ADTRAN®

Total Access 838
SHDSL EFM (Annex A)

JOBAID

61200633L2-22B

0706

Total Access 838
SHDSL EFM

P/N: 1200633L2
CLEI: VAMF600A_ _

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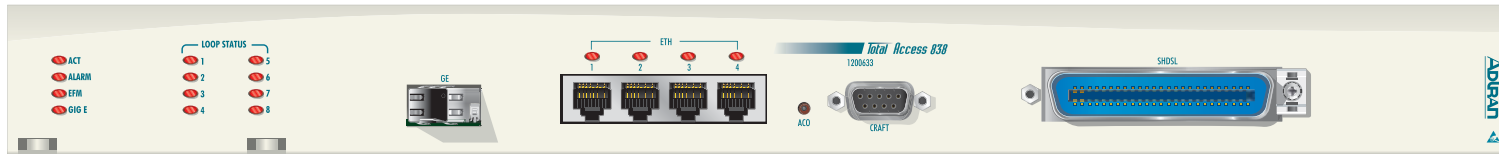
DESCRIPTION

The Total Access 838 SHDSL Ethernet in the First Mile (EFM) is a Metro-Ethernet Forum (MEF) compliant, EFM bonded NTU designed for cost-effective deployment of voice and data services to small and medium size businesses supporting up to eight two-wire SHDSL loops. The Total Access 838 accepts SHDSL or eSHDSL and delivers 10/100Base-T Ethernet for customer LAN extension. The Total Access 838 terminates the SHDSL loops in a RJ-21 connector and supports data rates from 192 kbps to 5.7 Mbps per copper pair. The Total Access 838 provides an aggregate data rate up to 45.6 Mbps over a single EFM bonded group.

FEATURES

♦ One integrated EIA-232 configuration port (DCE)

♦ Four integrated 10/100Base-T Ethernet ports

♦ One SFP to support Gigabit Ethernet

♦ Eight two-wire eSHDSL loops

♦ WAN Protocol: IEEE 802.3ah EFM bonding

♦ Command Line Interface (CLI)

♦ Remote Management - EOC/CLI using Virtual Terminal, Telnet by way of Management VLAN

♦ Front panel LEDs

♦ Wall mounting hardware included

♦ MEF Compliant

INSTALLATION AND TURN-UP

After unpacking the unit, inspect it for damage. If damage is noted, file a claim with the carrier and then contact ADTRAN. For more information, refer to the warranty.

Follow the steps listed below to wallmount or rackmount the Total Access 838.

1. Attach mounting brackets to the side of the Total Access 838 in the correct orientation for either rackmount or wallmount using the two screws provided for each bracket.

   ♦ To rackmount the unit, use the appropriate rack-type screws to mount the Total Access 838 into the rack.

WARNING: ***Do not upset the stability of the equipment rack after installation is complete.***

   ♦ To wallmount the unit, secure the Total Access 838 to the wall with appropriate screws.

2. Connect the frame ground from the frame ground lug on the upper right rear panel of the Total Access 838 to the equipment rack grounding screw or other appropriate grounding connection.

3. Make power connections to the Total Access 838.

NOTE: *A readily accessible disconnect device, such as a rackmount fuse and alarm panel that is suitably approved and rated should be incorporated into the fixed wiring.*

   Connect to a reliably grounded –48 VDC or ±24 VDC source that is electrically isolated from the AC source.

   The branch circuit overcurrent protection should be a slow-blow fuse or circuit breaker.

3a. Determine which fuse pairs are to supply power to the Total Access 838.

3b. Remove the fuses from the **A** and **B** slots for the pair.

3c. Connect **RET A**, **PWR A**, **RET B**, and **PWR B** to the power connector. **PWR** refers to respective –48 VDC or ±24 VDC power sources; **RET** refers to respective returns.

4. Apply power and check voltages.

WARNING: ***Installing fuses in the fuse and alarm panel at this stage will provide power to the Total Access 838. There will be power to pins and connectors on the rear panel and inside the Total Access 838. Exercise caution to avoid electrical shock.***

4a. Install appropriate fuses in the slots in the fuse and alarm panel that serves the Total Access 838.

4b. Using a voltmeter, verify that the operating voltage is within the specifications for A or B power feeds. For more information, refer to Specifications on the back.

5. Connect the **CRIT** (critical), **MAJOR**, and **MINOR** alarm leads from the alarm panel to the Common (**C**), Normally Open (**NO**), and Normally Closed (**NC**) wire-wrap terminals on the Total Access 838 rear panel as required.

CONNECT AND LOGIN TO SYSTEM

Connect to the front panel RS-232, DB-9 connector labeled **CONSOLE** to log on and provision the Total Access 838 by way of VT100 terminal or VT100 terminal emulation software such as HyperTerminal or ProComm Plus.

Craft port defaults are as follows:

♦ Data Rate: Auto

♦ Asynchronous Data Format: 8-data bits, no parity, 1-stop bit, and no flow control

Press ENTER to activate the CLI.

NOTE: *The default username and password are "ADMIN" and "PASSWORD" in all capital letters.*

RESOURCES

The following table outlines the maximum available resources for configuring the logical interfaces. Error messages occur once resources are exhausted.

Resource	Maximum
EVCs	128*
Maps	768
Profiles	512
EFM Groups	4

* Includes EVCs used for management VLAN.

CARRIER ETHERNET
MEF Certified Compliant

CONSOLE PORT PINOUT

Pin	Name	Description
1	–	No Connection (NC)
2	RD	Receive Data (Output)
3	TD	Transmit Data (Input)
4	DTR	Data Terminal Ready
5	SG	Signal Ground
6–9	–	NC

10/100BASE-T ETHERNET PORT PINOUT

Pin	Name	Description
1	TX1	Transmit Positive
2	TX2	Transmit Negative
3	RX1	Receive Positive
4–5	–	NC
6	RX2	Receive Negative
7–8	–	NC

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PRICING AND AVAILABILITY 800.827.0807
TECH SUPPORT 800.726.8663
RETURN FOR REPAIR 256.963.8722
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RJ-21 SHDSL PORT PINOUT

Pin	Name	Description	Pin	Name	Description
1	RD1	Receive Data	26	TX1	Transmit Data
2	RD2	Receive Data	27	TX2	Transmit Data
3	RD3	Receive Data	28	TX3	Transmit Data
4	RD4	Receive Data	29	TX4	Transmit Data
5	RD5	Receive Data	30	TX5	Transmit Data
6	RD6	Receive Data	31	TX6	Transmit Data
7	RD7	Receive Data	32	TX7	Transmit Data
8	RD8	Receive Data	33	TX8	Transmit Data

DEPLOYMENT GUIDELINES

Rate (kbps)	Length (ft)*
5696	2800
5056	3100
3840	4500
3392	4900
2560	5700
2304	6300
2048	6800
1536	7900
1024	9800
768	11000
384	14800

* Maximum 26 AWG

SPECIFICATIONS

Specification	Description
Electrical	
DC Input Power:	–48 VDC or ±24 VDC (A or B power feed)
Environmental	
Operating Temperature:	–40°C to +65°C
Storage Temperature:	–40°C to +85°C
Humidity:	95%, noncondensing
Physical	
Dimensions:	Width: 9.3 inches
	Height: 2.1 inches
	Depth: 6.1 inches
Connectors	
SHDSL Port:	RJ-21; 135 ohms
10/100Base-T Ethernet:	RJ-45
Gigabit Ethernet:	Small Form-factor Plugable (SFP)
Console Port:	DB-9 female
Diagnostics and Test	
Self-diagnosis	

FRONT PANEL LEDS

Label	Status		Description
ACT	○	Off	Power off
	●	Green	Normal operation
	●/●	Green/Yellow Alternating	Normal operation and console open
	●	Yellow	Software update in progress
	●/●	Yellow/Red Alternating	Self-test failed and console open
	●	Red	Self-test failed (not bootable) or device malfunctioned
ALARM	●	Green	No critical, major, or minor alarms on when In Service
	●	Red	Active major or minor alarm
	✳	Red Flashing	Active critical alarm
EFM	●	Green	All In Service EFM groups are operating normally
	●	Yellow	At least one EFM group is in test
	●	Red	At least one In Service EFM group is in a failed state
	✳	Red Flashing	At least one In Service EFM link is in a failed state
ETH 1–4	○	Off	No Ethernet link present
	●	Green	10/100Base-T Ethernet link is up
	✳	Yellow Flashing	Active receive or transmit Ethernet activity
GIG E	○	Off	No SFP present
	●	Green	Approved SFP present and link is up
	●	Yellow	Non-approved SFP present and link is up
	●	Red	SFP present and link is down
LOOP STATUS 1–8	○	Off	SHDSL loop is disabled
	●	Yellow	SHDSL loop is in test
	●	Green	SHDSL loop is trained up and EFM group is established
	✳	Green Flashing (fast)	SHDSL loop is acquiring EFM synchronization
	✳	Green Flashing (slow)	SHDSL loop is currently training
	✳	Red Flashing	SHDSL loop is in the handshake process
	●	Red	SHDSL loop is not trained up

COMPLIANCE

Refer to the *Total Access 838 SHDSL EFM (Annex A) Compliance Notice* (P/N 61200633L2-17) for detailed compliance information.