BLACK BOX®

NETWORK SERVICES

E1-Concentrator

Key Features

▶ Aggregate 1 to 16 E1/T1 channels into a single optical link.

▶ Modularized tribularies design, 4 E1/T1 per card. Hot swappable. Software programmable for E1 or T1 type application.

▶ 1 + 1 automatic protection switching (AP S) for optical link.

▶ 1310 nm optical Singlemode laser tranceiver (1550 nm optional)

▶ Automatic optical power attenuation in receiving side.

▶ Standard SNMP network management, Telnet and menu-driven craft interface.

The E1-Concentrator is the most compact, function rich, SNMP-based Fiber Optical Multiplexer in the market. In 1 RU housing, it multiplexes up to 16 E1/T1 Channels onto a fiber link, with 1+1 automatic protection switching, for up to 40 KM of transmission distance.

The E1 Concentrator E1/T1 Fiber Optical Multiplexer is a carrier-class transmission equipment which Mux/Demux multiple E1/T1 to/from a single optical channel. The box is surface mountable and rack mountable (standard 19 or 23 inch rack).
Modularized E1/T1 Tributary Card allows flexible E1 or T1 applications. The E1-Concentrator aggregates 1 to 16 E1/T1 channels onto a single optical link. The 1+1 dual fiber path protection switching mechanism builds up reliable and robust link.
There are three user interfaces: LCD display with key control, RS-232D Craft Interface, and 100/10BASE-T Ethernet port. The unit fully supports local and remote access as well as SNMP NMS via Internet/Intranet.
Embedded performance monitor and threshold setting for optic aggregation and every tributary channel provide quick identification of unstable service line. In addition, individual LED indicators for optic aggregation and every tributary channel indicates loopback, testing and LOS, LOF, AIS alarm status clearly.
The E1-Concentrator can be applied to congregated communications like 3G/2G Base Station, FTTB/FTTC, ISP broadband access, and campus area network.

Specifications

Optical Interface —
Source — 1310nm SM Laser, (9/125µm)
System gain — 25 dB
Protection —11 APS, switching time
Wavelength range — 1310nm nominal
Connectors type — FC/PC

E1 Electrical Interface —
ITU-T G.703
Data rate — 2.048 Mbit/s±50ppm
Line code — HDB3
Frame format — Structured (Comply with ITU-T G.704) and unstructured (selectable)
Test load impedance — 1205 resistive, symmetrical pair
Standard compliance — ITU-T G.703, G.704, G.823
Connector type — 4 x RJ45

T1 Electrical Interface —
ANSI/ Bellcore/ ITU-T G.703
Data rate — 1.544 Mbit/s±50ppm
Line code — B8ZS and AMI (selectable)
Frame format — SF, ESF, and Unframed (selectable)
Test load impedance — 1005 resistive, balanced
Standard compliance — ITU-T G.703, G.824
Connector type — 4 x RJ-45

V.35
Data Rate — N x 64Kbps, N=1~32
Timing — Internal, Loop Timing, DTE
Connector — DB78 to M34 octopus cable

Ethernet
Data Rate — 10/100Mbps with Auto-Negotiation
Mode — Bridge, 2 Mbps throughput
Connector — RJ-45

COMM/NMS Ports
Protocol — VT-100 compatible ANSI (COMM), Telnet, SNMP (NMS)
Console port — RS232 (EIA561) local port
SNMP — 10/100M Ethernet (RJ45) port, auto-sensing, RFC 1406 complied
Front Panel — 2-line x 24-character LCD display with key control

Performance Monitoring
Tributaries — CV, ES and SES for near end and far end Line
CV, ES, SES and UAS for near end and far end Path
Aggregate — ES and SES for near end and far end Line
ES, SES and UAS for near end and far end Path
Data Storage — Current 15 minutes, 95- past 15 minutes, 7 days

Diagnostics
Loopbacks — Tributary/ Aggregate Local and remote Loopback
BER Tester — Embedded BER generator and receiver for optical and T1/E1
LED Display — Power, Local and remote alarm, loopback, Optical LOS and RDI Tributaries LOS and AIS

Physical
Dimensions — 1 RU, 19- or 23-rack mountable, Desk-top stackable;

Power Requirements
Voltage — 90~264 VAC, 47 to 63 Hz or –36~-72 VDC, 40 Watts maximum

Environmental
Operating temperature — 0 ~ + 40° C for indoor application
0 ~ +60° for outdoor application
Storage temperature — -35 ~ +85
Relative humidity — 0% ~ 95% non-condensing
MTBF — 50000 hours

Certifications
EMI/EMC
CISPR 55022
FCC Part15, Subpart B, class

Ordering information

ITEM	CODE
Housing with 4 Slots	MXS4300AE-SMFC
4 x E1 Card, RJ-45	MXS4300C-4-E1
4 x V.35 Card	MXS4300C-4-V35
4 x 10/100Base-T	MXS4300C-4-ETH

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