# TOTAL ACCESS 1200 QUAD IMA MODULE

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## QUAD IMA

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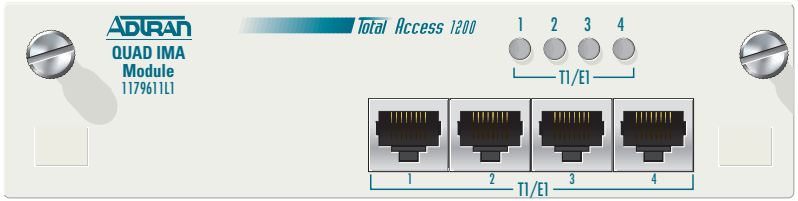


## DESCRIPTION

The Quad IMA Module terminates up to 4 T1s (DSX-1 or DS1) and performs Inverse Multiplexing over ATM (IMA) for up to 4 T1 IMA links in the Total Access® 1200. It can provide up to 24 ports of ADSL plus POTS toward customers.

The following features are supported on the Quad IMA Module:

- Performs Inverse Multiplexing over ATM (IMA) for up to four T1 IMA links
- Support one to four T1s (both short and long haul DSX-1 and DS1)
- Supports one IMA group
- The type, DS1 or DSX1, and line buildout, 0-133 up to 533-655 feet, are provisionable to accommodate both short and long haul T1s
- Accepts RJ-48 type connectors transporting the T1 signals
- Operates over an extended temperature range –40°C to +70°C
- Front Panel indication of T1/E1 status
- Front access to all connections
- Offers provisioning and alarm monitoring via SNMP and TL1 through the local craft interface and ATM in-band management channel
- Interoperable with any ATM DS1 IMA device that is built to current IMA specifications which includes the Total Access 3000 IMA Aggregation System
- Meets NEBS Level 3, GR-1089-CORE and UL 60950

## CONNECTIONS

The Quad IMA Module plugs directly into the Total Access 1200 (19- or 23-inch) rack mounted shelf. Each T1 is connected to the front of the module through an RJ-48 plug.

# TURN-UP STEPS

**To install the Quad IMA Module, perform the following steps:**

1. **After unpacking the Quad IMA Module, inspect it for damage. If damage is found, file a claim with the carrier and then contact ADTRAN® Customer Service.**
2. **ADTRAN recommends that all power be removed from the Total Access 1200 before removing or replacing the Quad IMA Module.**
3. **Loosen screws on the previous card and remove it, if so equipped.**
4. **Insert new module in the slots on the left and right and slide it securely into place.**
5. **Tighten screws to keep it securely in place.**
6. **Insert the T1 cables with the RJ-48 plugs in the jacks on the front of the module.**
7. **Restore power to the Total Access 1200.**

## FRONT PANEL LEDs

| | | |
|---|---|---|
| **T1/E1** | ○ Off | Facility Unassigned |
| | ● Green | All Good, IMA in Sync |
| | ✷ Flashing Green | T1/E1 OK, no IMA Sync |
| | ● Yellow | Signal present OOF |
| | ✷ Flashing Yellow | T1 is in loopback |
| | ● Red | No signal |

## OPERATIONAL SPECIFICATIONS

- Operates over extended temperature range of (–40°C to +70°C)
- Storage –40°C to +85°C. Relative humidity to 95 percent, noncondensing.

## COMPLIANCE

This product is NRTL listed to the applicable UL standards. This product is intended to be installed in a Type "B" or "E" enclosure in a Restricted Access Only area. The Total Access 1200 shelf Frame Ground terminal must be connected to an earth ground.

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

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

## WARRANTY

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. U.S. and Canada customer Faxback: 877-457-5007, Document 414.

■ For a complete Installation and Maintenance Practice (P/N 61179611L1-5): 877-457-5007, Faxback Document 936. Please have your fax number ready. ■

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

## PROVISIONING

The Total Access 1200 has a front panel mounted DB-9 connector that supplies an RS-232 interface for connection to a controlling terminal. The supported terminal type is VT100 or compatible and is set for 9600 baud, 8 data bits, no parity, and 1 stop bit.

At the Total Access 1200 Login screen, enter the account name and password. Note that the default login is "ADMIN" and the password is "PASSWORD" and can be changed upon initial login. The login and password are case sensitive.

*NOTE: To traverse through the menus, select the desired entry, and press Enter. To work backward in the menus, press the Escape key.*

## PROVISIONING OPTIONS

Upon initial installation, the Quad IMA Module will be provisioned according to factory default settings as shown in the table below.

| Provisioning Option | Settings (Defaults in Bold) |
|---|---|
| PVCs | User definable (Each ADSL connection must have at least one PVC/PVP for proper operation (No default) |
| Traffic Descriptors | **UBR**; CBR; VBR-rt; VBR-nrt |
| Subtend Configuration, Mode | Enabled (Master); **Disabled (Slave)** |
| **T1 Provisioning Options** | |
| T1 Type | **DSX**; T1 |
| T1 Framing | **ESF**; SF |
| T1 Line Code | **B8ZS**; AMI |
| T1 Line Build Out | |
| DSX Type: | **0-133 ft**; 133-266 ft; 266-399 ft; 399-533 ft; 533-655 ft |
| T1 Type: | 0 dB; –7.5 dB; –15 dB; –22.5 dB |
| **IMA Options** | |
| IMA Facility (1-4) | **IMA_Group**; Pass-through; Unassigned |
| IMA Transmit ID | 0-255 (**1** default) |
| IMA Transmit Frame Length | 32; 64; **128**; 256 |
| Minimum TX Active Links | **1**-4 |
| Minimum RX Active Links | **1**-4 |
| Maximum Link Diff Delay | 0-**100** |
| Group Operation Mode | In Service; **Out of Service – Maintenance**; Out of Service – Unassigned |
| **ADSL Options** | |
| Card Service State | In Service; **Out of Service – Maintenance**; Out of Service – Unassigned |
| Line Service State | In Service; **Out of Service – Maintenance**; Out of Service – Unassigned |
| Service Mode | **Multimode**; T.413, G.dmt; G.liet |
| Link Down Alarm | **Disabled**; Enabled |
| Rate Mode | Fixed, **Rate Adaptive** |
| Line Type | Interleave; **Fast** |
| Target SNR Margin | 0 – 15 dB (**6 dB** default) |
| Max SNR Margin | 0 – 31 dB (**9 dB** default) |
| Min SNR Margin | **0** – 31 dB |
| Fast Max TX Rate | 32 – **8160 kbps** Downstream |
| Fast Min TX Rate | 32 – **896 kbps** Upstream |
| Interleave Max TX Rate | 32 – **7616 kbps** Downstream |
| Interleave Min TX Rate | 32 – **896 kbps** Upstream |
| Interleave Max Delay | 5 – 255 ms (**5 ms** default) |
| LOS Secs | 0 – 900 with 0 = **Disabled** |
| ES Secs | 0 – 900 with 0 = **Disabled** |