

Megaplex-2100/2104

ML-8E1, ML-8T1

8-Port Main Link E1 and T1 Modules



- Up to 8 E1 or T1 interfaces with built-in LTU (E1) or CSU (T1)
- Software-configurable for E1/T1 operation
- Multiple clock source selection
- E1 interface per ITU-T Rec. G.703, G.704 and G.732
- ANSI-compatible T1 interface

The ML-8E1 and ML-8T1 modules enable direct connection of Megaplex to up to 8 E1 or T1 lines. Up to 12 modules can be installed in a single chassis, providing Megaplex with up to 96 E1/T1 ports.

The E1 interface is compatible with all carrier-provided E1 services, meeting the requirements of ITU-T Rec. G.703, G.704 and G.732. It supports both 2 (G732N) and 16 (G732N) frames per multiframe. CRC-4 and E bit are also supported, complying with G.704 recommendations. Zero suppression over the lines is HDB3.

The E1 interface is equipped with an integral user-enabled LTU, ensuring ranges of up to 2 km (1.2 miles).

The T1 interface is compatible with ANSI requirements. Both D4 and ESF framing formats are supported. Zero suppression is selectable for Transparent, B7ZS, or B8ZS.

The T1 interface is equipped with an integral user-enabled CSU, ensuring ranges of up to 1.6 km (1 mile).

Diagnostic capabilities feature local and remote loopbacks on each port, and local and remote loopbacks per timeslot.

High-density module
for efficient point-to-
multipoint applications



data communications

The Access Company

ML-8E1, ML-8T1

8-Port Main Link E1 and T1 Modules

Specifications

Number of Ports per Module

8

E1 INTERFACE

Compliance

ITU-T G.703, G.704, G.732 (Including CRC-4 and E bit)

Framing

2 frames (G732N), or 16 frames (G732N) per multiframe

Data Rate (per link)

2.048 Mbps

Line Code

HDB3

Jitter Performance

As per ITU-T G.823

Impedance

Balanced 4-wire: 120Ω

Unbalanced coax: 75Ω

Signal Level

Receive:

Without LTU: 0 to -10 dBm

With LTU: 0 to -33 dBm

Transmit:

Balanced: ±3V (±10%)

Unbalanced: ±2.37V (±10%)

T1 INTERFACE

Compliance

ANSI T1.107 and T1.403 (inband loopback activation only)

Framing

D4, ESF

Data Rate (per link)

1.544 Mbps

Line Code

Bipolar AMI

Zero Suppression

Transparent, B7ZS, B8ZS

Jitter Performance

As per AT&T TR-62411

Impedance

Balanced 4-wire: 100Ω

Signal Level

Receive:

Without CSU: 0 to -10 dBm

With CSU: 0 to -34 dBm

Transmit:

Without CSU: ±3V (±10%),

user adjustable,

measured at 0 to 655 ft

With CSU: 0, -7.5, -15, -22 dBm

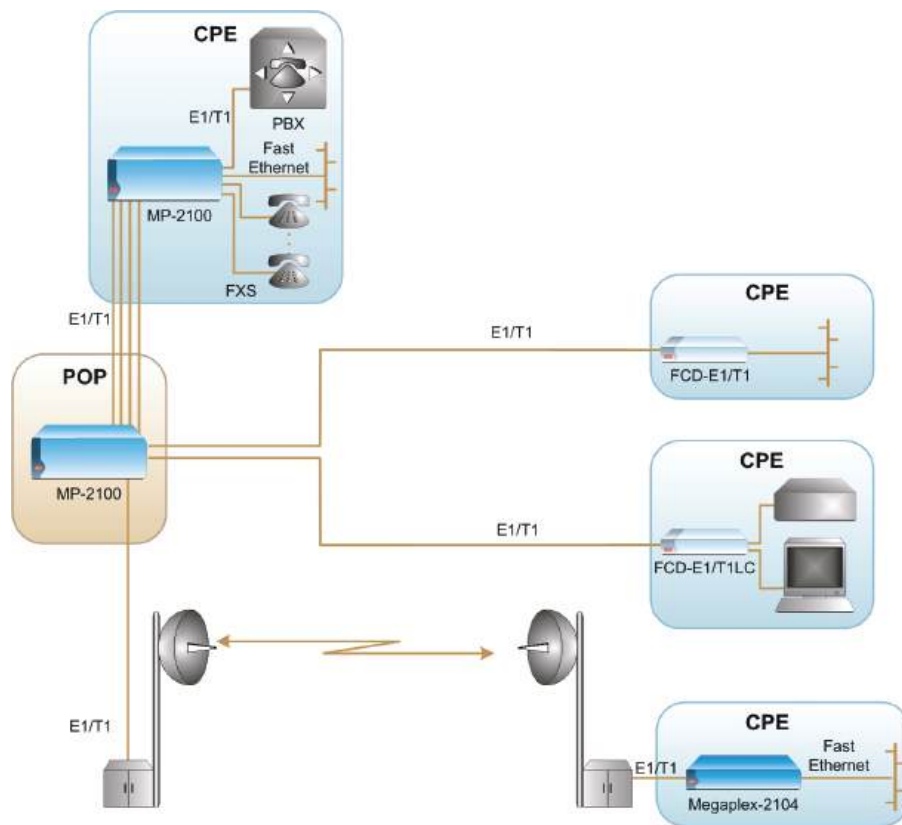


Figure 1. Ethernet, Data and Voice Access over TDM Uplinks

DIAGNOSTICS**Loopbacks**

User-activated local and remote loopback on each port
Local and remote loopbacks per timeslot

T1 modules only:

Network line loopback
Network payload loopback
CSU network loopback

INDICATORS**Clock (per module)**

Lights steadily in green when station clock is selected and indicates a good signal
Off when station clock port is not selected or there is loss of signal

Status (per link)

Lights steadily in green when the port is connected and carries traffic
Lights in red during local loss of synchronization or red alarm
Off when not connected

GENERAL**Line Connector**

Single DB-44, female (see *Ordering* for splitter cables available from RAD)

Power Consumption

7.9W

Environment

Operating temperature: 0°C to 45°C
(32°F to 113°F)

Storage temperature: -20°C to +70°C
(-4°F to +160°F)

Humidity: up to 95%, non-condensing

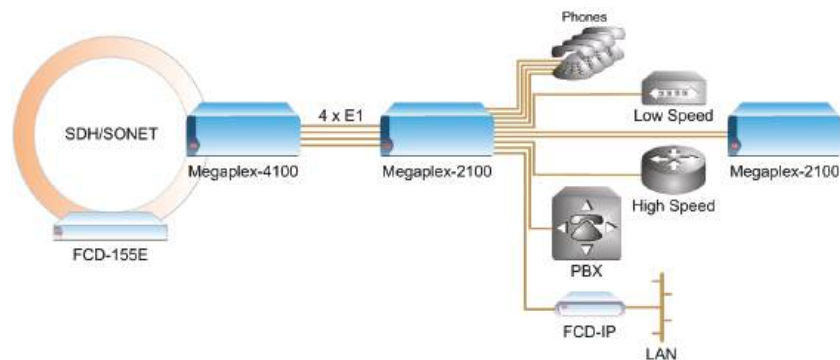


Figure 2. 8 TDM Links on a Single Module

ML-8E1, ML-8T1

8-Port Main Link E1 and T1 Modules

Ordering

MP-2100M-ML-8E1

8-port E1 module with balanced interface
for MP-2100 and MP-2104

MP-2100M-ML-8T1

8-port T1 module for MP-2100 and
MP-2104

OPTIONAL ACCESSORIES

CBL-G703-8/RJ45/ST

Splitter cable with station clock for
splitting the 44-pin module connector to
8 E1 or 8 T1 balanced RJ-45 connectors

CBL-G703-8/RJ45/ST/X

Splitter cross-cable with station clock for
splitting the 44-pin module connector to
8 E1 or 8 T1 balanced RJ-45 connectors

CBL-G703-8/OPEN/2M

Open-ended cable with DB-44 connector
on the Megaplex side for balanced
applications

All the cables are 2m (6.6 ft) long.

Megaplex Main Link Modules

ML-E1/T1



MLF-E1/T1



ML-8E1/8T1



MSL-8



ML-IP



ML-20N



Feature

Interface Type	E1/T1	E1/T1	E1/T1	SHDSL	ETH (TDMoIP)	n x 64 kbps
Number of Channels	1/2	1/2	8	8	2	1/2
Redundancy	Link	Link	None	None	Bundle	Link
Ring	E1/T1	E1/T1	None	None	RFER	None

International Headquarters
24 Raoul Wallenberg Street
Tel Aviv 69719, Israel
Tel. 972-3-6458181
Fax 972-3-6498250, 6474436
E-mail market@rad.com

North America Headquarters
900 Corporate Drive
Mahwah, NJ 07430, USA
Tel. 201-5291100
Toll free 1-800-4447234
Fax 201-5295777
E-mail market@radusa.com

www.rad.com

Order this publication by Catalog No. 803754



data communications

The Access Company