Total Access 1248 Expansion DSLAM Installation and Maintenance Practice

Document Number: 61179641L5-5C
CLEI Number: VAMBH00A_ _
September 2007

Trademarks

Any brand names and product names included in this document are trademarks, registered trademarks, or trade names of their respective holders.

To the Holder of the Document

The contents of this document are current as of the date of publication. ADTRAN® reserves the right to change the contents without prior notice.

In no event will ADTRAN be liable for any special, incidental, or consequential damages or for commercial losses even if ADTRAN has been advised thereof as a result of issue of this document.

901 Explorer Boulevard
P.O. Box 140000
Huntsville, AL 35814-4000
(256) 963-8000

Revision History

Revision	Date	Description
A	October 2004	Initial release
B	September 2005	This is the second release of this document. This revision includes an update to software version B02 and an update to the document format.
C	September 2007	This is the third release of this document. This revision includes an update to software version B03.06.01.

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.

Training

ADTRAN offers training courses on our products. These courses include overviews on product features and functions while covering applications of ADTRAN product lines. ADTRAN provides a variety of training options, including customized training and courses taught at our facilities or at customer sites.

For inquiries concerning training, contact ADTRAN:

Training Phone: 800-615-1176, ext. 6996

Training Fax: 256-963-6217

Training Email: training@adtran.com

Contents

Figures

Tables

This page is intentionally blank.

Section 1
Introduction

GENERAL

The Total Access 1248 (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 1248

DESCRIPTION

The Total Access 1248 client (also referred to as “expansion”) unit is a mini-DSLAM that accepts network feeds from a Total Access 1248 host unit.

The Total Access 1248 provides ADSL2+ service for up to 48 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 subscriber 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 subscriber access to the internet.

The Total Access 1248 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 1248 system, refer to “Section 7, Specifications”.

Features

The Total Access 1248 system incorporates the following features:

- Front panel indication of network, subscriber, and power/self-test status
- 48 ports of ADSL2+ plus POTS
- Redundant power inputs
- POTS service is not power dependent
- Removable front-accessible fan module (P/N 1179675L1)
- Supports IMA for up to eight 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 1248 Client chassis to a Host unit
- In-band management of the expansion chassis

Front Panel LEDs

There are six LEDs on the front panel of the Total Access 1248, as shown in Figure 1-2.

- Two LEDs provide status information (**PWR** and **ALM**)
- Two LEDs provide Expansion Port input (**EXPANSION IN**) status
- Two LEDs provide Expansion Port output **(EXPANSION OUT**) status

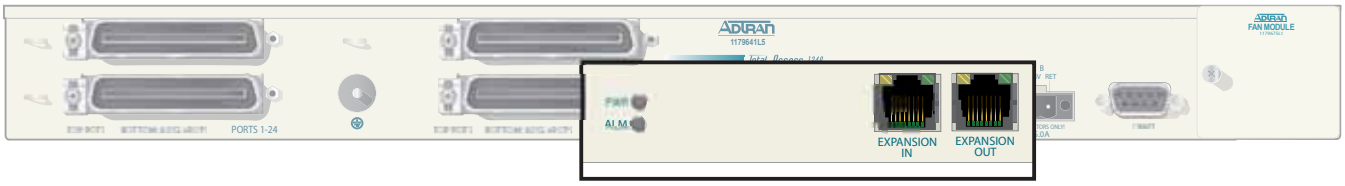

Figure 1-2. Total Access 1248 Front Panel LEDs

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

Table 1-1. Front Panel LEDs

Label	Status	Description
PWR	● Green	Total Access 1248 is In Service
	● Yellow	Total Access 1248 is Out of Service-Maintenance
	● Red	Total Access 1248 Failed self-test
	○ Off	No power present on Total Access 1248
ALM	● Yellow	Total Access 1248 is reporting a Minor alarm
	● Red	Total Access 1248 is reporting a Major alarm
	○ Off	No alarms reported on Total Access 1248
EXPANSION IN	● Green	Connected to an upstream box
	✹ Green Flashing	Connected with traffic
	● Yellow	No signal
EXPANSION OUT	● Green	Connected to a downstream box
	✹ Green Flashing	Connected with traffic
	● Yellow	No signal

Compliance

CAUTION

Electrostatic Discharge (ESD) can damage electronic modules. When handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.

The Total Access 1248 is NRTL listed to the applicable UL standards. The Total Access 1248 meets or exceeds all the applicable requirements of NEBS, Telcordia GR-63-CORE, and GR-1089-CORE.

The Total Access 1248 is intended for deployment in Central Office type facilities, EEEs, EECs, and locations where the NEC applies. Install the Total Access 1248 in a restricted access location. Table 1-2 shows the compliance codes for the Total Access 1248.

Table 1-2. Compliance Codes

Configuration Codes	Input	Output
Power Code (PC)	F	C
Telecommunication Code (TC)	X	X
Installation Code (IC)	A	–

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.

CAUTION

Per GR-1089-CORE the Total Access 1248 is designed and intended for installation as part of a Common Bonding Network (CBN). The Total Access 1248 is not designed nor intended for installation as part of an Isolated Bonding Network (IBN).

CAUTION

Per GR-1089-CORE Section 9, the Total Access 1248 is intended to be deployed in either a DC-C (common) or DC-I (isolated) installation of the Total Access 1248.

CAUTION

The Total Access 1248 Chassis frame ground terminal must be connected to a reliable earth ground.

CAUTION

Connect to a reliably grounded –48 VDC source which is electrically isolated from the AC source. The branch circuit overcurrent protection shall be a fuse or circuit breaker rated minimum 48 VDC, maximum 3 amps.

NOTE

The **POTS** and **ADSL+POTS** ports are classified as Type 1, 3, and 5 as defined in Appendix B of GR-1089-CORE, Issue 4 and meets the lightning and power fault criteria with any primary protector that meets any of the voltage limits of GR-974-CORE or GR-1361-CORE (i.e., carbon blocks, gas tubes, solid states, etc.). Solid-state primary protectors are not recommended as they could affect the signal integrity of the ADSL.

NOTE

Current limiting protectors are not required.

This page is intentionally blank.

Section 2
Application Guidelines

INTRODUCTION

The Total Access 1248 provides 48 ADSL2+ plus POTS ports downstream to the subscriber, local and remote management capabilities, and front panel LEDs that indicate status. Figure 2-1 illustrates an operational scenario for the Total Access 1248.

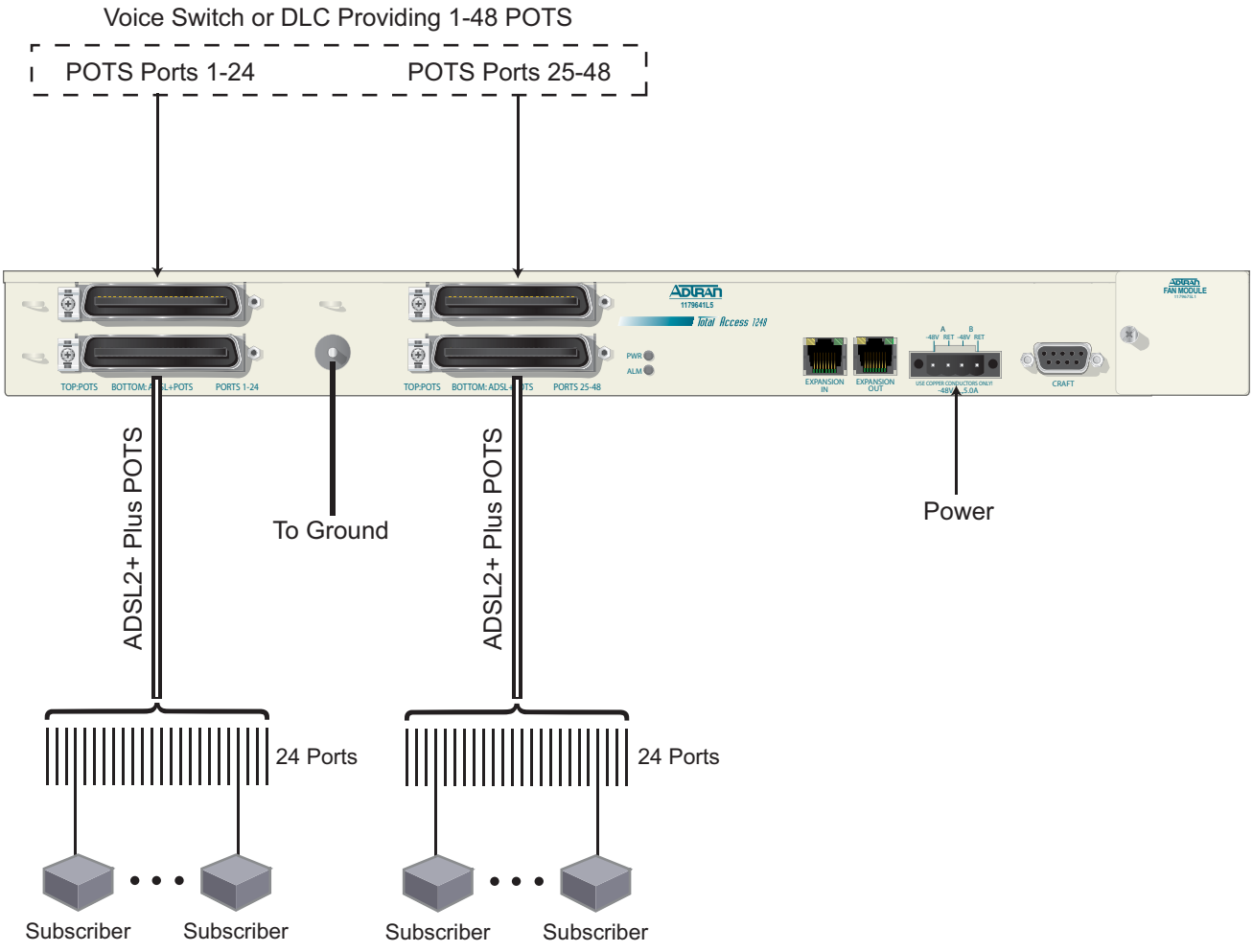

Figure 2-1. Total Access 1248 Operational Scenario

EXPANSION

Up to four Total Access 1248 systems can be connected together (see Figure 2-2). One of the units must be a Total Access 1248 Host unit (e.g., P/N 1179641L4) and the others are Total Access 1248 Client units (P/N 1179641L5).

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 1248 host unit 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 of the host 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.

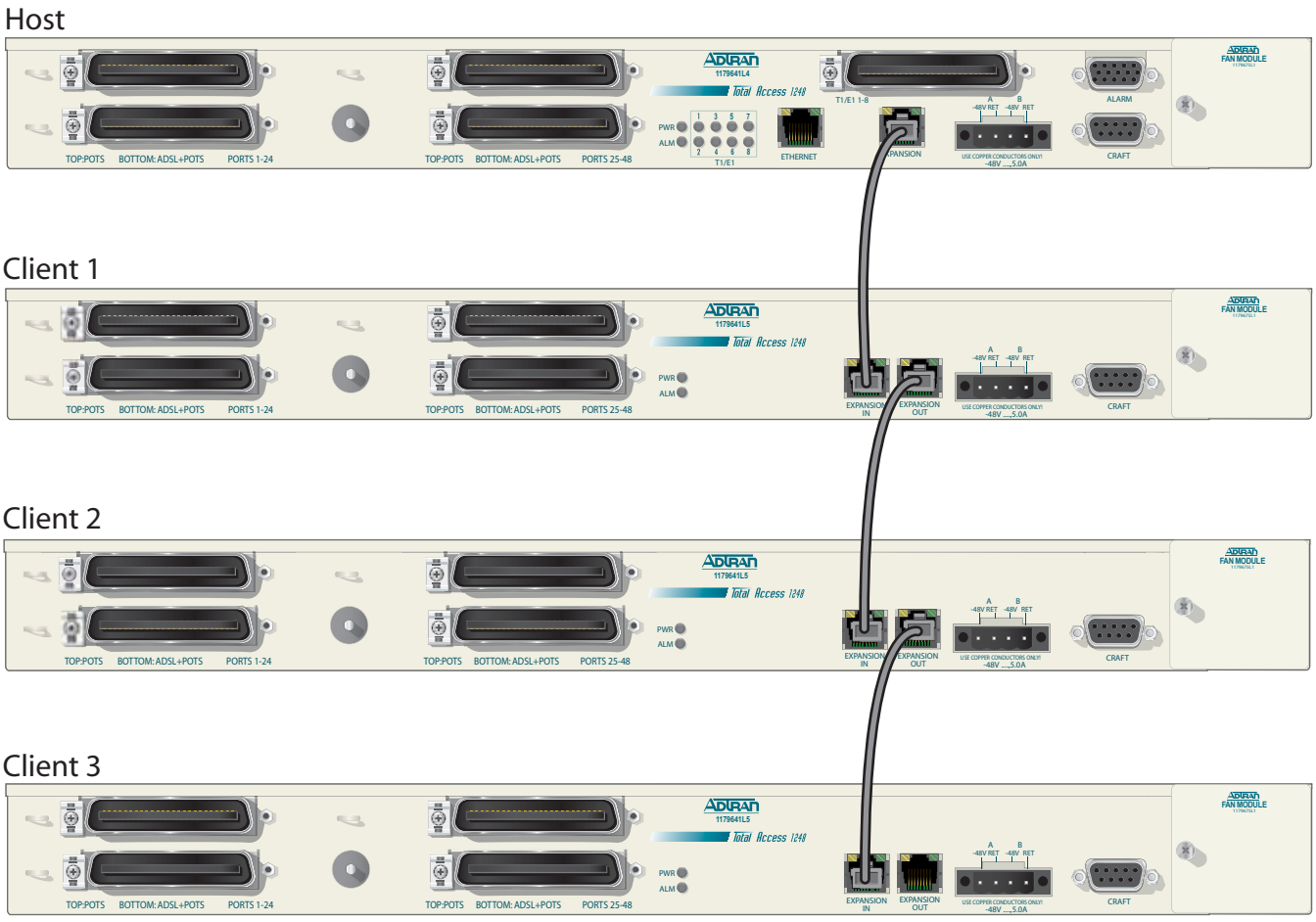

Figure 2-2. Expansion Cabling

Section 3
Installation

INTRODUCTION

CAUTION

Electrostatic Discharge (ESD) can damage electronic units. 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 1248, 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 1248 for repair or for verification of shipping damage.

Shipping Contents

The shipping container for the Total Access 1248 includes the contents shown in Table 3-1.

Table 3-1. Total Access 1248 Shipping Contents

Description	Part Number	Quantity
Total Access 1248 Expansion DSLAM	1179641L5	1
Total Access 1248 Expansion DSLAM Installation and Maintenance Practice	61179641L5-5	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	4

Required Tools

The following tools and materials are required to install the Total Access 1248:

- 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 1248:

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

CAUTION

The maximum power draw for the Total Access 1248 system is 75 watts.

ADTRAN recommends an external fuse rated at 3.0 amps.

INSTALLATION STEPS

The following steps are required to install the Total Access 1248. 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 1248 system with the appropriate hardware.

   For detailed information, refer to "Mounting the Total Access 1248" on page 3-4.

2. Ground the Total Access 1248.

   For detailed information, refer to "Ground Connection" on page 3-7.

3. Make the power connections to the Total Access 1248.

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

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

   For detailed information, refer to "ADSL2+ Plus POTS Connections" on page 3-10.

5. Turn-up the Total Access 1248.

   For detailed information, refer to the Host unit Installation and Maintenance Practice.

Mounting the Total Access 1248

The Total Access 1248 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 1248 mounting bracket installation options. Four screws (supplied with the unit) are required for mounting the brackets to the system.

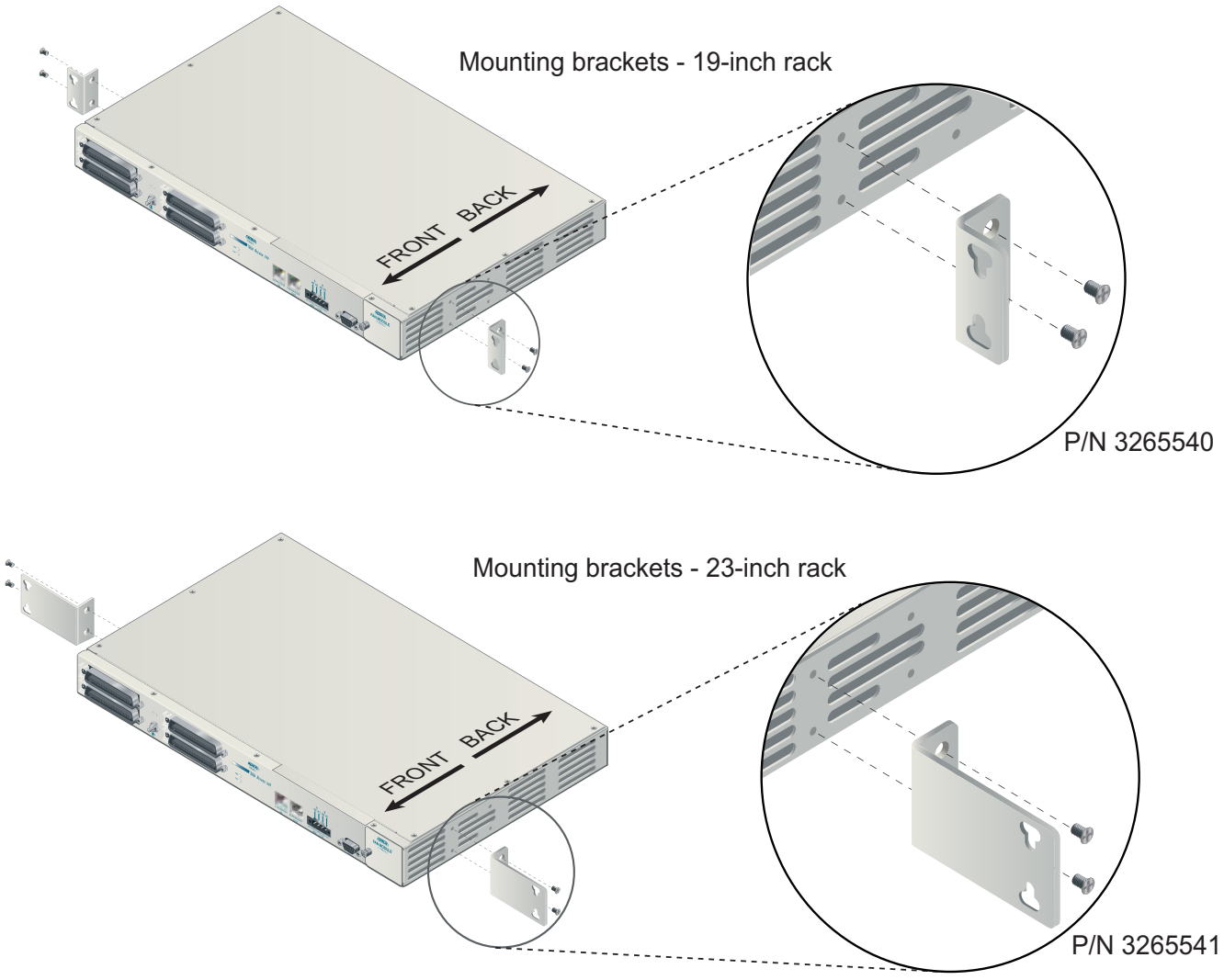

Figure 3-1. Mounting Brackets

Flush-mount

For flush-mount systems, the Total Access 1248 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 1248 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 1248.

Using four screws appropriate for the mounting rack and the appropriate screwdriver, secure the Total Access 1248 in place on the rack.

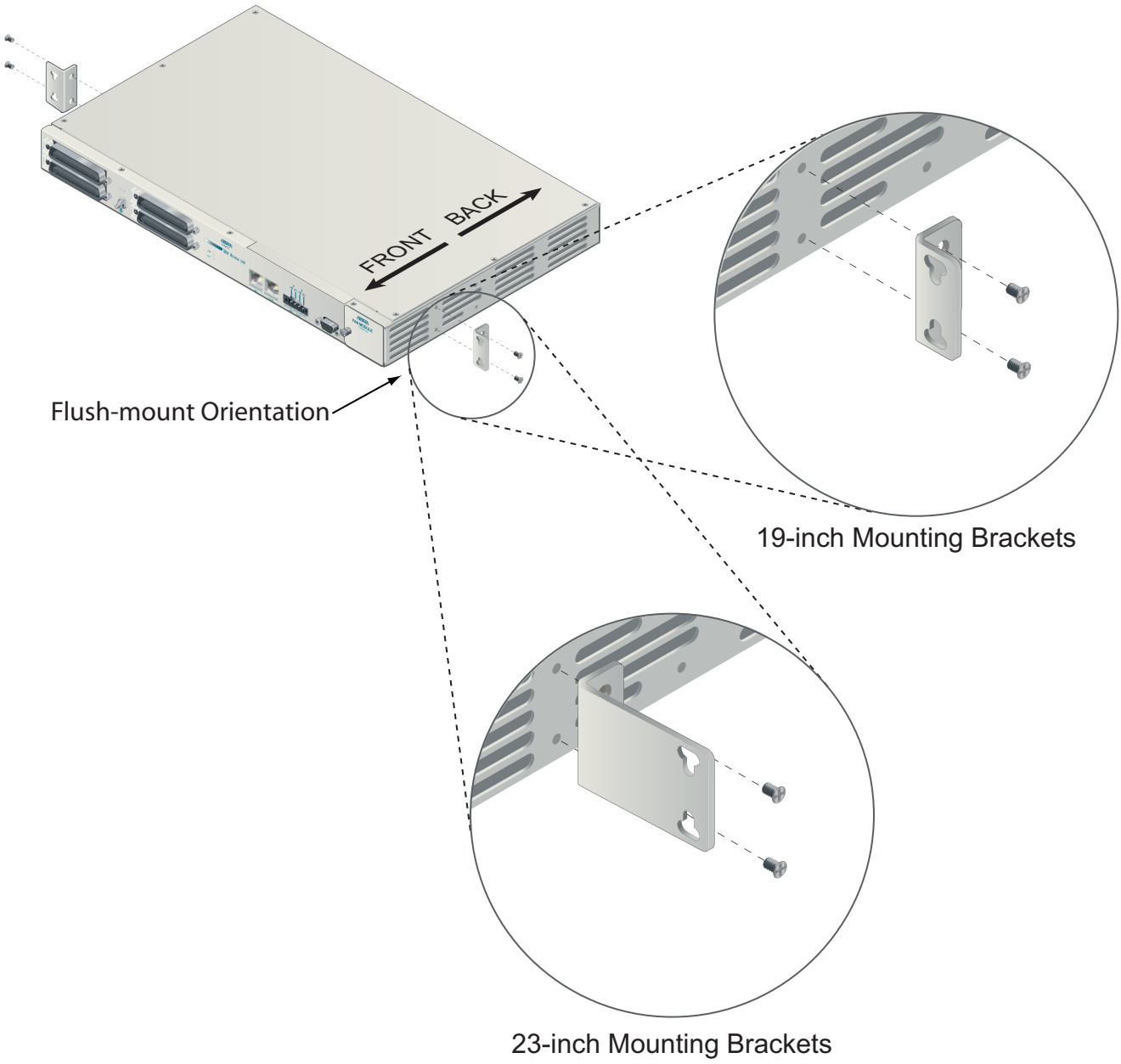

Figure 3-2. Flush-mount Orientation

Mid-mount

For mid-mount systems, the Total Access 1248 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 1248 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 1248.

Using four screws appropriate for the mounting rack and the appropriate screwdriver, secure the Total Access 1248 in place on the rack.

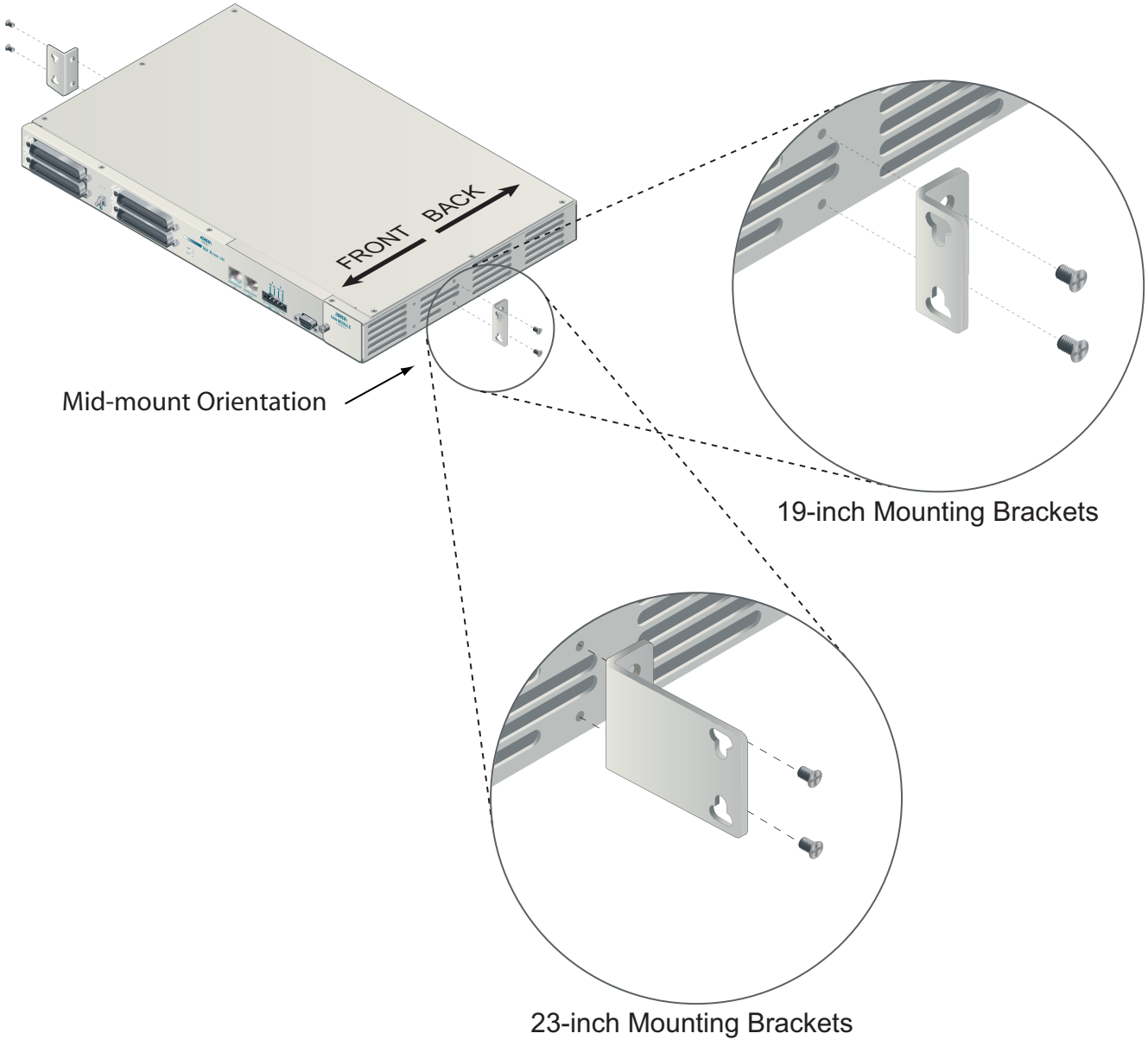

Figure 3-3. Mid-mount Orientation

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 1248 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 1248 (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.

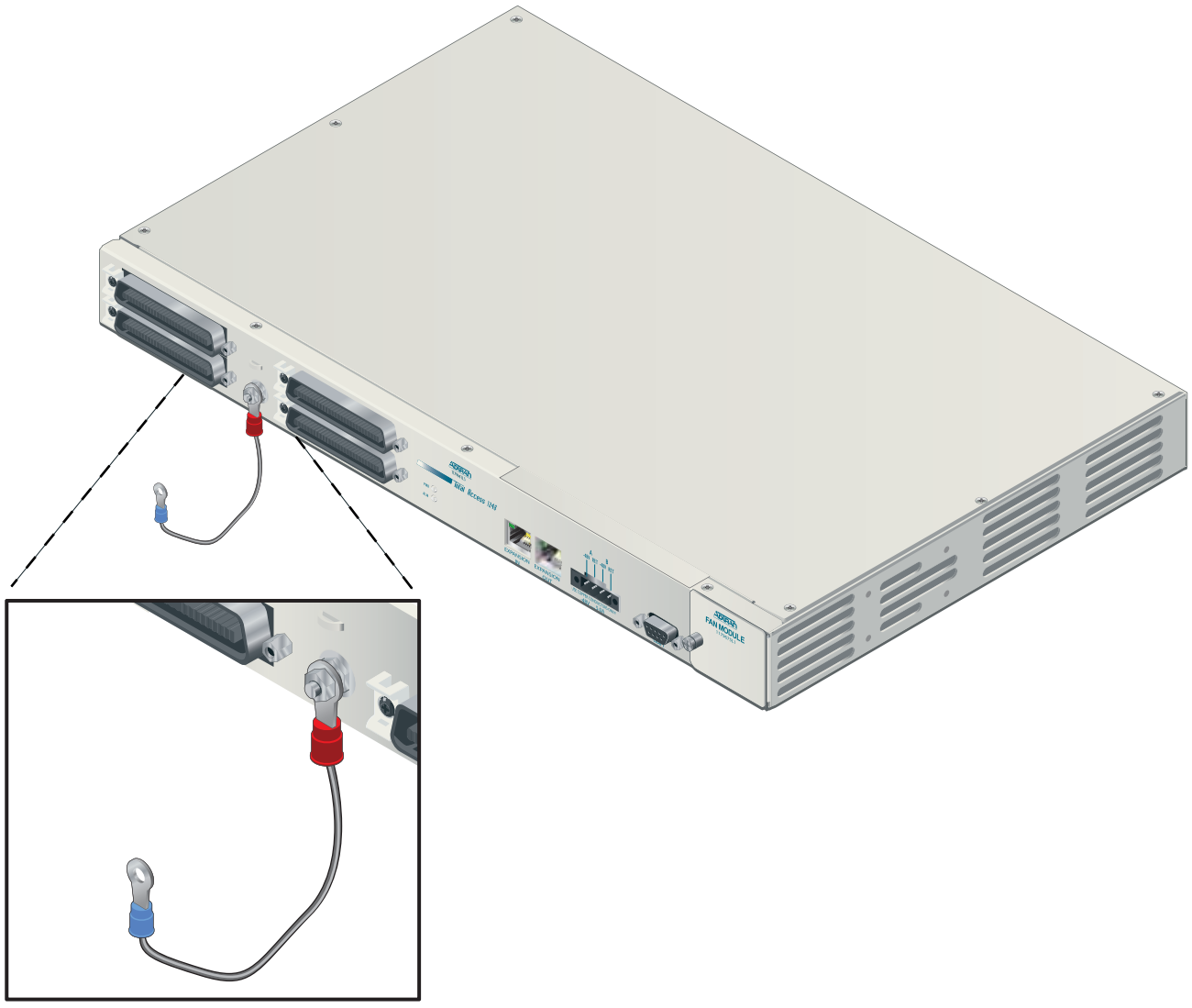

Figure 3-4. Total Access 1248 Ground Connection

Power Connection

The Total Access 1248 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 1248 uses a four-point terminal block (see Figure 3-5) to accept the –48 VDC and –48 VDC RET leads.

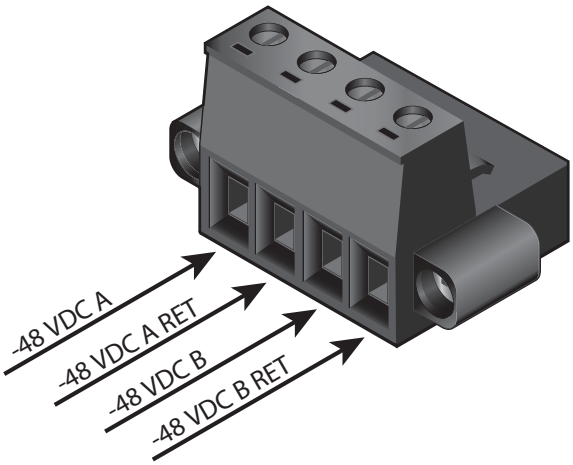

Figure 3-5. Four-point Terminal Block

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 wire.

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 1248 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 1248 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 1248 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.

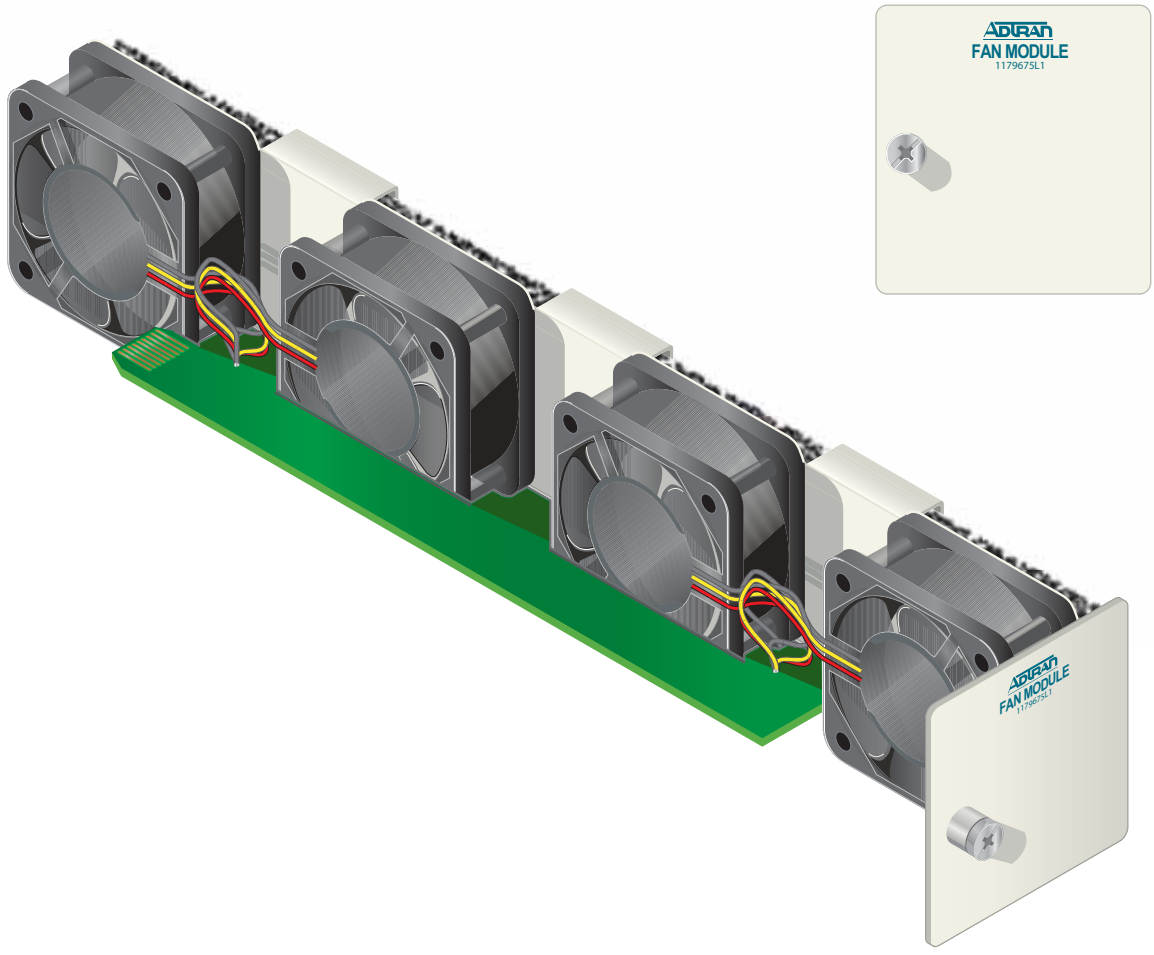

Figure 3-6. Total Access 1248 Fan Module

ADSL2+ Plus POTS Connections

The Total Access 1248 utilizes four 25-pair amphenol connectors (see Figure 3-7), which are used as follows:

- Two are for connection to the POTS pairs
- Two are for connection to the ADSL2+ plus POTS pairs

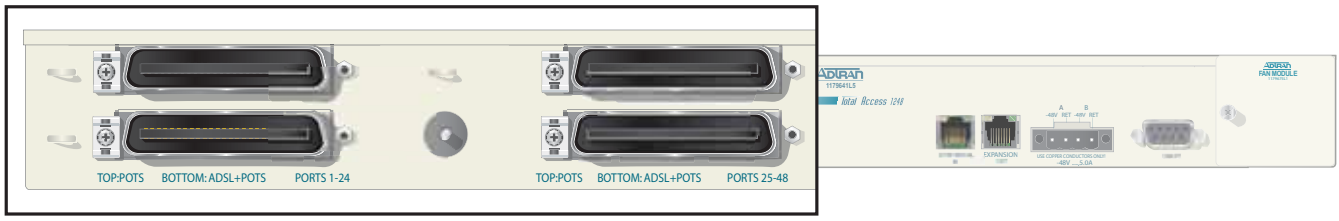

Figure 3-7. Total Access 1248 POTS and ADSL+POTS Connections

POTS Interface

Each POTS interface on the Total Access 1248 accepts a POTS signal from the Central Office (CO) and passes it through to the ADSL2+ plus POTS interface for delivery to the subscriber. 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 CO to the subscriber. The frequency ranges for Total Access 1248 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 1248 must be connected to a POTS source to provide POTS to the subscribers. In a standard configuration, the POTS will be brought in from a nearby cross-connect. The Total Access 1248 accepts the POTS signal on the top two amphenol connectors labeled **POTS**. There is a one-to-one correlation between the pins on the POTS amphenol connectors and the pins on the ADSL2+ plus POTS (**ADSL + POTS**) amphenol connectors. 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 cables with the 25-pair female amphenol connectors to the male amphenol connectors provided, labeled **POTS**.
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 1248 provides 48 ADSL2+ plus POTS ports on two 50-pin male amphenol connectors. POTS is brought in from the CO on the POTS amphenol connectors 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 subscriber.

There is a one-to-one correlation between the pins on the ADSL2+ plus POTS amphenol connectors and the pins on the POTS amphenol connectors. 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 connectors to the male amphenol connectors provided, labeled **ADSL + POTS**.
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 3-2 and Table 3-3.

Table 3-2. 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

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

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

TOTAL ACCESS 1200F CONVERSION

CAUTION

The order of subtended Total Access 1200 Series DSLAMS must be preserved when connecting to the Total Access 1200F for translation to the legacy ATM mode PVCs. See Table 3-4.

Table 3-4. Order of Subtended Clients

Total Access 1200F Expansion Port	Total Access 1200 Series Client
1	Total Access 1100 Series Host (Client 1)
2	Client 2
3	Client 3
4	Client 4

Existing Total Access 1200 Series DSLAM installations require a software upgrade to convert the Total Access 1200 Series DSLAMs to function with a Total Access 1200F.

To upgrade each Total Access 1200 Series DSLAM, perform the following steps:

CAUTION

Upgrading the firmware disrupts DSL service to the customer.

1. Connect a VT100-capable laptop/terminal to the **CRAFT** port of a Total Access 1200 Series DSLAM (see Figure 3-8 for the location of the **CRAFT** port).

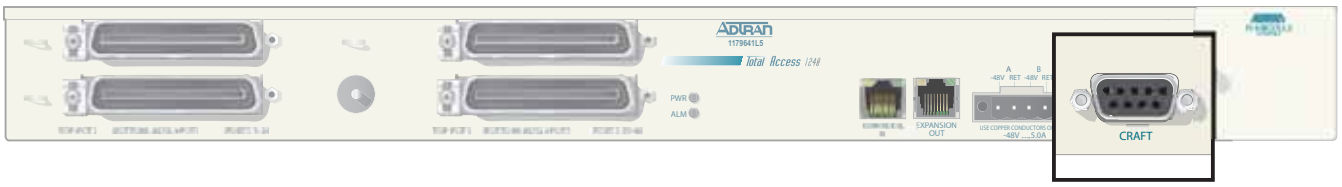

Figure 3-8. Total Access 1100 Series DSLAM Craft Port

2. Set the terminal baud rate to 9600 baud, 8 data bits, no parity, 1 stop bit, and no flow control.

NOTE

The 4-MB Flash Upgrade *must* be made at 9600 baud.

3. Press and hold the Y key on the terminal keyboard and apply power to the Total Access 1200 Series DSLAM.
4. When prompted, select 38400 for a faster transfer rate (20 minutes at 38400 compared to 60 minutes at 9600).

   If using HyperTerminal, go off-line, select properties, change the baud rate, then go back online. VT100 settings should be set as follows:

   - Baud Rate: 38400
   - Data Bits: 8
   - Parity: None
   - Stop Bits: 1
   - Flow Control: None

   If properly connected, a row of CCCCs should begin to display on the screen.
5. Download the current file identified by network administration using the Y-Modem protocol.

   If using HyperTerminal, use the Transfer > Send File... Browse... dialogue and identify the file by name and location. Select YModem, then click Send.
6. Several messages are displayed that report system progress for the upgrade procedure, including the following:

   - `Erasing Flash`
   - `Erase Complete`
   - `Programming Flash`
   - `Programming Complete`
   - `Comparing Flash to SDRAM`
   - `Verify Done`
   - `Please set Baud Rate to 9600 and Reboot Unit Now`
7. Reboot the Total Access 1200 Series DSLAM when the download is completed.
8. Repeat steps 1 through 7 for each Total Access 1200 Series DSLAM.
9. Connect the Total Access 1200F expansion cables at the DSLAM end.
10. Provision, test, and turn up the equipment. Refer to “Section 4, Provisioning Defaults” and “Section 5, User Interface” of the *Total Access 1200F Installation and Maintenance Practice* (P/N 61179660L1-5) for detailed instructions on provisioning the equipment.

NOTE

Access to the Total Access 1200 Series units is now available through the Total Access 1200F craft access of Inband Management access ports.

Section 4
Provisioning Defaults

INTRODUCTION

The Total Access 1248 system default provisioning options are shown in Table 4-1. For T1, IMA, SNMP, and ATM provisioning, refer to the Installation and Maintenance Practice for the host Total Access 1248 system.

For detailed information on the Total Access 1248 menus, refer to "Section 5, User Interface".

Table 4-1. Default Provisioning Options

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
Baud Rate		
Current Baud Rate	9600; 19200; 38400 bps	9600 bps

This page is intentionally blank.

Section 5
User Interface

INTRODUCTION

This section provides detailed information on the following:

SYSTEM MANAGEMENT

Total Access 1248 system management and provisioning is facilitated by a series of intuitive menus that are accessible on a computer screen. The Total Access 1248 provides two methods for management access:

Craft Interface

Connection to the Total Access 1248 system menus can be made through the DB-9 connector, labeled **CRAFT** (see Figure 5-1), on the front of the Total Access 1248 system. A DB-9 straight cable is required.

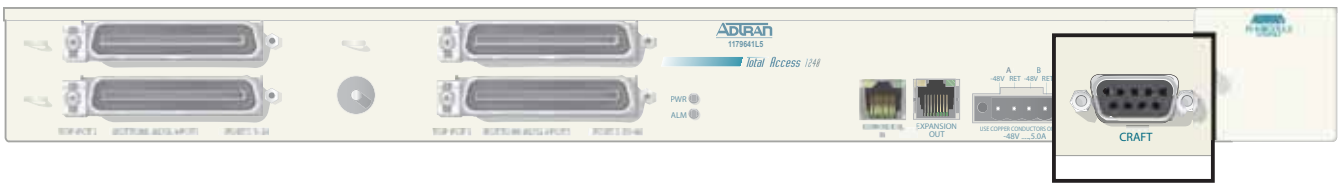

Figure 5-1. Craft Port Location

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 1248.

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 1248. Make connection to the PC or laptop as appropriate for the equipment.

Inband Management Interface

To access the Total Access 1248 through the inband management method, use an appropriate Telnet client to access the management interface of the Total Access 1248 host at the configured IP address. For detailed information, refer to the Total Access 1248 host unit Installation and Maintenance Practice.

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 1248

To logon to the Total Access 1248 system, perform the following steps:

1. Establish the physical connection to the Total Access 1248.
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).

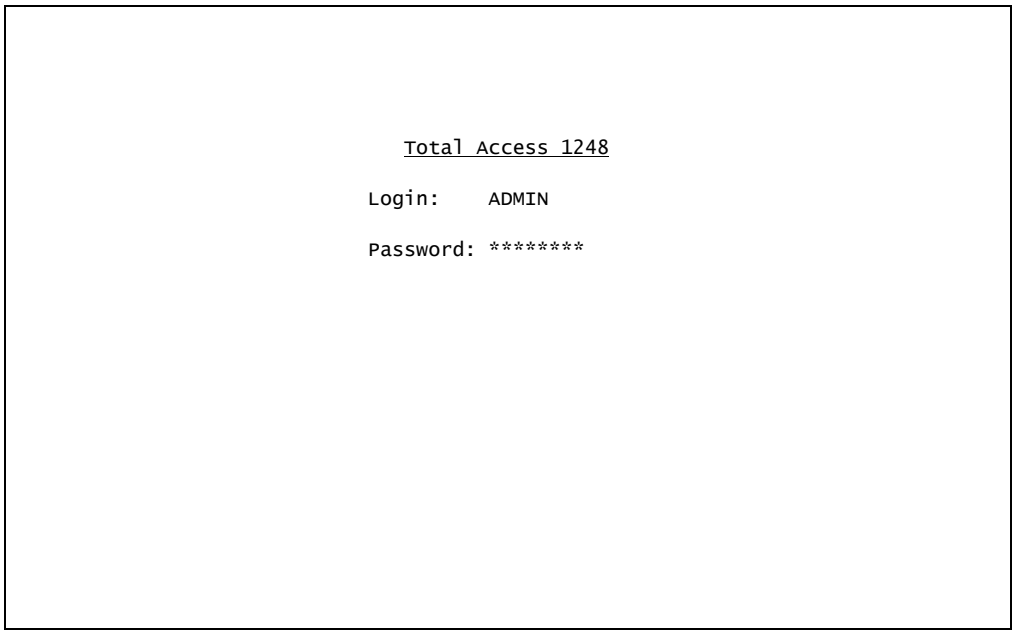

Figure 5-2. Login Screen

NOTE

The Total Access 1248 system requires a username and associated password.

4. Enter the default username, “ADMIN” (or the configured 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 5-13.

MENU STRUCTURE

The menu structure for the Total Access 1248 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 1248.
- 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 1248.
- 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, and press ENTER.

Hot Keys

Table 5-1 shows the general keyboard commands, and Table 5-2 shows the menu specific hot keys for the Total Access 1248 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.
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
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.
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.

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

Hot Key	Description
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.

MENU TREE

There are a number of menu screens designed to aid in the maintenance and troubleshooting of the Total Access 1248 system. The Total Access 1248 system menu tree (see Figure 5-3) is a visual map that can be used to locate configuration information and provisioning options.

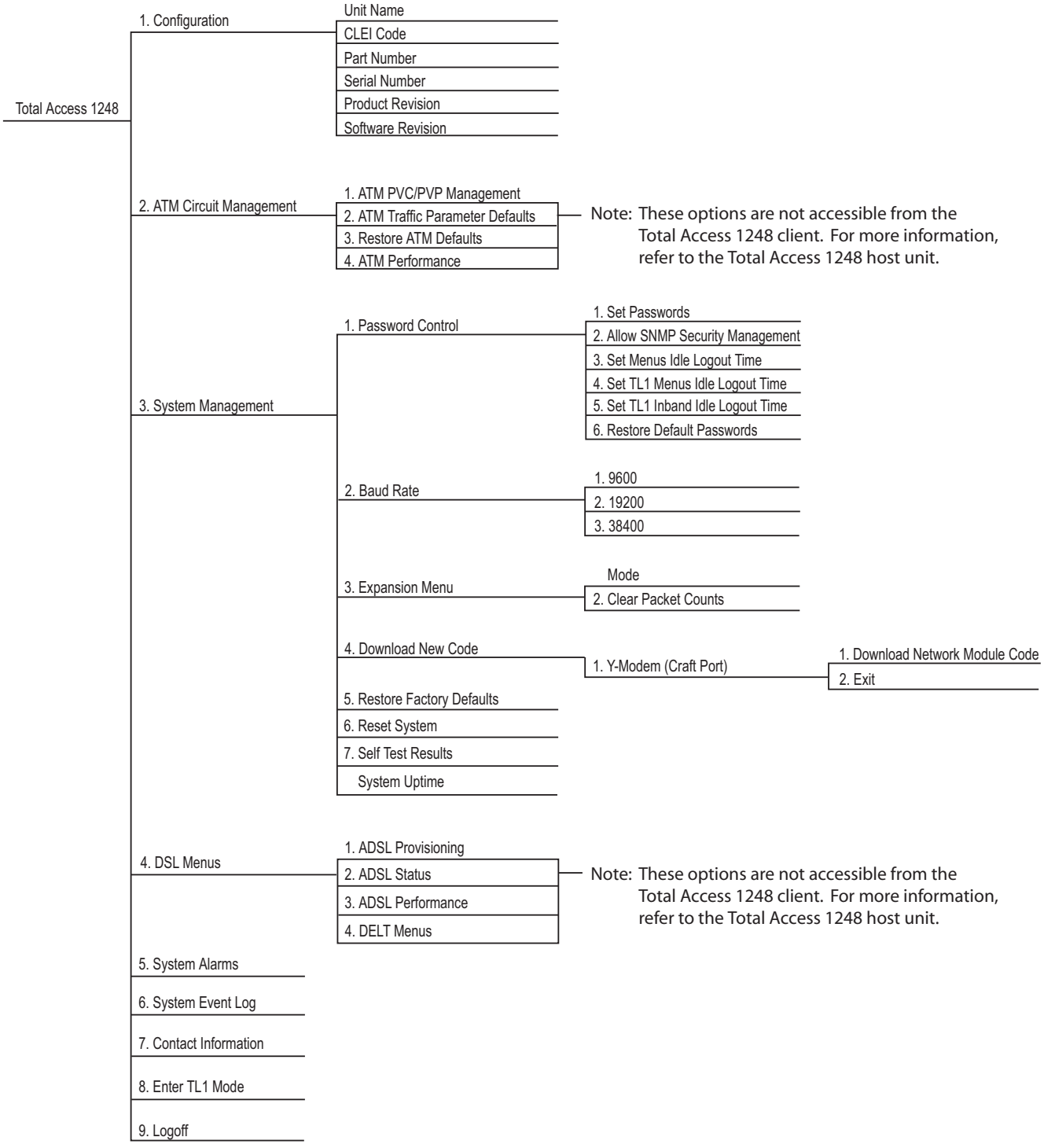

Figure 5-3. Total Access 1248 Menu Tree

MENU DESCRIPTIONS

Main Menu\

The Total Access 1248 Main menu (see Figure 5-4) 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.

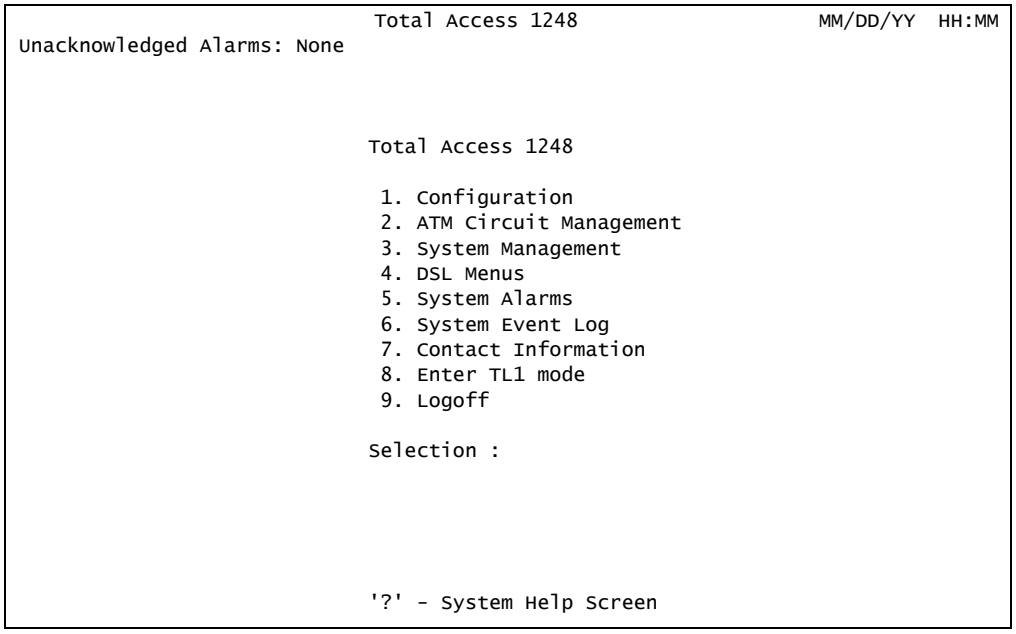

Figure 5-4. Total Access 1248 Main Menu

The Total Access 1248 Main menu options are shown in Table 5-3.

Table 5-3. Total Access 1248 Main Menu Options

Option	Description	Function
1	Configuration	This option displays the "Configuration Screen" on page 5-10.
2	ATM Circuit Management	ATM circuits cannot be viewed from a client shelf. Logon to the Total Access 1248 host unit to view this data.
3	System Management	This option displays the "System Management Menu" on page 5-11.
4	DSL Menus	This option displays the "DSL Menus" on page 5-23.
5	System Alarms	This option displays the "System Alarm Log Screen" on page 5-24.
6	System Event Log	This option displays the "System Event Log Screen" on page 5-25.
7	Contact Information	This option displays the "Contact Information Screen" on page 5-26.
8	Enter TL1 Mode	This option displays the "TL1 Mode Screen" on page 5-27.
9	Logoff	This option is used to end a Total Access 1248 menu session.

Configuration Screen

Main Menu\Configuration

The Configuration screen (see Figure 5-5) 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 can be required when calling the ADTRAN Technical Support.

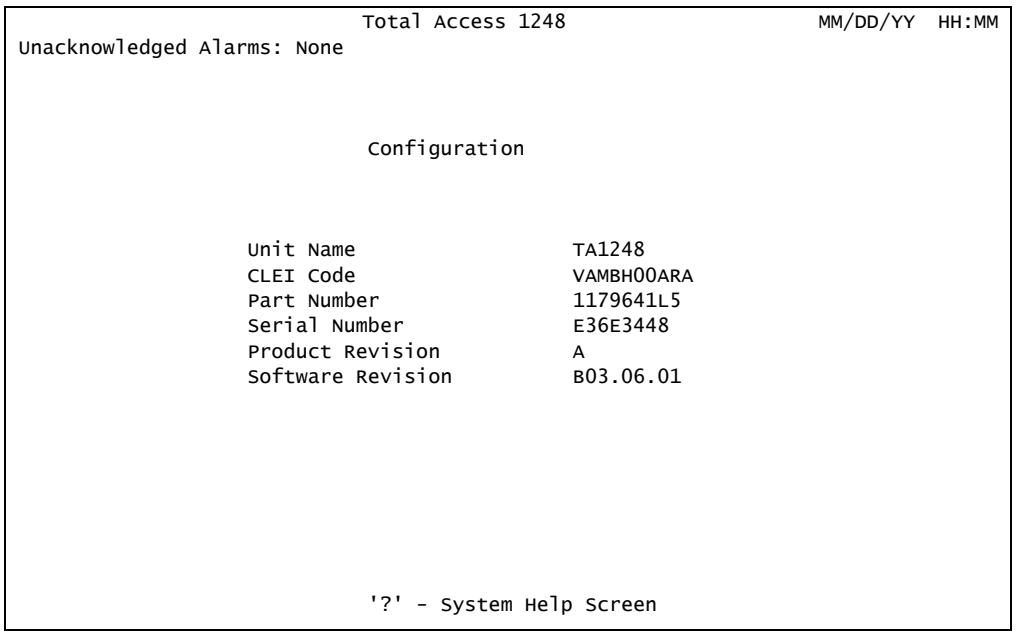

Figure 5-5. Configuration Screen

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 1248.
CLEI Code	This field displays the Common Language Equipment Identifier (CLEI) code of the Total Access 1248.
Part Number	This field displays the part number of the Total Access 1248.
Serial Number	This field displays the serial number of the Total Access 1248.
Production Revision	This field displays the current product revision of the Total Access 1248.
Software Revision	This field displays the software revision of the Total Access 1248. This field updates automatically when a software download is completed.

System Management Menu

Main Menu\System Management

The System Management menu (Figure 5-6) is used to manage system settings. The following subsections describe these settings in detail.

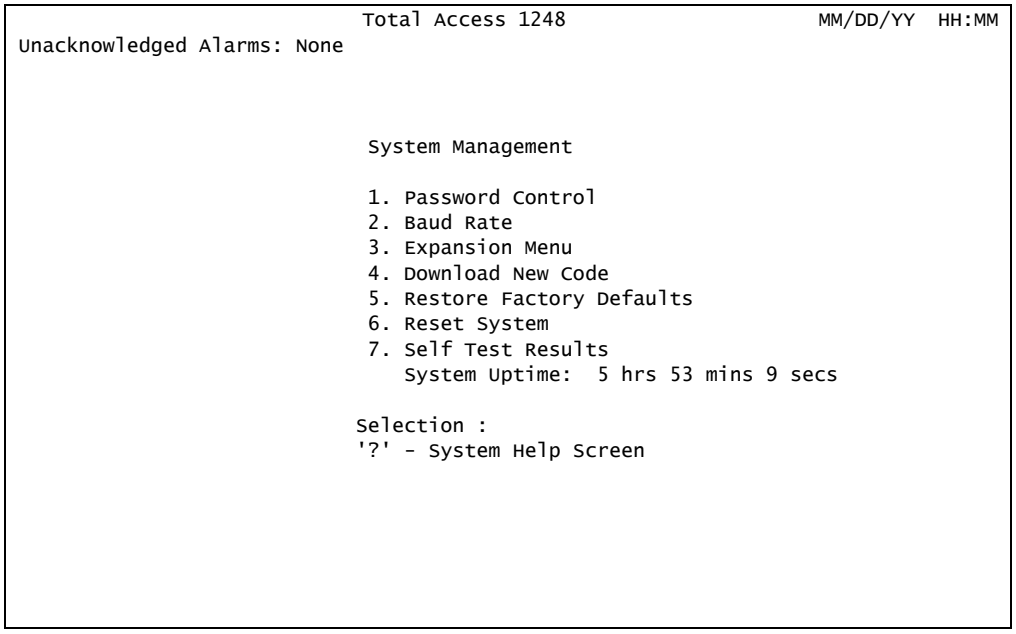

Figure 5-6. System Management Menu

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

Table 5-5. System Management Menu Options

Option	Description	Function
1	Password Control	This option displays the "Password Control Menu" on page 5-13.
2	Baud Rate	This option displays the "Current Baud Rate Menu" on page 5-16.
3	Expansion Menu	This option displays the "Expansion Menu" on page 5-17.
4	Download New Code	This option displays the "Download New Code Menu" on page 5-18.
5	Restore Factory Defaults	This option displays the "Restore Factory Defaults Menu" on page 5-20.

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

Option	Description	Function
6	Reset System	This option displays the "Reset System Menu" on page 5-21.
7	Self Test Results	This option displays the "Self Test Screen" on page 5-22.
N/A	System Uptime	This field displays the length of time the Total Access 1248 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 (Figure 5-7) is used to set and modify passwords, logout times, and restore default passwords. The system provides up to eleven user accounts.

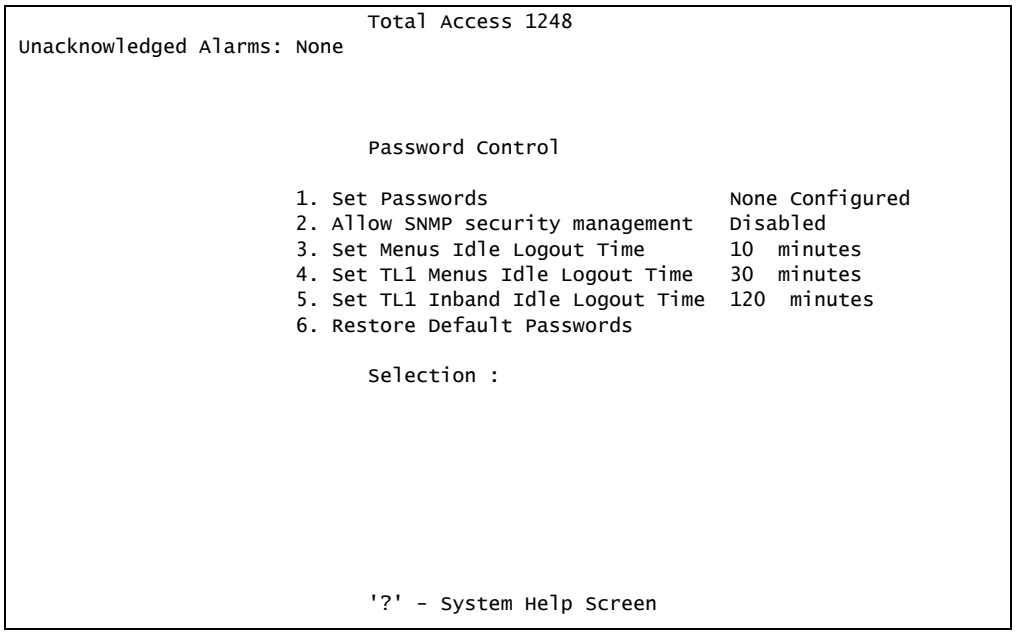

Figure 5-7. Password Control Menu

The Password Control menu options are shown in Table 5-6.

Table 5-6. Password Control Menu Options

Option	Description	Function
1	Set Passwords	This option displays the "Password Control Levels Screen" on page 5-14.
2	Allow SNMP Security Management	This option displays the "Allow SNMP Security Management" on page 5-15.
3	Set Menus Idle Logout Time	This option displays the "Set Menus Idle Logout Time" on page 5-15.
4	Set TL1 Menus Idle Logout Time	This option displays the "Set TL1 Menus Idle Logout Time" on page 5-15.
5	Set TL1 Inband Idle Logout Time	This option displays the "Set TL1 Inband Idle Logout Time" on page 5-15.
6	Restore Default Passwords	This option displays the "Restore Default Passwords" on page 5-15.

Password Control Levels Screen

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

The Password Control Levels screen (see Figure 5-8) is used to manage the usernames and associated passwords that access the system.

```
                                Total Access 1248
Unacknowledged Alarms: None



                              Password Control Levels
 Username        Password                Access Level          Status
 READONLY                                Read Only             Active-Default
 READWRITE                               Technician            Active-Default
 ADMIN                                   System Administrator  Active-Default
 Test            ********                Read Only             Active
                                         Read Only             Inactive
                                         Read Only             Inactive
                                         Read Only             Inactive
                                         Read Only             Inactive
                                         Read Only             Inactive
                                         Read Only             Inactive
                                         Read Only             Inactive




Press space bar to change Status
```

Figure 5-8. Password Control Levels Screen

The password control levels for the default usernames are shown in Table 5-7.

Table 5-7. 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 is 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 is 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 is 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 is 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 Time

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.

Current Baud Rate Menu

Main Menu\System Management\Current Baud Rate

The Current Baud Rate menu (see Figure 5-9) displays the current baud rate. The default management port baud rate is 9600 bps.

```
                          Total Access 1248                    MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                          Current Baud Rate: 38400
      Baud Rate change is instantaneous, remember to adjust your terminal
                          1. 9600
                          2. 19200
                          3. 38400

                          Selection :









                          '?' - System Help Screen
```

Figure 5-9. Current Baud Rate Menu

The Current Baud Rate menu options are shown in Table 5-8.

Table 5-8. 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.

Expansion Menu

Main Menu\System Management\Expansion

The Expansion Menu (Figure 5-10) is used to enable or disable expansion capabilities for up to four Total Access 1248 units (one host and three clients). The expansion mode should only be enabled on the host units.

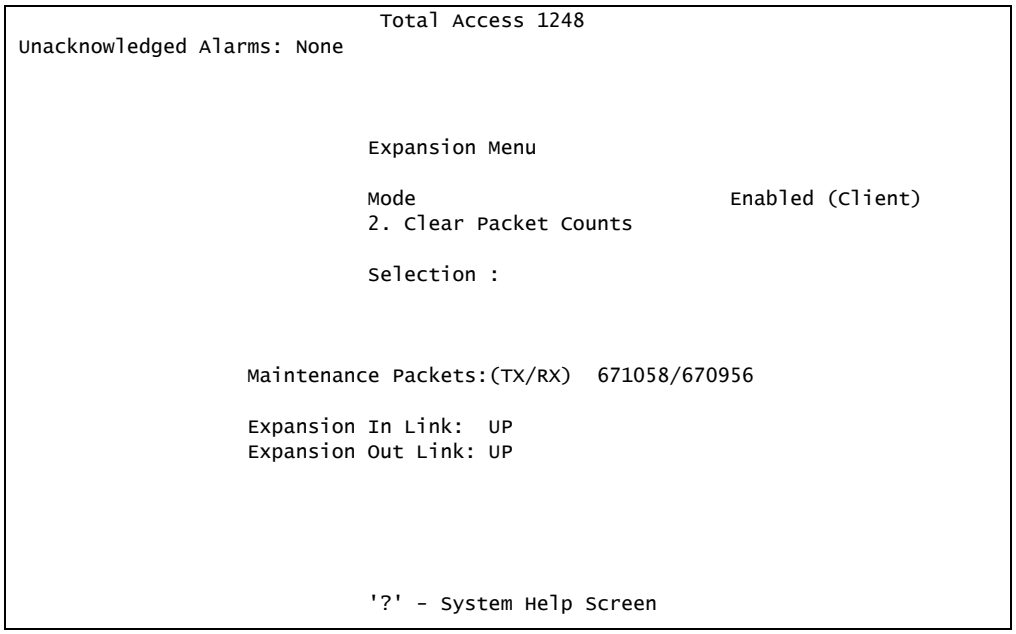

Figure 5-10. Expansion Menu

The Expansion Menu option is shown in Table 5-9. The Expansion Menu fields are shown in Table 5-10.

Table 5-9. Expansion Menu Options

Option	Description	Function
2	Clear Packet Counts	This option is used to clear all packet counts.

Table 5-10. Expansion Menu Fields

Field	Description
Mode	This field displays the mode status: Enabled (Client) or Disabled.
Maintenance Packets	This field displays the number of packets that have been transmitted and received.
Expansion In Link	This field displays the status of the incoming expansion link.
Expansion Out Link	This field displays the status of the outgoing expansion link.

Download New Code Menu

Main Menu\System Management\Download New Code

The Download New Code menu displays one method to download code:

- Y-Modem

CAUTION

Downloading new code is service affecting.

Y-Modem Menu

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

The Y-Modem menu (see Figure 5-11) is used to download code stored from a computer to the Total Access 1248 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 5-16.

```
                              Total Access 1248                    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 5-11. 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.

Restore Factory Defaults Menu

Main Menu\System Management\Restore Factory Defaults

The Restore Factory Defaults menu (see Figure 5-12) 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.

```
                              Total Access 1248                    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 5-12. Restore Factory Defaults Menu

The Restore Factory Defaults menu options are shown in Table 5-11.

Table 5-11. 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 5-11. The factory defaults are not restored.

Reset System Menu

Main Menu\System Management\Reset System

The Reset System menu (see Figure 5-13) 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.

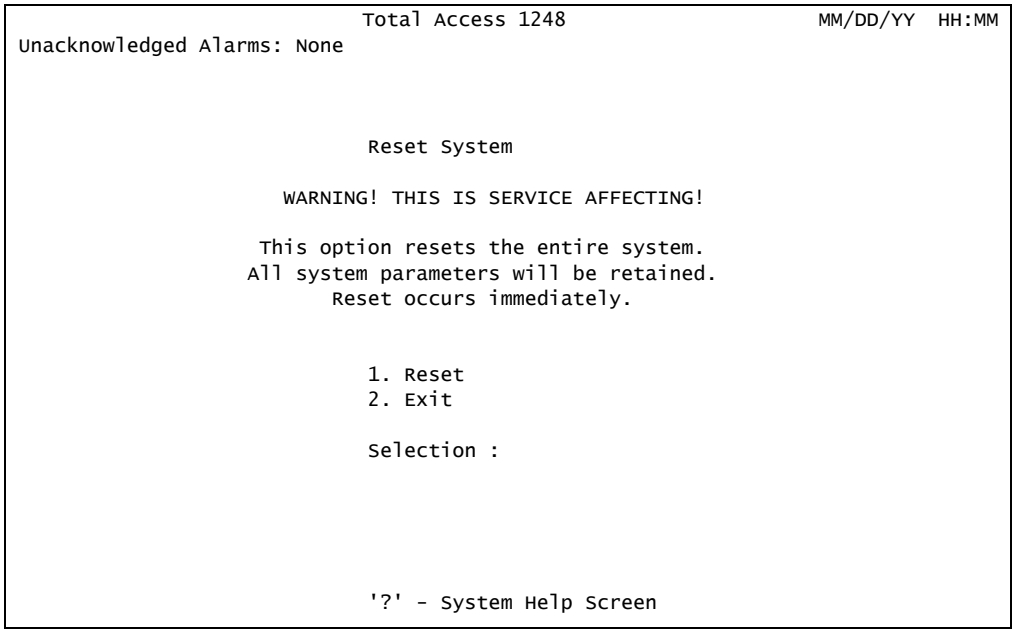

Figure 5-13. Reset System Menu

The Reset System menu options are shown in Table 5-12.

Table 5-12. Reset System Menu Options

Option	Description	Function
1	Reset	This option reboots the Total Access 1248. All system options are retained.
2	Exit	This option returns the display to the "System Management Menu" on page 5-11. The system does not reboot.

Self Test Screen

Main Menu\System Management\Self Test

The Self Test screen (see Figure 5-14) displays ROM, RAM, and EEPROM test results after a reboot of the Total Access 1248 system. If any tests result in a failed status, the word "Failed" displays next to that test and the **PWR** LED turns red.

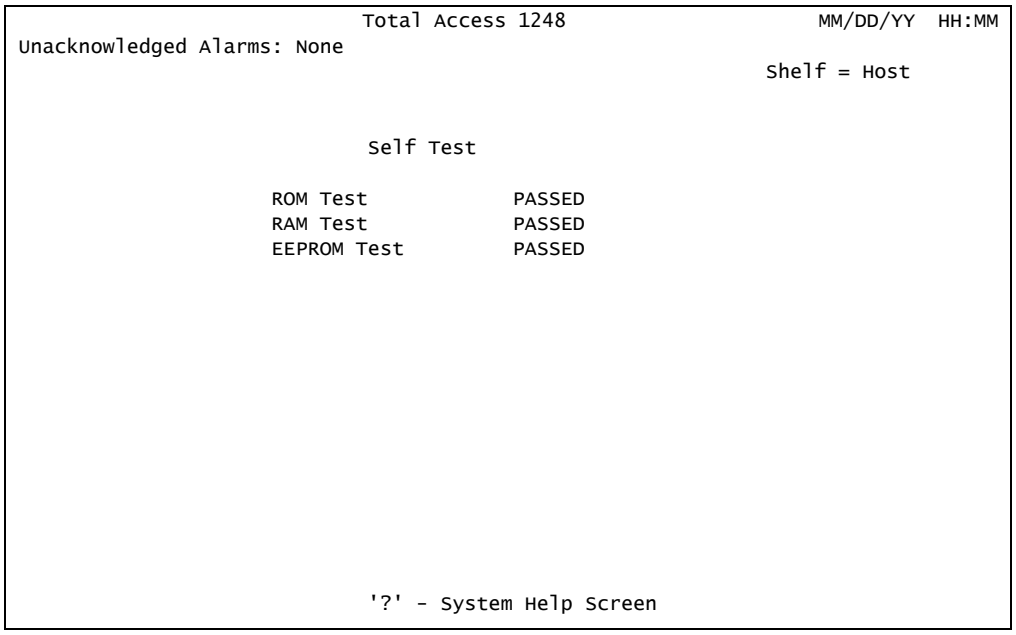

Figure 5-14. Self Test Screen

DSL Menus

Main Menu\DSL Menus

Each of the 48 DSL lines has a number of configurable settings. 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 (Figure 5-15) break down the ADSL options between provisioning, status, and performance.

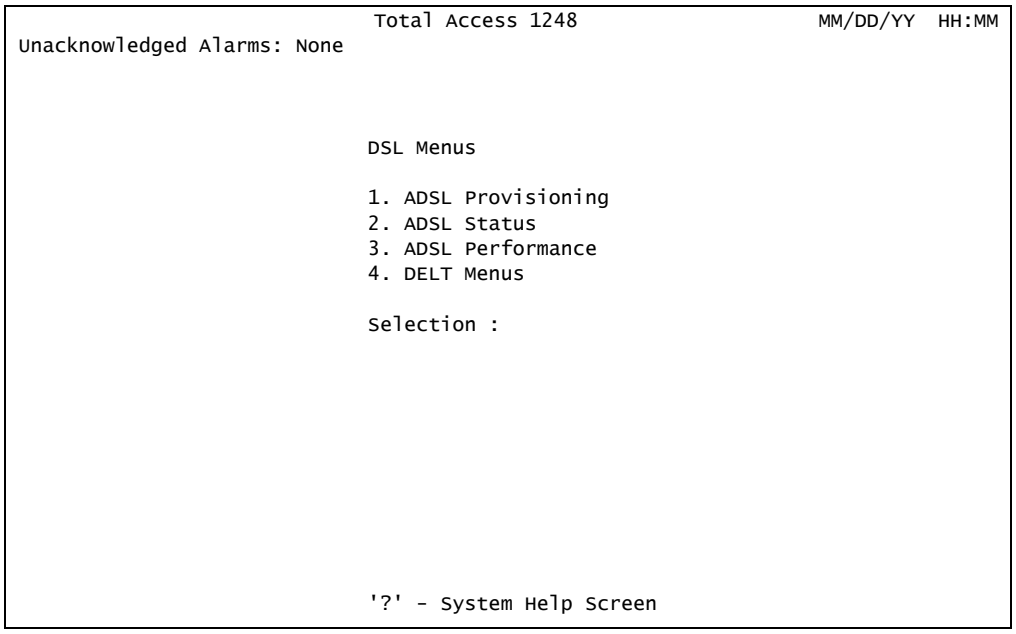

Figure 5-15. DSL Menus

The DSL Menus menu options are shown in Table 5-13.

Table 5-13. DSL Menus Menu Options

Option	Description	Function
1	ADSL Provisioning	This option is not accessible on the Total Access 1248 client. Logon to the Total Access 1248 host unit to access this information.
2	ADSL Status	This option is not accessible on the Total Access 1248 client. Logon to the Total Access 1248 host unit to view this information.
3	ADSL Performance	This option is not accessible on the Total Access 1248 client. Logon to the Total Access 1248 host unit to view this information.
4	DELT Menus	This option is not accessible on the Total Access 1248 client. Logon to the Total Access 1248 host unit to view this information.

System Alarm Log Screen

Main Menu\System Alarm Log

The Total Access 1248 system provides a system alarm log for monitoring alarms. To view the System Alarm Log screen (Figure 5-16), select System Alarms from the Main menu, and press ENTER.

```
                              Total Access 1248                    MM/DD/YY  HH:MM
Unacknowledged Alarms: None

System Alarm Log                      Alarms:  1 to 8 of 8       Page:  1 of  1

Date     Time     Level    Description                                   Status
MM/DD/YY HH:MM:SS Info     Download to DSP 6 completed                   Active
MM/DD/YY HH:MM:SS Info     Download to DSP 5 completed                   Active
MM/DD/YY HH:MM:SS Info     Download to DSP 4 completed                   Active
MM/DD/YY HH:MM:SS Info     Download to DSP 3 completed                   Active
MM/DD/YY HH:MM:SS Info     Download to DSP 2 completed                   Active
MM/DD/YY HH:MM:SS Info     Download to DSP 1 completed                   Active
MM/DD/YY HH:MM:SS Info     System Boot                                   Active
MM/DD/YY HH:MM:SS 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 5-16. System Alarm Log Screen

The System Alarm Log hot keys are shown in Table 5-14.

Table 5-14. 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 5-17) provides non-volatile storage of system events.

```
                              Total Access 1248                    MM/DD/YY  HH:MM
Unacknowledged Alarms: None

System Event Log                  Events:   1 to  10 of  10       Page:  1 of  1

#   Date     Time     Event Description                       Conn   User Name
  1 MM/DD/YY HH:MM:SS Login                                   Craft  ADMIN
  2 MM/DD/YY HH:MM:SS Logout                                  Craft  ADMIN
  3 MM/DD/YY HH:MM:SS Login                                   Craft  ADMIN
  4 MM/DD/YY HH:MM:SS Logout                                  Craft  ADMIN
  5 MM/DD/YY HH:MM:SS Login                                   Craft  ADMIN
  6 MM/DD/YY HH:MM:SS Logout                                  Craft  ADMIN
  7 MM/DD/YY HH:MM:SS SNMP Chg: Location                      Craft  ADMIN
  8 MM/DD/YY HH:MM:SS TL1 Chg: TID                            Craft  ADMIN
  9 MM/DD/YY HH:MM:SS Login                                   Craft  ADMIN
 10 MM/DD/YY HH:MM:SS System Started                          System
-------------------------->>> END OF SYSTEM EVENT LOG <<<--------------------------




                        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 5-17. System Event Log Screen

The System Event Log hot keys are shown in Table 5-15.

Table 5-15. System Event Log Hot Keys

Hot Key	Description	Function
A	Acknowledge	This hot key is used to display all events.
D	Date/Time	This hot key is used to display date/time 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.
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 user name for each event, or 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 (Figure 5-18) displays ADTRAN technical support, repair, and online support contact information.

```
                              Total Access 1248                  MM/DD/YY  HH:MM
Unacknowledged Alarms: None



                                Contact Information

                     Adtran Technical Support: (800)726-8663
                     Adtran Repair / CAPS:     (256)963-8722
                     Online Support:           www.adtran.com









                                '?' - System Help Screen
```

Figure 5-18. Contact Information Screen

TL1 Mode Screen

Main Menu\TL1 Mode

Figure 5-19 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.

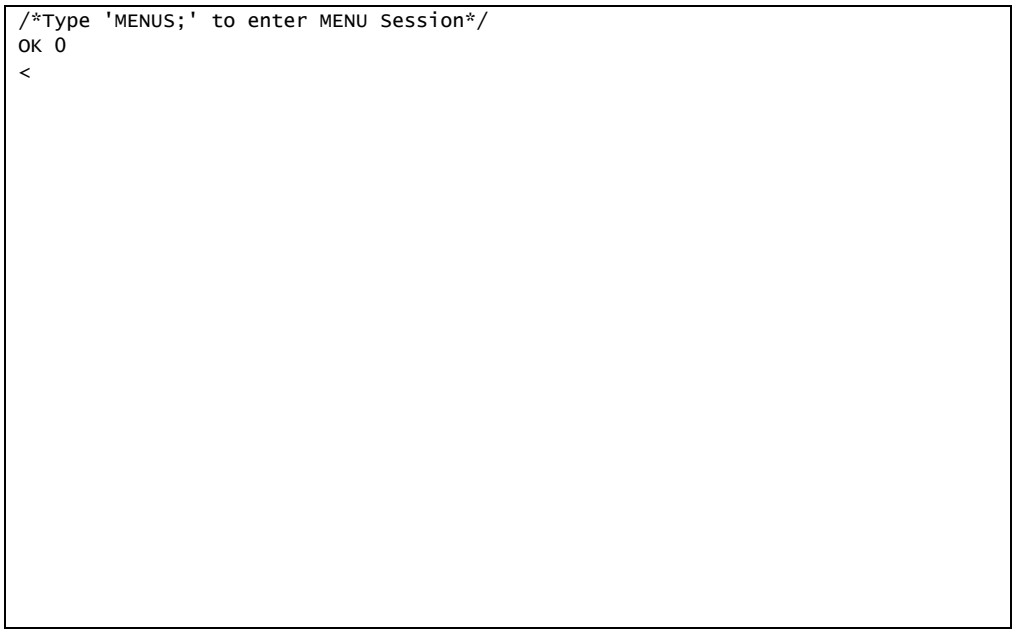

Figure 5-19. TL1 Mode Screen

Table 5-16 lists the TL1 commands supported by the Total Access 1248 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 5-16. 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	

Section 6
Maintenance

INTRODUCTION

The Total Access 1248 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".

Fan Modules

Four fans are installed in the Total Access 1248 in a removable module to maintain the hardware within proper operating temperature tolerances. With the exception of the filter, the fan module is not field serviceable. The fan module (P/N 1179675L1) is field replaceable and is available from ADTRAN. Figure 6-1 illustrates the fan module with the filter installed.

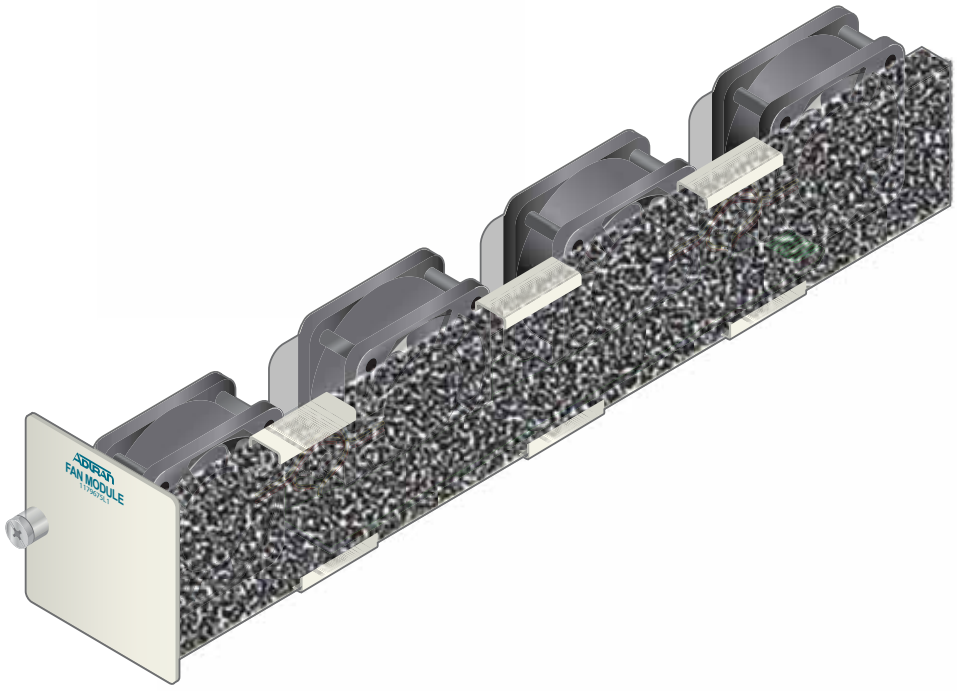

Figure 6-1. Fan Module with Filter

To remove a fan module, perform the following steps:

1. Loosen the screw that holds the fan module in place.
2. Remove the fan module by pulling it straight out of the chassis.

To install a new fan module, perform the following steps:

1. Insert the new fan module by pushing it straight into the chassis.
2. Tighten the screw that holds the fan module in place.

Fan Filters

The Total Access 1248 Expansion DSLAM fan module comes with a single fan filter. The filter is designed to remove particles from the air before it is pushed through the system.

Replacement filters are available from ADTRAN. This filter should be inspected at least every 90 days and replaced as necessary.

To replace a filter, remove the fan module, remove the old filter material and tuck the new filter in, ensuring that the edges of the filter are behind the metal tabs provided to hold the filter (see Figure 6-1).

Section 7
Specifications

INTRODUCTION

Specifications for the Total Access 1248 are detailed in Table 7-1.

Table 7-1. Total Access 1248 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):	48 (one per loop)
Downstream Data Rate:	ADSL: 32 to 8160 kbps in 32 kbps increments ADSL2+: 32 to 32736 kbps in 32 kbps increments
Upstream Data Rate:	ADSL: 32 to 1024 kbps in 32 kbps increments ADSL2+: 32 to 2048 kbps in 32 kbps increments
ADSL Service Range:	18 kft.
Power	
Total Power:	75 watts
Operating Voltage Range:	–42 VDC to –54 VDC
Nominal Operating Voltage:	–48 VDC
Current Draw:	1.162 amps @ 54.72 VDC (see Note: below)
Tests	
Diagnostics:	Self Test Dual-Ended Loop Test (DELT)
Physical	
Dimensions:	Height: 1.75 inches Width: 17.25 inches Depth: 11.125 inches
Weight:	10 pounds (aprox.)

Table 7-1. Total Access 1248 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 1248 Expansion DSLAM:	1179642L1
Replacement Fan:	1179675L1
Replacement Filter:	1179676L1
Replacement Filter Pack (Quantity 20):	1179676L2

Note: Current draw calculated with 8 kft copper line and maximum data rate of 8160 kbps in G.DMT mode with four cooling fans active (0.021 amps/fan). Current draw will vary with operational circumstances, being subject to changes in distance, data rate, data mode, and cooling requirements.

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