ADTRAN

Total Access 1248A
ADSL2+ Mini-DSLAM

jobAid

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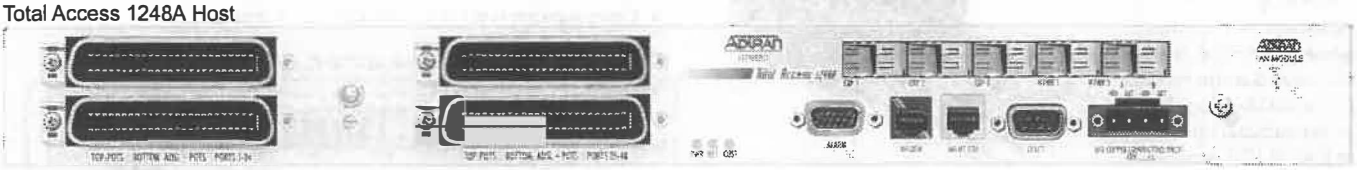
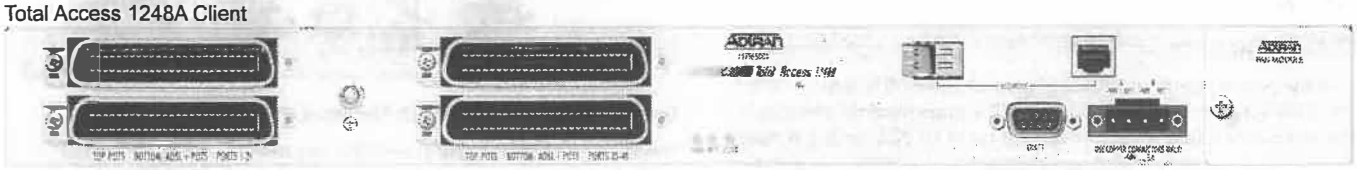
Total Access 1248A Host



Total Access 1248A Client



DESCRIPTION

The Total Access 1248A ADSL2+ Mini-DSLAM is a 1U high Central Office (CO) or Remote Terminal (RT) product. The Total Access 1248A Host features an integrated Ethernet switch capable of supporting multiple Gigabit uplinks and downlinks to aggregate to other Total Access 1248A units and conserve fiber. All versions of the Total Access 1248A provide 48 ADSL2+ ports and ADSL/ADSL2 backwards compatibility. This document supports the following versions of the Total Access 1248A:

Description	P/N	CLEI
Total Access 1248A Host ANSI	1179652G1	VAM8G10M_ _
Total Access 1248A Client ANSI	1179650G1	VAM8F10M_ _

⚠ CAUTION

Read all warnings and cautions before installing or servicing this equipment

SAFETY AND REGULATORY COMPLIANCE

Refer to the Safety and Regulatory Compliance Notice for this product (P/N 61179652G1-17) for detailed safety and regulatory information.

Consultez l'avis sur la sécurité et la conformité à la réglementation pour ce produit (P/N 61179652G1-17) pour obtenir des renseignements détaillés sur la sécurité et la réglementation.

Ausführliche Sicherheits- und regulatorische Informationen sind in der Konformitätserklärung zur Sicherheit und Einhaltung von Normen zu diesem Produkt (P/N 61179652-17) aufgeführt.

REQUIRED TOOLS

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

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

MOUNTING THE TOTAL ACCESS 1248A

NOTE

This Total Access 1248A Host and Client do not meet the GR-63-CORE equipment heat release objective O4-20[78] for shelf-level equipment.

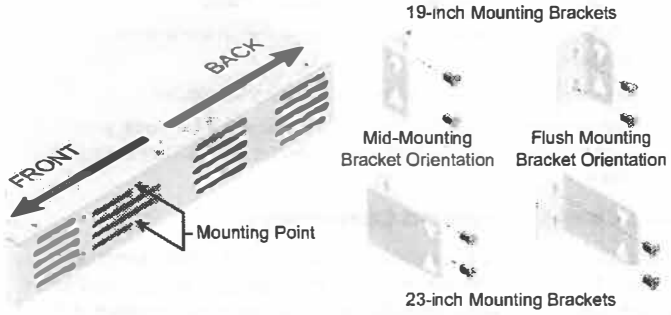
- The heat release for the Host (P/N 1179652G1) is 81.67 W/ft² per ft of vertical frame space the product uses in a 23 inch frame. To compensate the product must be installed in a total vertical frame space of 5.12 inches or 1.69 inches of open space above and below the product.
- The heat release for the Client (P/N 1179650G1) is 74.88 W/ft² per ft of vertical frame space the product uses in a 23 inch frame. To compensate the product must be installed in a total vertical frame space of 4.70 inches or 1.47 inches of open space above and below the product.

If the vertical space compensation is not utilized then special equipment room cooling may be required.

The Total Access 1248A is shipped with two sets of mounting brackets that accommodate either a 19-inch (483 mm) or 23-inch (585 mm) rack.

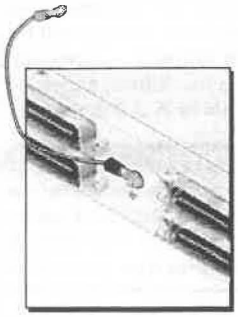
- The mounting brackets used for a 19-inch rack are P/N 3265540-E@.
- The mounting brackets used for a 23-inch rack are P/N 3265541-E@.

Attach the mounting brackets to the front of a rack for mid-mount configurations and to the back of a rack for flush mount configurations. The orientation and mounting point for the brackets are illustrated in the following figure.



TOTAL ACCESS 1248A CONNECTIONS

Ground Connection



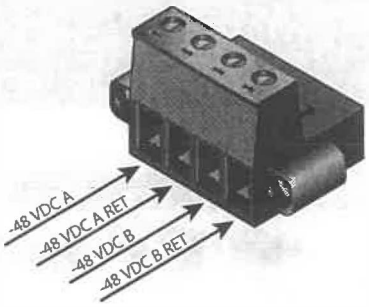
The ground wire can be 12 to 18 AWG, however, it must be equal to or greater than the wire gauge used for power. The Total Access 1248A must be grounded to a reliable grounding source.

To connect the ground wire, complete 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 1248A.
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.

Power Connection

The Total Access 1248A provides redundant power inputs. Two sources of -48 VDC must be provided to use the redundant power feature. The power wires must be 1 2 to 1 8AWG stranded copper. The Total Access 1248A uses a four-point terminal block to accept the –48 VDC and -4 8 VDC RET leads.



⚠ CAUTION

Connect the power inputs 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 60 VDC (min.), 6 Amps (max.) A readily accessible disconnect device that is suitably approved and rated, shall be incorporated into the field wiring. Ensure the power is disconnected from both A and B power sources before installing or servicing this equipment.

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, complete the following steps:

1. With the power disconnected at the source, remove approximately 1/4-inch of insulation from the ends of the power wire.
2. Using a small flat-head screwdriver, loosen the set screw 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 1 248Aand test the voltage and polarity on the terminal block using the tops of the setscrews as test points.

Network and Expansion Connections

The Total Access 1 248AHost accepts up to two GigE network inputs for its network connection and provides three expansion outputs, either fiber or RJ-45. The Total Access1 248AClient accepts one GigE expansion input, either fiber or RJ-45.

⚠ CAUTION

This product contains a Class 1 Laser Module that complies with 21 CFR 1 040.1 and 1 040.1 and IEC 60825-1 and -2. For continued compliance with the above safety standards, only approved Class 1 Laser Modules from the Adtran approved vendor list (located on Adtran's website) should be installed in this product.

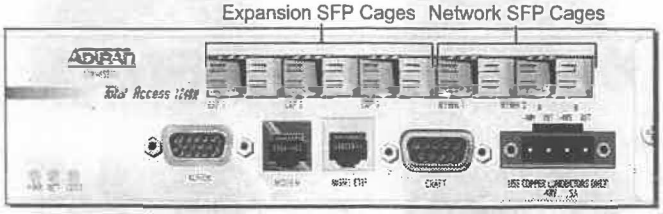
NOTICE

Due to compliance certification requirements, use only SFPs supplied by ADTRAN with the Total Access 1248A. ADTRAN cannot certify system integrity with other SFPs. To ensure compatibility, refer to the documentation provided with each SFP.

Total Access 1248A Host Network and Expansion Connections

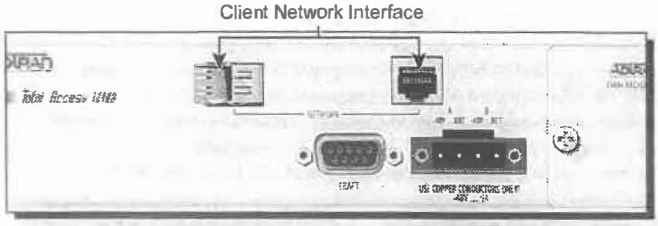
The Total Access 1 248AHost provides the following GigE SFP network and expansion connections:

- Two network ports labeled **NTWK1** and **NTWK2**
- Three expansion ports labeled **EXP 1, EXP 2,** and **EXP 3**



Total Access 1248A Client Network Connection

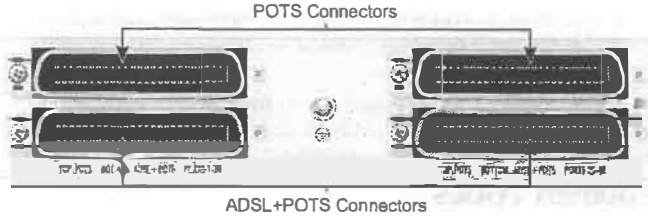
The Total Access1 248AClient provides one network interface, labeled **NETWORK**, which can accommodate either an RJ-45 or a GigE SFP connection. Only one of the network connections should be connected at a time.



ADSL2+ and POTS Amphenol Connections

The Total Access 1248A 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. 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.The Total Access 1248A utilizes four 25-pair amphenol connectors which are used as follows:

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



To establish the ADSL2+ plus POTS and POTS connections, complete the following steps:

1 .Connect the cables with the 25-pair female amphenol connectors to the male amphenol connectors. Ensure cable and chassis labels agree when making connections.
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.
- The POTS interface may be connected to the outside plant.

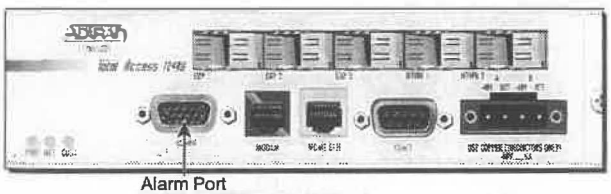
Refer to the table below for detailed POTS and ADSL2+ plus POTS connection pinouts.

POTS and ADSL2+ plus POTS Connectors					
1–24 Connector			25–48 Connector		
Pair	Ring	Tip	Pair	Ring	Tip
1	1	26	25	1	26
2	2	27	26	2	27
3	3	28	27	3	28
4	4	29	28	4	29
5	5	30	29	5	30
6	6	31	30	6	31
7	7	32	31	7	32
8	8	33	32	8	33
9	9	34	33	9	34
10	10	35	34	10	35
11	11	36	35	11	36
12	12	37	36	12	37
13	13	38	37	13	38
14	14	39	38	14	39
15	15	40	39	15	40
16	16	41	40	16	41
17	17	42	41	17	42
18	18	43	42	18	43
19	19	44	43	19	44
20	20	45	44	20	45
21	21	46	45	21	46
22	22	47	46	22	47
23	23	48	47	23	48
24	24	49	48	24	49
Not Used	25	50	Not Used	25	50

Alarm Connections

The Total Access 1248A provides an alarm port, labeled **ALARM**, with five auxiliary alarm inputs and two alarm outputs (Major and Critical). Alarm inputs are activated by shorting A and B contacts (closing an externally connected relay). The critical output provides both normally open and normally closed pins (through internal relay contacts) for proper operation with a variety of alarm panels. The major output provides a pin that can be set to normally open or normally closed, via software, 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 high density DB-15 male connector on one end and a stub at the other end is available (P/N 1196DB901L2, 50 ft or P/N 1196DB901L3, 25 ft) for wire-wrap connections to an alarm panel. Refer to the following table for detailed alarm connection pinouts.



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

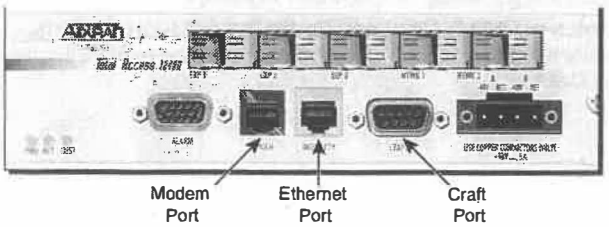
Front Panel LEDs

The Total Access 1248A has three LEDs (**PWR**, **NET**, and **CUST**) located on the front of the unit. The Total Access 1248A LEDs and status descriptions are shown below.

Label	Status	Description
PWR	○ Off	Unit is not powered
	● Green	Unit operating correctly
NET	○ Off (Client Only)	No host connected
	● Green	All enabled network ports are in sync
	✱ Green Flashing	Link is up, but there is a communication issue with uplink signal
	● Red (Host Only)	No signal present or error condition on at least one enabled network port
CUST	○ Off	All ports are OOS
	● Green	All enabled customer ports are in sync
	● Red	No signal present or error condition on at least one enabled customer port
All LEDs	Yellow	The unit is in Boot mode.

Total Access 1248A System Access

Initial connection to the Total Access 1248A Host system can be made through either the Craft, Modem, or Management Ethernet Interfaces. Once connected to the Total Access 1248A Host, the Total Access 1248A Command Line Interface (CLI) is used to access and provision the system.



Craft Interface

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

Most personal computers or laptops can run communications software that will emulate 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 1248A.

1. Set the parameters of the communications software to the following settings: 9600 baud rate, 8 data bits, no parity, 1 stop bit, and 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 1248A. Make connection to the PC or laptop as appropriate for the equipment.

Analog Modem Interface

A remote connection to the Total Access 1248A can be made through the analog modem via the RJ-11 connector on the front panel of the Total Access 1248A.

Ethernet Connection

The Total Access 1248A interfaces with networks for management through an Ethernet port, labeled **MGMT ETH**.

The following Ethernet protocols are supported:

- IEEE 802.3, 10/100Base-T
- IEEE 802.1Q
- SNMP
- Ethernet frame sizes up to 1,522 bytes
- IEEE 802.1P User Defined VLAN Priority (upstream)

System Access with CLI

To log on the Total Access 1248A Command Line Interface (CLI), complete the following steps:

1. After establishing a connection with the Total Access 1248A, the User Access Verification screen is displayed.

NOTE

- If the login screen initially appears blank, press ENTER several times or CTRL+R to refresh the screen and access the CLI.
- The account name and password fields are case-sensitive.
- The default account name is "ADMIN" and the password is "PASSWORD." Other default accounts are: READONLY, READWRITE, and TEST. An account with ADMIN privileges is required to change the account name and password.

2. At the command line prompt, type the default account name, **ADMIN** (or the configured account name with System Administrator privileges), and press ENTER.
3. At the resultant prompt, type the default password, **PASSWORD** (or the configured password), and press ENTER.

A successful logon attempt displays the CLI prompt.

The *Total Access OSP CLI Dictionary* (P/N 61179xxxCLI-35) contains the command line interface (CLI) commands necessary to provision the Total Access 1248A.

MAINTENANCE

The Total Access 1248A does not require routine hardware maintenance for normal operation. ADTRAN does not recommend that repairs be attempted in the field. Repair services may be obtained by returning the defective unit to ADTRAN. Refer to the warranty for further information. Field support for software is provided through upgrade facilities.

Fan Modules

A Fan Module (P/N 1179679G1) is installed in the Total Access 1248A to maintain the hardware within proper operating temperature tolerances. The fans are thermostatically controlled and are only powered on when necessary. The fans are alternated to maintain the specified temperature level. If the temperature level continues to rise, all fans are run simultaneously. With the exception of the filter, the Fan Module is not field serviceable. The Fan Module is field replaceable and is available from ADTRAN.

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 1248A 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.

SPECIFICATIONS

Specifications for the Total Access 1248A are as follows:

- Electrical
  - Total Power: 85 watts
  - Operating voltage range: –42 VDC to –54 VDC
  - Nominal Operating voltage: –48 VDC
- Physical
  - Height:1.75 inches
  - Width: 17.25inches
  - Depth:10.75 inches
  - Weight: 10 pounds
- Environmental
  - Operational Temperature Range: –40°C to +65°C
  - Storage Temperature Range: –40°C to +85°C
  - Relative Humidity: up to 95%, noncondensing

CAUTION!
SUBJECT TO ELECTROSTATIC DAMAGE OR DECREASE IN RELIABILITY.
HANDLING PRECAUTIONS REQUIRED.

ADTRAN CUSTOMER CARE:
From within the U.S. 1.800.726.8663
From outside the U.S. +1 256.963.8716
PRICING AND AVAILABILITY 1.800.827.0807

61179652G1-22B

EQUIPMENT FOR SALE

ADTRAN TA 1248A CLIENTS & HOSTS

Part # 1179652G1 (Host) | 1179650G1 (Client)

The Total Access 1248A ADSL2+ Mini-DSLAM is a lU high Central Office (CO) or Remote Terminal (Rl) product. The Total Access 1248A Host features an integrated Ethernet switch capable of supporting multiple Gigabit uplinks and downlinks to aggregate to other Total Access 1248A units and conserve fiber.

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