Data Sheet

DXC-2

T1/E1 Converter and Timeslot Cross-Connect

Converts between T1 and E1 data and signaling

- Configurable A-law/μ-law and signaling conversion, or transparent conversion at 64 kbps timeslot level
- Complies with ITU Rec. G.802, Annex 2
- Controlled slip for buffer overflow/underflow
- Monitoring and control from terminal or front panel LCD

DXC-2 enables conversion between one T1 signal and one E1 signal (24 timeslots).

For conversion between T1 and E1 trunks, DXC-2 can perform the required A-law/μ-law and signaling conversion, in compliance with T1 and E1 (CEPT) standards.

The T1 to E1 conversion can be set to comply with ITU G.802, Annex 2. This enables the location of the T1 F-bit to be specified in the E1 data stream.

A user-programmable connection table allows DXC-2 to connect any incoming 64 kbps timeslot to any outgoing 64 kbps timeslot. Programming can be performed during system operation without any disruption to service.

The T1 interface complies with AT&T TR-62411 and ANSI T1.403 requirements, supporting D4 or ESF framing formats and AMI line code. Zero suppression is selectable for transparent, B7ZS or B8ZS.

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The E1 interface complies with ITU Rec. G.703, G.704, G.732 and G.823, and supports both 2 and 16 frames per multiframe with or without CRC-4. Line code is HDB3.

Maintenance capabilities include local and remote loopbacks. When operating in ESF format, T1 link statistics are stored in memory in compliance with both the ANSI and AT&T standards. When operating in CRC-4 format, E1 link statistics are stored in memory in compliance with ITU G.706.

Selectable timing options cover all timing possibilities for the T1/E1 interface. These include internal clock and loopback timing, for either the T1 or E1 interface.

Setup, control, status, alarms and diagnostic information can be monitored and controlled via the front panel LCD display or via an ASCII terminal.

DXC-2 is a compact 1U-high desktop standalone unit. A rack mount adapter kit enables installation of one or two (side by side) standalone units in a 19" rack (see *Ordering*).

Specifications

E1 INTERFACE

Data Rate
2.048 Mbps

Compliance
ITU-T Rec. G.703, G.704, G.732

Framing
256N – no MF, CCS
256N – no MF, CCS with CRC-4
256S – TS16 MF, CAS
256S – TS16 MF, CAS with CRC-4
Unframed (T1→E1 conversion only)

Line Code
HDB3

Signal Level
Receive: 0 to -10 dB

Transmit:
±3V (±10%), balanced
±2.37V (±10%), unbalanced

Impedance
Balanced: 120Ω
Unbalanced: 75Ω

Jitter Performance
As per ITU-T Rec. G.823

Connectors
Balanced: 15-pin D-type female
Unbalanced: two BNC coaxial

T1 INTERFACE

Data Rate
1.544 Mbps

Compliance
AT&T TR-62411, ANSI T1.403
ITU-T Rec.G.703, G.704

Framing
D4(SF)
ESF
Unframed

Line Code
AMI

Impedance
Balanced: 100Ω

Zero suppression
Transparent, B7ZS, B8ZS

Signal Level
Receive: 0 to -10 dB

Transmit: (nominal level) ±3V (±10%), balanced

Jitter Performance
As per AT&T TR-62411

Connectors
15-pin D-type, female

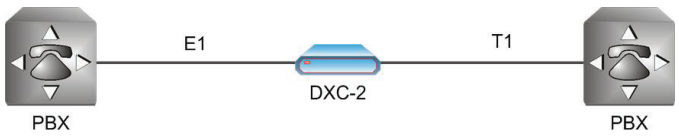

Figure 1. Converting between E1 and T1

GENERAL

Timing
Main Source (soft-selectable):
- Internal oscillator ±30 ppm
- Locked to receive clock of link A
- Locked to receive clock of link B

Fallback Source (independently soft-selectable):
- Locked to receive clock of link A
- Locked to receive clock of link B

Timeslot Mapping
Any timeslot to any timeslot, with/without A-law/μ-law and signaling conversion per timeslot

Elastic Buffer
Buffer length: ±1 frame
Underflow: 1 frame repeated
Overflow: 1 frame skipped (No frame sync loss for buffer overflow or underflow)
Data delay: up to 375 ms

Unused Timeslot
User-defined both for E1 and T1 interfaces

Diagnostics
Local E1 or T1 loopbacks
Remote E1 or T1 loopbacks
Code-activated network loopback per ANSI T1.403

Statistics
T1 ESF diagnostics:
- ANSI T1.403 full support
- AT&T 54016 local support
- Transparent FDL between two T1 ports

E1 CRC-4 diagnostics: per ITU-T G.706

Alarm Response
OOS indications in individual timeslots:
- DS0 pattern
- OOS A, B signaling bits

Link alarms:
- Local loss of link input signal
- Local loss of synchronization to link signal
- Local reception of AIS signal
- Remote loss of synchronization or remote loss of link signal

Supervisory Port
Interface: V.24/RS-232, async
Connector: 9-pin D type, female
Data Rate: 300-9600 bps, autobaud

Indicators
Local sync loss: LINK A, LINK B
Remote sync loss: LINK A, LINK B
TEST

Front Panel Controls
LCD: 2 rows x 16 characters
Push-buttons: CURSOR, SCROLL, ENTER

Power
100, 115 or 230 VAC; 47 to 63 Hz
-48 VDC (-36 to -72 VDC), 15W

Physical
Height: 4.4 cm/1.7 in
Width: 21.6 cm/8.4 in
Depth: 2.4 cm/9.5 in
Weight: 1.4 kg/3.1 lb

Environment
Temperature: 0–50°C/32–122°F
Humidity: Up to 90%, non-condensing

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Ordering

DXC-2/~

Legend

~ Power supply:
- **100** 100 VAC operation
- **115** 115 VAC operation
- **230** 230 VAC operation
- **48** 48 VDC

SUPPLIED ACCESSORIES

AC power cord (when AC power supply is ordered)

DC connection kit (when DC power supply is ordered)

OPTIONAL ACCESSORIES

RM-1/NEW
Mechanical adaptor, for mounting one or two units (side by side) in a 19" rack

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