OC-3/OC-12 Compact Optical Access MUX

Total Access OPTI-MX OC-3/OC-12 SONET Multiplexer

Product Features

- Carrier-class OC-3/OC-12 SONET multiplexer in a compact (2U), full capacity arrangement

- Interoperable with GR-253 compliant SONET multiplexers

- Single ended into most GR-253 multiplexers or double ended deployment

- Ethernet over SONET capability; GFP ITU-T G.7041 compliant

- Optional auto in-service for network and trib connections

- DS1, DS3/EC-1, Ethernet, and OC-3 transport services

- Protection on tributaries

- No stranded capacity – capital savings are immediate – all capacity is available for revenue producing services

- Range of 40 km using 1310/1550 nm two fiber

- Comprehensive maintenance capabilities – TL1, SNMP, craft menus; Total Access EMS support (planned)

- Management functions and alarms over the DCC for manageability within the SONET framework

- Up to 84 DS1s fed directly from the system

- 19- or 23-inch rackmount placement

- Both 24 and 48 VDC powering; optional AC kit

- Industry-leading 10-year warranty

Service providers are faced with capital constraints and the continuing need to incrementally expand existing infrastructures in a cost-effective manner. They frequently face challenges posed by the limited electrical range of DS3s and DS1s and the cost of converting optical to electrical interfaces for transport through expensive high-capacity network elements.

The ADTRAN™ Total Access OPTI-MX™ delivers the required features and functions for cost-effective network expansion. This compact, state-of-the-art unit seamlessly integrates with and modernizes existing networks. The Total Access OPTI-MX consolidates discrete optical and multiplexer network elements into one small 2U (3.5-inch high) chassis. Its feature set, small footprint, low cost, and diverse deployment options make the Total Access OPTI-MX a powerful tool that addresses DS1, DS3/EC-1 (STS-1 electrical interface), Ethernet, and optical services delivery to the subscriber. It maintains all of the maintenance and administration tools necessary for service providers to administer their networks efficiently. Its fully integrated design provides the management and redundancy features expected of carrier-class broadband multiplexers.

Total Access OPTI-MX is the industry's first OC-3/OC-12 multiplexer to deliver a combination of DS1, DS3/EC-1s, Ethernet, and OC-3 drops. ADTRAN provides the ability to utilize all of the bandwidth in an OC-3 or OC-12 for customer services without stranded bandwidth. Its compact design is significantly smaller than similar products and delivers superior functionality at a fraction of the price.

Topology

- Terminal mode, subtend a GR-253 compliant SONET ADM
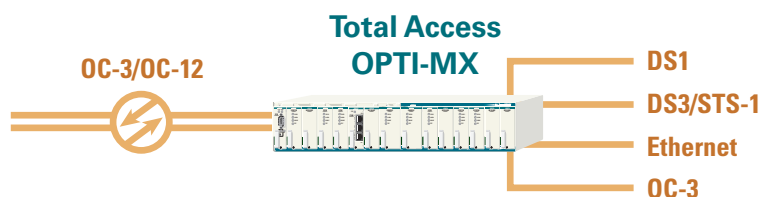
- End-to-end OPTI-MX to OPTI-MX

Architecture

- Very low card count, high degree of integration, compact design

- Optional protection of high-speed interfaces

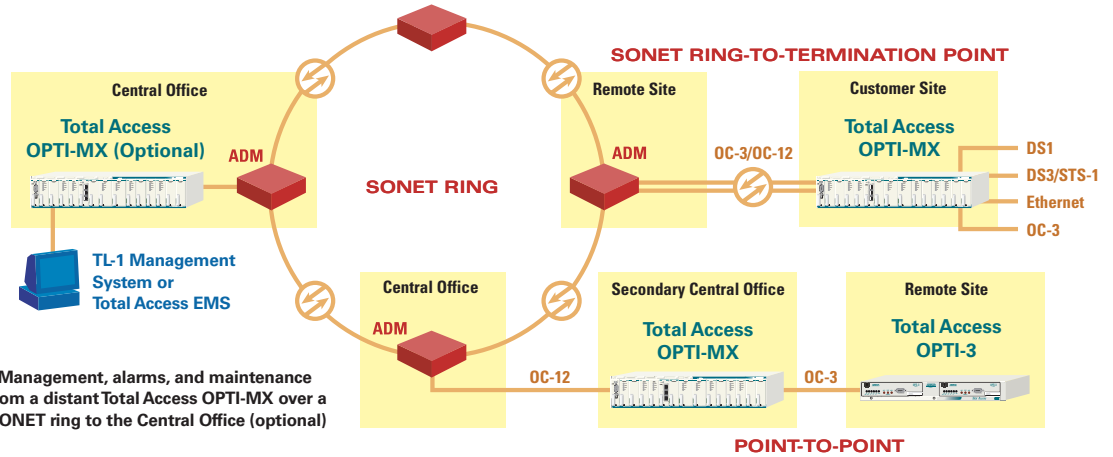- Optional protection of low-speed interfaces, DS1, DS3/EC-1, OC-3

Services

- DS1 (24 to 84 with redundancy)

- DS3/EC-1 (1 to 9 with redundancy)

- Ethernet (1 to 36)

- OC-3 (1 to 4 with redundancy)

The Total Access OPTI-MX consists of a common equipment module (the OMM), a maintenance interface module (the SCM), and line cards (tributary modules). The common equipment module contains a high-speed interface and common circuitry.

OC-3/OC-12 → **Total Access OPTI-MX** → DS1, DS3/STS-1, Ethernet, OC-3

Total Access® System

ADTRAN®

Total Access OPTI-MX OC-3/OC-12 SONET Multiplexer

SONET RING-TO-TERMINATION POINT

Central Office — Total Access OPTI-MX (Optional) — ADM — SONET RING — Remote Site — ADM — OC-3/OC-12 — Customer Site — Total Access OPTI-MX — DS1, DS3/STS-1, Ethernet, OC-3

TL-1 Management System or Total Access EMS

Central Office — ADM — OC-12 — Secondary Central Office — Total Access OPTI-MX — OC-3 — Remote Site — Total Access OPTI-3

Management, alarms, and maintenance from a distant Total Access OPTI-MX over a SONET ring to the Central Office (optional)

POINT-TO-POINT

Product Specifications

Front Panel Features

- **SCM module:** Status and Alarm LEDs
- **OMM, DS3EC1M, DS1M, and DS1VM modules:** Status, Alarm, Online, and Test LEDs
- **Ethernet 10/100 module:** Status, Link, and Activity LEDs

Mechanical

- **Dimensions:** 3.5 in. H X 17.5 in. W X 11.5 in. D
- **Weight:** Chassis 8.5 lbs.,14 lbs. fully loaded
- **Mounting:** Rackmount
- **Fiber connectors:** SC
- **Coax connectors:** BNC
- **DS1 connectors:** Amp Champ

Interfaces

Network Interfaces

- OC-3, SONET LR, IR
- OC-12, SONET LR, IR

Tributary Interfaces

- DS1
- DS3/EC-1
- OC-3
- Ethernet

Protection

- **Network:** 1+1 (SONET APS) (optional)
- **Tributary:** 1:1 (optional)

Electrical

- ±20 to 60 VDC, optional AC power supply is available

Regulatory Standards

- Telcordia GR-63 (NEBS) Level 3, Seismic Zone 4
- Telcordia GR-253 CORE, GR-499 CORE, GR-833 CORE, GR-1093 CORE, and GR-1244 CORE
- ANSI T1.105-2001 and T1.102-1995
- ITU G.7041
- UL 1950
- FCC Class A

Management

- **Local management:** Craft port on front panel
- **Remote management:** TL1 (DCC), SNMP, Telnet

Environmental

- **Operating temperature:** -40°C to $+65^{\circ}$C
- **Storage:** -40°C to $+85^{\circ}$C
- **Relative humidity:** 5 to 95 percent, noncondensing

Ordering Information

Equipment	Part #
Total Access OPTI-MX OMM3LR	1184502L1
Total Access OPTI-MX OMM3IR	1184502L4
Total Access OPTI-MX OMM12LR	1184504L1
Total Access OPTI-MX OMM12IR	1184504L4
Total Access OPTI-MX DS1	1184513L1
Total Access OPTI-MX DS1 VT 1.5	1184515L1
Total Access OPTI-MX DS3/STS-1	1184503L1
Total Access OPTI-MX Ethernet	1184510L1
Total Access OPTI-MX OC-3 Tributary	1184543L1
Total Access OPTI-MX SCM	1184500L1
Total Access OPTI-MX Chassis	1184501L1
Total Access OPTI-MX MS Tributary Blank Faceplate	1184505L1
Total Access OPTI-MX HS (OMM) Blank Faceplate	1184506L1
Fan Assembly	1184507L1