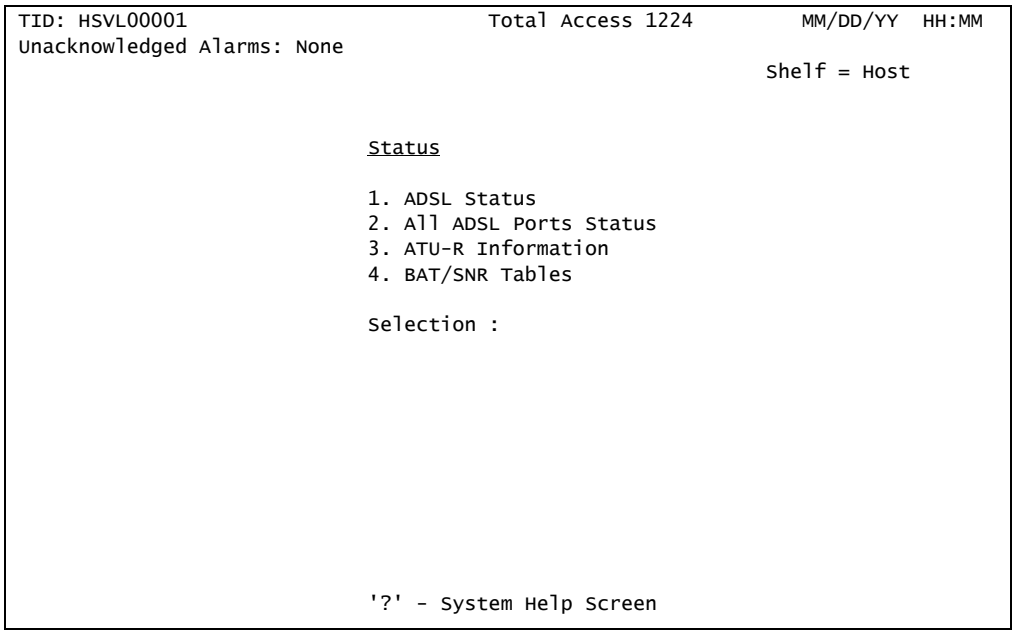

Figure 5-107. Status Menu

The Status menu options are as shown in Table 5-107.

Table 5-107. Status Menu Options

Option	Description	Function
1	ADSL Status	This option displays the "ADSL Status Screen" on page 5-150.
2	All ADSL Ports Status	This option displays the "ADSL Ports Status Screen" on page 5-151.
3	ATU-R Information	This option displays the "ATU-R Information" on page 5-152.
4	BAT/SNR Tables	This option displays the "Bit Allocation Table - Link Up Screen" on page 5-153.

ADSL Status Screen

Main Menu\DSL Menus\Status\ADSL Status

An example of the report returned from selecting the ADSL Status option is shown in Figure 5-108.

```
TID: HSVL00001                       Total Access 1224         MM/DD/YY  HH:MM
Unacknowledged Alarms: None
                                                             Shelf = Host

                              Line 17 ADSL Status


       Link Status              Up           T1.413
       Rate Mode                Rate Adaptive
       Line Type                Fast

                             Downstream               Upstream

       Line Rate             8128 kbps                 896 kbps
       Margin                 9.5 dB                   7.5 dB
       Power                  6.1 dBm                 11.9 dBm
       Attenuation            0.0 dB                   1.7 dB
       Max Rate              10136 kbps               1044 kbps
       Actual Delay           0.0 ms                   0.0 ms
       Relative Cap            80 %                     85 %

            S - Select Port     N - Next Port     P - Previous Port
                                Current Port:  17
                             '?' - System Help Screen
```

Figure 5-108. ADSL Status Screen

ADSL Ports Status Screen

Main Menu\DSL Menus\Status\ADSL Ports Status

An example of the report returned from selecting the ALL ADSL Ports Status option is shown in Figure 5-109.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None
                                                                  Shelf = Host

                                  ADSL Ports Status

    Link          Rate: D/U  Margin: D/U    Link          Rate: D/U  Margin: D/U
    State  Mode   (kbps)     (dB)           State   Mode  (kbps)     (dB)

 1.  Down                                  13.   Up    ADSL2+ 11996/ 883  23/ 6
 2.  Down                                  14.   Down
 3.  Down                                  15.   Down
 4.  Down                                  16.   Down
 5.  Down                                  17.   Down
 6.  Down                                  18.   Down
 7.  Down                                  19.   Down
 8.  Down                                  20.   Down
 9.  Down                                  21.   Down
10.  Down                                  22.   Down
11.  Down                                  23.   Down
12.  Down                                  24.   Down

                               'n' for next page
                            '?' - System Help Screen
```

Figure 5-109. All ADSL Ports Status Screen

ATU-R Information

Main Menu\DSL Menus\Status\ATU-R Information

The ATU-R Information screen (see Figure 5-110) provides information for the remote end of the circuit. If the line is trained up in T1.413 mode, the screen shows a Vendor ID for the customer's modem, and the The Provider Code is blank. If the line is trained up in G.dmt mode, the Vendor ID is blank and the Provider Code for the customer's modem is shown. Note that this line is trained up in T1.413 mode. The next or previous port can be selected by using the N or P hot keys.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None
                                                                   Shelf = Host

                                  Line 17 ATU-R Information


                    Link Status          Up         T1.413
                    Vendor ID            34
                    Provider Code        N/A
                    Version Number       1
                    ADSL Capabilities    N/A









            S - Select Port      N - Next Port      P - Previous Port
                                 Current Port:  17
                              '?' - System Help Screen
```

Figure 5-110. ATU-R Information Screen

Bit Allocation Table - Link Up Screen

Main Menu\DSL Menus\Status\Bit Allocation Table - Link Up Screen

The Bit Allocation Table - Link Up screen (see Figure 5-111) displays the bits transmitted on each of the tones in the ADSL signal. This information can be helpful in diagnosing line noise troubles. To see the readings for more tones, press F for Forward, B for Back, N for Next ADSL Port, and P for Previous ADSL Port.

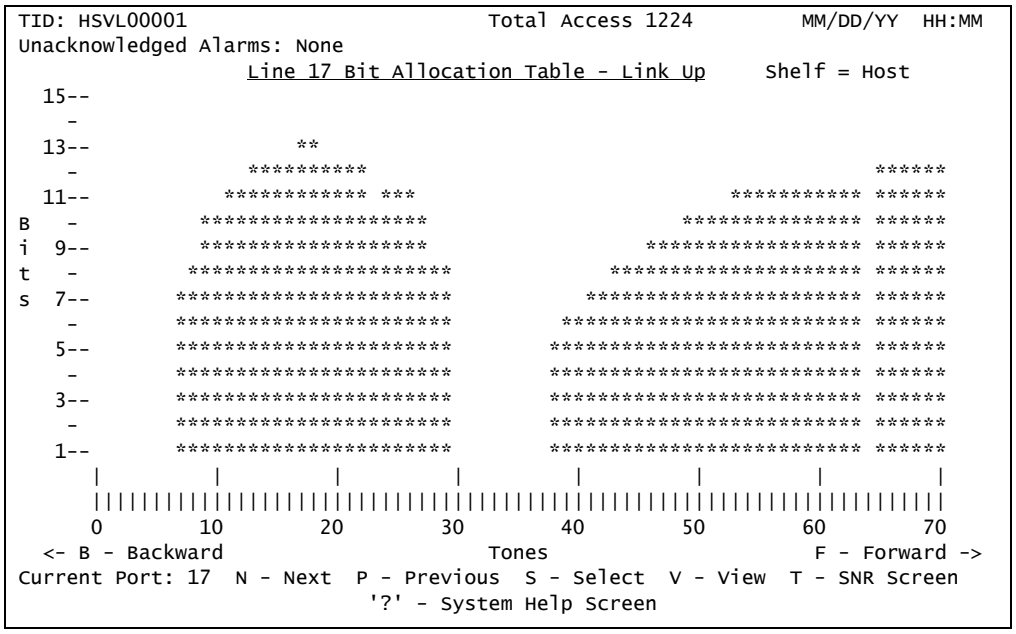

Figure 5-111. Bit Allocation Table - Link Up Screen

Press V to change the Bit Allocation Table screen as shown in Figure 5-112.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None
                    Line 17 Bit Allocation Table - Link Up      Shelf = Host
  <- B - Backward                                                F - Forward ->

          0  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19
         ------------------------------------------------------------
       0|  0  0  0  0  0  0  0  7  8 10 10 11 11 12 12 12 12 13 13 12
      20| 12 12 12 10 11 11 11 10  8  8  0  0  0  0  0  0  0  0  5  6
T     40|  6  7  7  8  8  8  9  9  9 10 10 10 10 11 11 11 11 11 11 11
o     60| 11 11 11 11  0 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12
n     80| 12 11 12 11 12 11 11 12 11 11 11 11 11 11 11  2 11 11 11 11
e    100| 12 12 11 12 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11
s    120| 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11
     140| 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11
     160| 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11
     180| 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11
     200| 11 11 11 11 10 10 10 10 10 10 10 10 10 10 10 10 10 11 11 11
     220| 11 11 11 11 11 11 11 10 10 10 10 10 10 10 10  9  9  8  7  7
     240|  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
     260|  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
                                  Bits per Tone
Current Port: 17  N - Next  P - Previous  S - Select  V - View  T - SNR Screen
                           '?' - System Help Screen
```

Figure 5-112. Alternate View of the Bit Allocation Table Screen

Press T to view the SNR Margin Table, as shown in Figure 5-113.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None
                          Line 17 Upstream SNR Margin Table     Shelf = Host
                                    Link is Up
  56--
M   -                  ***
a 48--              *********** *
r   -            ************* ***
g 40--           ********************
i   -          ************************
n 32--        ************************
    -         ************************
i 24--        ************************
n   -         ************************
  16--        ************************
d   -         ************************
B  8--        ************************
    -         ************************
      |         |         |         |         |         |         |         |
      ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
      0        10        20        30        40        50        60        70
                                     Tones
Current Port: 17  N - Next  P - Previous  S - Select  V - View  T - BAT Screen
                           '?' - System Help Screen
```

Figure 5-113. Upstream SNR Margin Table Screen

Performance Menu

Main Menu\DSL Menus\Performance Menu\

NOTE

If expansion mode is enabled (refer to "Expansion Menu" on page 5-87), the Select Shelf menu (see Figure 5-114) displays. A host or client unit must be chosen in order to access the Performance menu.

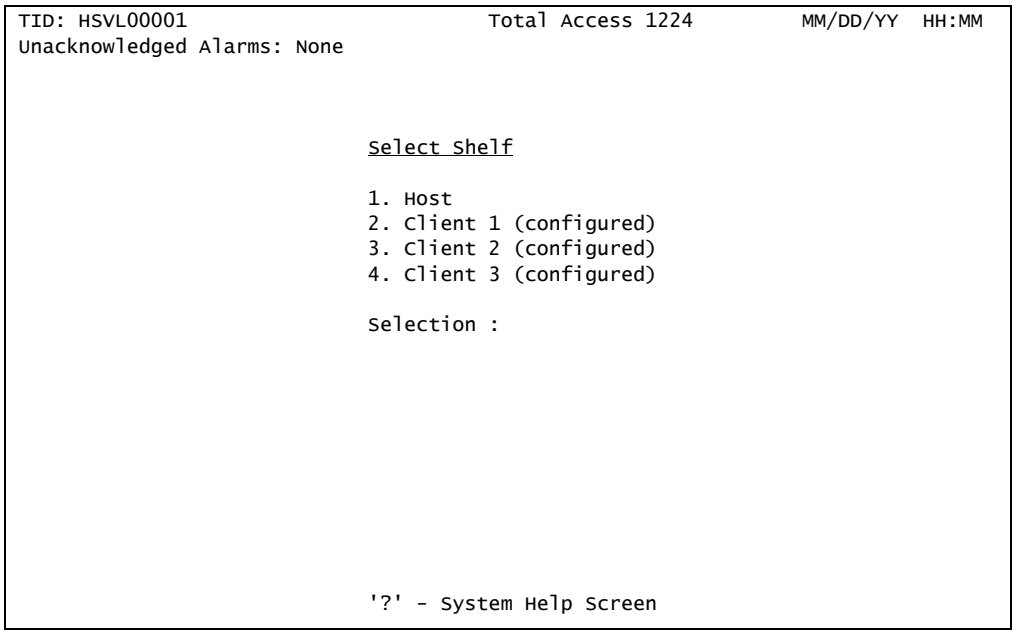

Figure 5-114. Select Shelf Menu

The Total Access 1224 provides displays to help analyze performance of the system. This information is available in displays of 15-minute and daily intervals. Figure 5-115 displays the Performance menu options.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None
                                                                   Shelf = Host


                              Performance

                              1. Display PM for Current Port
                              2. Clear All PM for All Ports

                              Selection :









                              '?' - System Help Screen
```

Figure 5-115. Performance Menu

An example of the ADSL Performance Monitoring Status screen is shown in Figure 5-116.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None
          ADSL Performance Monitoring Status - ADSL Port 1   Shelf = Host
                                Downstream
                        ES     LOL     LOS     CBC     UBC
  24 Hr  - Current       0   12546       0       0       0
           MM/DD         0   16284       0       0       0




  15 Min - Current       0     850       0       0       0
           16:30         0     900       0       0       0
           16:15         0     900       0       0       0
           16:00         0     900       0       0       0
           15:45         0     900       0       0       0
           15:30         0     900       0       0       0
           15:15         0     900       0       0       0
           15:00         0     900       0       0       0
           14:45         0     900       0       0       0

 B - Backward(2hrs/15min PM)                              T - Up/Down(Stream) PM
 S - Select Port    P - Previous Port    N - Next Port    C - Clear PM Stats
                              '?' - System Help Screen
```

Figure 5-116. Current 15 Minute Performance Screen

The Performance Monitoring Status screen fields are as shown in Table 5-108.

Table 5-108. Performance Monitoring Status Screen Fields

Field	Description
ES	This field displays the Errored Seconds.
LOL	This field displays the Loss of Link Seconds.
LOS	This field displays the Loss of Signal.
CBC	This field displays the Corrected Block Count. This is specific to interleaved mode, and indicates that an error was found and corrected.
UBC	This field displays the Uncorrected Block Count. This is specific to interleaved mode, and indicates that an error was found and could not be corrected.

The Performance Monitoring Status screen hot keys are shown in Table 5-109.

Table 5-109. Performance Monitoring Status Screen Hot Keys

Hot Key	Description	Function
B	Backward (2hrs/15min PM)	This hot key is used to display performance monitoring statistics for the last 2 hours, in 15 minute intervals.
C	Clear PM Status	This hot key is used to clear the performance monitoring statistics.
F	Forward (2hrs/15min PM)	This hot key is used to display performance monitoring statistics for the next 2 hours, in 15 minute intervals.
N	Previous Port	This hot key is used to display the previous port.
P	Next Port	This hot key is used to display the next port.
S	Select Port	This hot key is used to select a specific port.
T	Up/Down (Stream) PM	This hot key is used to view upstream/downstream Performance Monitoring data.

System Alarm Log Screen

Main Menu\System Alarm Log

The Total Access 1224 system provides a system alarm log for monitoring alarms. To view the System Alarm Log screen (see Figure 5-117), select System Alarms from the Main menu, and press ENTER.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None

System Alarm Log                      Alarms:  1 to 13 of 13       Page:  1 of  1

Date     Time     Level    Description                                      Status
MM/DD/YY 16:25:43 Minor    T1-4: Red Alarm - LOS                            Active
MM/DD/YY 16:25:43 Minor    T1-3: Red Alarm - LOS                            Active
MM/DD/YY 16:25:43 Minor    T1-2: Red Alarm - LOS                            Active
MM/DD/YY 16:25:43 Minor    T1-1: Red Alarm - LOS                            Active
MM/DD/YY 16:25:40 Info     Download to DSP 6 completed                      Active
MM/DD/YY 16:25:37 Info     Download to DSP 5 completed                      Active
MM/DD/YY 16:25:35 Info     Download to DSP 4 completed                      Active
MM/DD/YY 16:25:32 Info     Download to DSP 3 completed                      Active
MM/DD/YY 16:25:29 Info     Download to DSP 2 completed                      Active
MM/DD/YY 16:25:26 Info     Download to DSP 1 completed                      Active
MM/DD/YY 16:25:17 Info     System Boot                                      Active
MM/DD/YY 16:25:17 Info     Alarm Log Reset                                  Active
------------------------------>>> END OF ALARM LOG <<<-----------------------------



Inverse = Active      * = Unacknowledged      Chronology = Descending
(N)ext (P)rev (F)irst (L)ast (C)lear (A)cknowldege (R)eset Log (T)ime Ascending
```

Figure 5-117. System Alarm Log Screen

The System Alarm Log screen hot keys are shown in Table 5-110.

Table 5-110. System Alarm Log Hot Keys

Hot Key	Description	Function
A	Acknowledge	This hot key is used to acknowledge all alarms.
C	Clear	This hot key is used to clear all acknowledged alarms.
F	First	This hot key is used to display the first page of alarms.
L	Last	This hot key is used to display the last page of alarms.
N	Next	This hot key is used to display the next page of alarms.
P	Previous	This hot key is used to display the previous page of alarms.
R	Reset Log	This hot key is used to reset all alarms.
T	Time Ascending	This hot key is used to display alarms in time ascending or descending order.

System Event Log Screen

Main Menu\System Event Log

The System Event Log screen (see Figure 5-118) provides non-volatile storage of system events.

```
TID: HSVL00001                          Total Access 1224          MM/DD/YY  HH:MM
Unacknowledged Alarms: None

System Event Log                 Events:   1 to  14 of  250       Page:  1 of  18

#   Date     Time     Event Description                          Conn   User Name
  1 MM/DD/YY  9:51:38 Login                                       Craft  SUPER USER
  2 MM/DD/YY  9:48:33 System Started                             System
  3 MM/DD/YY  9:48:15 System Reset                               TFTP
  4 MM/DD/YY  9:48:09 AUC Config Complete                        System public
  5 MM/DD/YY  9:48:04 AUC-Host S/W Complete                      System public
  6 MM/DD/YY  9:47:00 Auto Upgrade (AUC-Host) S/W Update         System public
  7 MM/DD/YY  9:46:55 AUC Client1 S/W Complete                   System public
  8 MM/DD/YY  9:45:45 Auto Upgrade (AUC-Client1) S/W Update      System public
  9 MM/DD/YY  9:45:40 Auto Upgrade Config (AUC) Update           System public
 10 MM/DD/YY  9:41:25 Login                                      Craft  SUPER USER
 11 MM/DD/YY  9:36:30 Auto Logout                                Craft  SUPER USER
 12 MM/DD/YY  9:26:27 Login                                      Craft  SUPER USER
 13 MM/DD/YY  9:16:03 AUC Failure (Corrupted File)               System public
 14 MM/DD/YY  9:16:01 Auto Upgrade Config (AUC) Update           System public
------------------------------------>>> MORE <<<-----------------------------------
                        Event Filter = All             Chronology = Descending
(N)ext (P)revious (F)irst (L)ast        (V)iew         (T)ime Ascending
Event Filters- (A)ll (D)ateTime Lo(G)in Acc(O)unt Securit(Y) (S)/W Updates
```

Figure 5-118. System Event Log Screen

The System Event Log screen hot keys are shown in Table 5-111.

Table 5-111. System Event Log Hot Keys

Hot Key	Description	Function
A	All	This hot key is used to display all events.
D	Date/Time	This hot key is used to display date/time events.
F	First	This hot key is used to display the first page of events.
G	Login	This hot key is used to display login events.
L	Last	This hot key is used to display the last page of events.
N	Next	This hot key is used to display the next page of events.l
O	Account	This hot key is used to display account events.
P	Previous	This hot key is used to display the previous page of events.
S	S/W Updates	This hot key is used to display software update events.
T	Time Ascending	This hot key is used to display events in time ascending/descending order.
V	View	This hot key is used to toggle between displaying the connection method and associated username for each event, or displaying the IP address for each event.
Y	Security	This hot key is used to display security events.

Contact Information Screen

Main Menu\Contact Information

The Contact Information screen (see Figure 5-119) displays ADTRAN technical support, repair, and online support contact information.

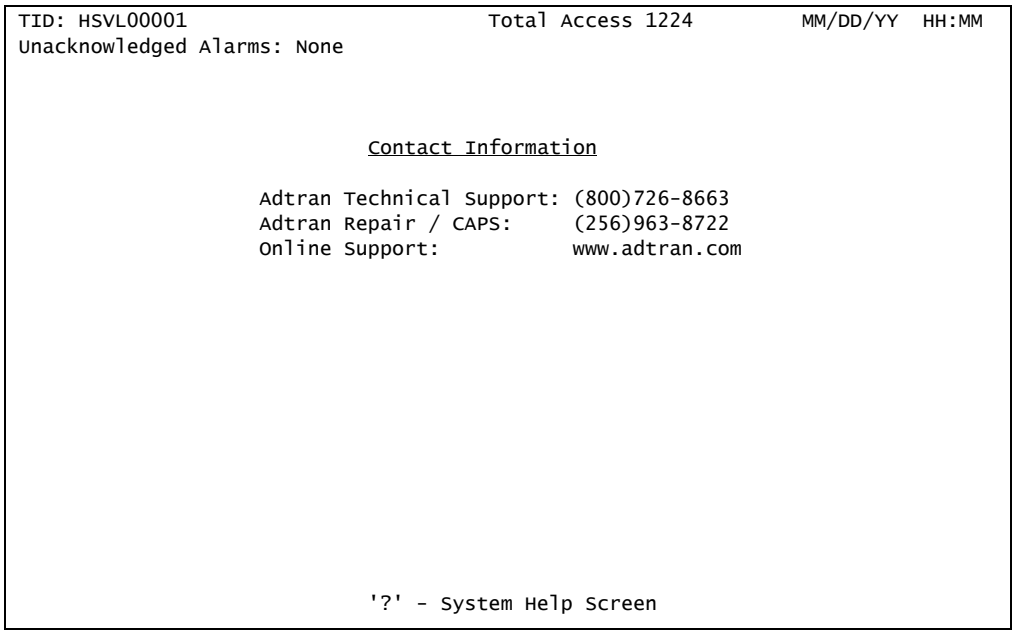

Figure 5-119. Contact Information Screen

TL1 Mode Screen

Main Menu\TL1 Mode

Figure 5-120 displays the TL1 session screen. TL1 commands can be executed once the session has been activated with a proper login. All commands end with a semicolon. Type **'menus;'** to return to the menu session.

```
/*Type 'MENUS;' to enter MENU Session*/
OK 0
<
```

Figure 5-120. TL1 Mode Screen

Table 5-112 lists the TL1 commands supported by the Total Access 1224 system. For further details of the TL1 commands, refer to the *Total Access 11xx and 12xx ADSL2+ DSLAM TL1 Command Reference Guide* (P/N 61179611L1-35).

Table 5-112. TL1 Commands

TL1 Commands		
ACT-PROFILE-ADSL	ENT-T1	RTRV-CRS-VC
ACT-USER	ENT-VCL	RTRV-EQPT
ALW-MSG-ADSL	GET-SYS-INFO	RTRV-HDR
ALW-MSG-T1	INH-MSG-ADSL	RTRV-INV-EQPT
ALW-MSG-EQPT	INH-MSG-T1	RTRV-IPPORT
ALW-MSG-ENV	INH-MSG-EQPT	RTRV-NE-ALL
ALW-MSG-ALL	INH-MSG-ENV	RTRV-PM-T1
CANC-USER	INH-MSG-ALL	RTRV-PROFILE-ADSL
DLT-ADSL	INIT-SYS	RTRV-PROFILE-ADSLDN
DLT-CRS-VC	LOGOFF	RTRV-PROFILE-ADSLUP
DLT-PROFILE-ADSL	REPT-OPSTAT-ADSLDN	RTRV-PROFILE-ATMACC
DLT-PROFILE-TRAFDSC	REPT-OPSTAT-ADSLCOM	RTRV-PROFILE-CAC
DLT-VCL	REPT-OPSTAT-ADSLUP	RTRV-PROFILE-TRAFDSC
DNLD-SFWR-IM	RSTR-PROV-IM	RTRV-PROV-TFTP
ED-ADSL	RTRV-ADSL	RTRV-SECU-CMD
ED-PROFILE-ADSLDN	RTRV-ALM-ADSL	RTRV-T1
ED-PROFILE-ADSLUP	RTRV-ALM-T1	RTRV-VCL
ED-PROV-TFTP	RTRV-ALM-EQPT	SET-ATTR-ADSL
ED-SECU-USER	RTRV-ALM-ENV	SET-DAT
ED-T1	RTRV-ALM-ALL	SET-NE-ALL
ENT-ADSL	RTRV-ATTR-ADSL	SET-SID
ENT-CRS-VC	RTRV-COND-ADSL	STA-CMDSSN
ENT-IPPORT	RTRV-COND-T1	STP-CMDSSN
ENT-PROFILE-ADSL	RTRV-COND-EQPT	STR-PROV-IM
ENT-PROFILE-TRAFDSC	RTRV-COND-ALL	

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Section 6
Maintenance

INTRODUCTION

The Total Access 1224 does not require routine maintenance for normal operation.

ADTRAN does not recommend that repairs be attempted in the field. Repair services can be obtained by returning the defective unit to ADTRAN. For more troubleshooting information, refer to the *Total Access 1100/ 1200 Series Troubleshooting Guide* (P/N 61179741L1-44). For warranty information, refer to "Appendix A, Warranty".

SNMP/TFTP AND TL1 CONFIGURATION STORAGE AND RETRIEVAL

Use the following SNMP/TFTP and TL1 commands to store or retrieve the Total Access 1224 System Configuration Archive (SCA) file.

NOTE

In some installations, the configuration file can be stored and retrieved in one operation for multiple Total Access 1224 systems. This is accomplished by incorporating the SNMP/TFTP or TL1 commands into scripts.

SNMP / TFTP

These objects are located in the ADTRAN-TA1200Shelf-MIB.mib, under adTA1200ShelfProv.

Save

Set TFTP Server IP address with **adTA1200SCATftpServerHostName**

Set filename using **adTA1200SCAFileName**

Initiate transfer using **adTA1200SCAInitiateSave** (option initiate (1))

Restore

Set TFTP Server IP address with **adTA1200SCATftpServerHostName**

Set filename using **adTA1200SCAFileName**

Initiate transfer using **adTA1200SCAInitiateRestore** (option initiate (1))

TL1

When accessing the Total Access 1224 via TL1, the Save and Restore commands are used to save or retrieve the SCA file.

Save

Use:

```
ED-PROV-TFTP:::::FILENAME=<filename>,TFTPIPADDR=<ip_addr>,SET;
```

Restore

Use:

```
ED-PROV-TFTP:::::FILENAME=<filename>,TFTPIPADDR=<ip_addr>,GET;
```

NOTE

TL1 commands are also executable from the Total Access 1224 Main Menu. For more information, refer to "TL1 Mode Screen" on page 5-162.

Section 7
Specifications

INTRODUCTION

Specifications for the Total Access 1224 are detailed in Table 7-1.

Table 7-1. Total Access 1224 Specifications

Specifications	Descriptions
ADSL Loop Interface	
Modulation Type:	Discrete Multi-Tone (DMT)
Mode:	Full Duplex, Non-overlapped
Standards:	T1.413; G.992.1 Annex A; G.992.2 Annex A, G.992.3, G.992.4, G.992.5
Number of Pairs (ADSL + POTS):	24 (one per loop)
Downstream Data Rate:	ADSL: 32 kbps to 8160 kbps in 32 kbps increments ADSL2+: 32 kbps to 32736 kbps in 32 kbps increments
Upstream Data Rate:	ADSL: 32 kbps to 1024 kbps in 32 kbps increments ADSL2+: 32 kbps to 2048 kbps in 32 kbps increments
ADSL Service Range:	18 kft.
Line Fusing:	1.5 amps (not field-replaceable)
Power	
Total Power:	50 watts
System Fusing:	3.0 amps (not field-replaceable)
Tests	
Diagnostics:	Self Test
Physical	
Dimensions:	Height: 1.75 inches Width: 17.25 inches Depth: 11.125 inches
Weight:	10 pounds (aprox)

Table 7-1. Total Access 1224 Specifications (Continued)

Specifications	Descriptions
Environment	
Temperature:	Operating (Standard): –40°C to +70°C Storage: –40°C to +85°C
Humidity:	95% non-condensing
Part Numbers	
Total Access 1224 Quad T1 IMA 24-Port DSLAM:	1179621L1
Replacement Fan:	1179675L1
Replacement Filter:	1179676L1
Replacement Filter Pack (Quantity 20):	1179676L2

Appendix A
Warranty

WARRANTY AND CUSTOMER SERVICE

ADTRAN will replace or repair this product within the warranty period if it does not meet its published specifications or fails while in service. Warranty information can be found at www.adtran.com/warranty.

Refer to the following subsections for sales, support, Customer and Product Service (CAPS) requests, or further information.

ADTRAN Sales

Pricing/Availability:

800-827-0807

ADTRAN Technical Support

Pre-Sales Applications/Post-Sales Technical Assistance:

800-726-8663

Standard hours: Monday - Friday, 7 a.m. - 7 p.m. CST
Emergency hours: 7 days/week, 24 hours/day

ADTRAN Repair/CAPS

Return for Repair/Upgrade:

(256) 963-8722

Repair and Return Address

Contact CAPS prior to returning equipment to ADTRAN.

ADTRAN, Inc.
CAPS Department
901 Explorer Boulevard
Huntsville, Alabama 35806-2807

Carrier Networks Division
901 Explorer Blvd.
Huntsville, AL 35806