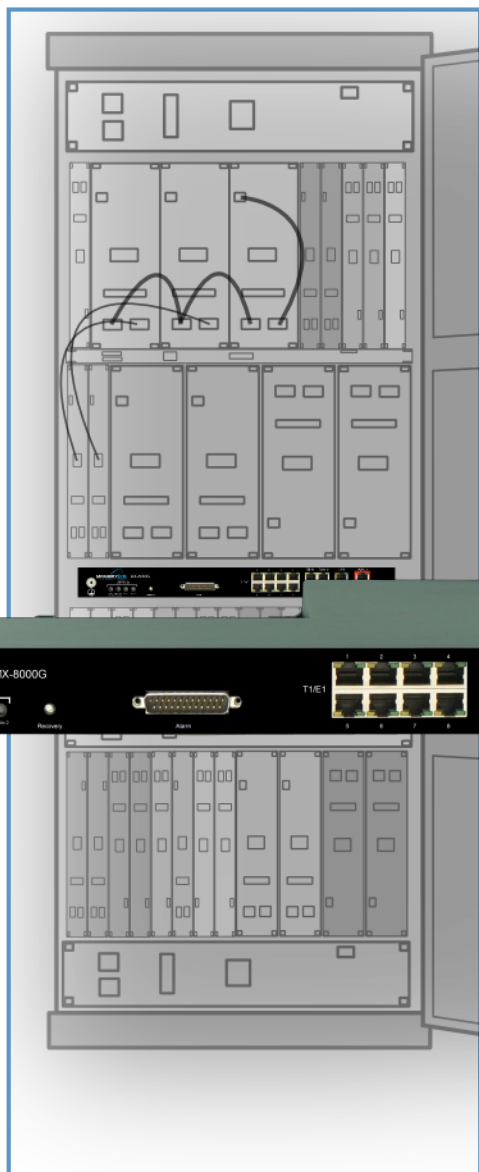


# MX-8000

## The Best Solution for Shrinking Carriers' Backhaul OPEX Smart T1 and E1 Replacement



As competition mounts, and the cellular/mobile industry matures and consolidates, there is a growing need among carriers to reduce their network operating expenses (OPEX). The cost of leased DS1 (T1 or E1) lines linking carriers' BSC/RNC's to their BTS/Node B's (for GSM and CDMA networks, respectively) is the single largest cost category, representing as much as 20-30% of their monthly OPEX.

A pair of Memorylink's MX-8000s, in conjunction with a compatible wireless broadband radio link, now provides cellular/mobile carriers the ability to reduce, by several orders of magnitude, their T1/E1 OPEX, shrinking it to as little as the cost of rack space and electricity!

Memorylink's MX-8000 TDM over IP multiplexer enables point-to-point tunneling of conventional time-division-multiplexed (TDM) telephony DS1 channels across both wired and, more importantly wireless broadband IP links. Unlike most if not all competing multiplexers, which were designed solely with wired IP networks in mind, the MX-8000 enables rock solid transport of telephony TDM traffic over wireless broadband IP links. It provides a low-latency TDM-over-IP solution using Memorylink's Metawire™ technology, which is essentially pseudowire capability over wireless broadband IP.

- Each pair of MX-8000 multiplexers can transport up to eight DS1 channels as well as a "wayside data" channel which supports an additional IP payload end-to-end over a given link.
- The MX-8000 supports traffic control and management, enabling "voice" and "data" prioritization. It provides seamless encapsulation and transport of TDM traffic.
- The MX-8000 is capable of working with Memorylink's UltraSync™ products which generate a precise, highly stable, sync signal for timing synchronization.
- The MX-8000 is not only ideal for cellular/mobile carriers to implement wireless backhaul of their telephony channels, but also for corporate customers wanting to link regional or campus-wide telephony facilities, and would like to eliminate the associated monthly OPEX.

Memorylink's MX-8000 offers the best VALUE in the marketplace and is the proven alternative to leased circuits or expensive and time-consuming microwave links. It is highly reliable, easy-to-install and maintain, and affordable. Find out for yourself why carriers around the globe are choosing Memorylink solutions, with resultant OPEX savings that go straight to the bottom line.

### MX-8000 at a glance

- Multiplexes eight T1/E1 ports to two gigabit Ethernet ports
- Provides a connection for the customer's gigabit LAN and forwards that connection to its partner MX-8000
- Supports six T1/E1 clock modes on a per-channel basis
- Provides a local configuration Ethernet port and a web interface for convenient configuration
- Supports synchronization with cascaded MX-8000 units

## Basic Features/Functionality

### PORTS

#### Ethernet ports (RJ45)

- Auto MDI/MDIX
- Configurable full-duplex and half-duplex operation
- Two 10/100/1000baseT Ethernet WAN ports with phantom power over Ethernet for wireless broadband radio power
- One RJ45 10/100/1000baseT Ethernet LAN port
- One RJ45 10/100baseT Ethernet local configuration port

#### Timing ports (RJ45)

- TDD synchronization input
- TDD synchronization output
- Clock input
- Clock output

#### T1/E1 ports (RJ45)

- Eight ports meeting ANSI T1.403, ITU-T G.703, AT&T TR62411

#### Other ports

- DB-25M external alarm I/O port
- Five external alarm inputs
- Three external alarm outputs
- Internal alarm support
  - Temperature alarm
  - Output voltage alarm
  - Battery voltage alarm
  - T1/E1 channel status alarm
  - TDD Sync status alarm
  - Clock source status alarm

### INTERFACES

- Web interface
- Command-line interface (CLI) via telnet interface
- Recovery switch: Used to recover the MX-8000 unit from configuration errors
- Supports the following external reference clocks
  - None (no external reference clock)
  - Discrete 1PPS input
  - Discrete T1/E1 clock
  - Line referenced T1/E1 clock
  - Modulated 1PPS input

### ELECTRICAL

- Input voltage: 24 – 48VDC
- Input current: 8A maximum
- Can also be powered by Motorola's Canopy Power IDU input (one per ODU required). Input: 55 VDC, 1.4 A maximum

#### Power

- Maximum power consumed by MX-8000: 25W
- Maximum power provided to ODU (each): 55W (55V at 1A)
- Maximum power provided to synchronization input port (to power an external UltraSync): 1.5W (12V at 125mA)
- Chassis Ground screw terminal connection

### PHYSICAL

- Standardized EIA 310-D, IEC 60297 1U 19-inch mountable rack
- Height: 1.75" (44.45mm)
- Width: 19" (482.6mm)
- Depth: 14" (355.6mm)
- Approximate weight (without PIDUs): 10lbs (4.54kg)

#### Front panel indicators

- Local MX-8000 status indicator
- Remote MX-8000 status indicator
- RF link 1 status indicator
- RF link 2 status indicator

#### RJ45 Port LEDs

- T1/E1 port status
- Ethernet status
- TDD sync input status
- TDD sync output
- T1/E1 clock input status
- T1/E1 clock output status

### ENVIRONMENTAL

- Operating temperature: -40° C to +60° C
- Storage temperature: -40° C to +85° C
- Operating humidity: 95% maximum (non-condensing)
- Storage humidity: 95% maximum (non-condensing)
- High temperature exposure and thermal shock: per GR-63-CORE
- Flamability: GR-63-CORE
- EMI: Telecordia GR-1089-CORE
- ESD: GR-78-CORE sections 9.4 and 9.5, GR-1089-CORE system-level ESD
- Passive cooling (No Fan)

### STANDARDS

- Unframed T1/E1 traffic: T1 G.703 and T1.403
- Jitter/wander performance of T1/E1 ports: ITU-T G.823 SYNC IF requirements when using radio timing mode or external timing mode
- Clock synchronization: Meets 3GPP TS25.104 or ETSI TS 125 402 (50ppb)
- SNMP: V2.C
- Ethernet: IEEE 802.3, 802.3u (10/100), and 802.3ab (10/100/1000)
- Prioritization
  - VLAN tagging: IEEE 802.1Q
  - TOS: IETF RFC 1349

### REGULATORY

#### US

- FCC Part 15, Subpart J, Class A
- CE
- TUV Pending

#### Europe

- Restriction of Hazardous Substances – RoHS Directive 2002/95/EC compliant

For more information, please call: 1-866-398-4336  
or 847-259-9680  
[www.memorylink.com](http://www.memorylink.com)

Specifications are subject to change without notice. Memorylink™ is a trademark of Memorylink, Corporation.  
©2008 Memorylink ver 0.0 SE061008

