

CROCUS INVERSE MULTIPLEXER



FEATURES & BENEFITS

- > CONNECTS UP TO 8 MBPS SERIAL DATA OVER SEVERAL E1 LINKS
- > AUTOMATIC SPEED ADAPTATION IN CASE OF E1 LINK LOSS
- > ADVANCED FREE MAINTENANCE SOFTWARE
- > MANAGEABLE UNDER HP OPENVIEW®
- > MODULAR PLUG-IN DATA INTERFACES FOR MAXIMUM FLEXIBILITY AND EFFICIENT STOCK MANAGEMENT

> THE CROCUS INVERSE MULTIPLEXER PROVIDES TRANSPARENT TRANSMISSION OF SYNCHRONOUS DATA AT SPEEDS UP TO 7808 KBPS ON A SERIAL OR 10/100BASE-T INTERFACE USING MULTIPLE 2 MBPS E1 LINES.

INVERSE MULTIPLEXING

- > Number of E1 links: up to 4
- > Maximum delay variance between links: 64 msec
- > Throughput delay: 50 µsec + variance between links
- > Framing overhead: 1.6 %
- > Net user-speed per E1 link: 1952 kbps
- > Performance monitoring per E1 link: end-to-end CRC-4

E1 LINK INTERFACES

- > Applicable standards: ITU-T G.703, G.704, G.732
- > Jitter performance: ITU-T G.823
- > Nominal line data rate: 2048 kbps
- > Line code: HDB3
- > Line connection:
 - 120 ohm balanced, RJ45 connector
 - 75 ohm unbalanced, BNC coaxial connectors
- > Performance monitoring: G.703 CRC-4 (configurable)

STATION CLOCK INTERFACE

- > Nominal rate: 2048 kbps
- > Line code: HDB3
- > Line connection:
 - 120 ohm balanced, RJ45 connector
 - 75 ohm unbalanced, BNC coaxial connectors

ETHERNET LAN INTERFACE (MANAGEMENT)

- > Compliant with IEEE 802.3 10Mbps HDX Ethernet
- > RJ45 Unshielded Twisted Pair (UTP)

CONSOLE PORT

- > Connector: 9-pins subD female V.24/RS-232
- > Data rate: 9600 bps, asynchronous, 8N1

CLOCKING SCHEMES

- > External transmit clock (station clock)
- > Transmit clock slaved on E1 receive clock with possibility for automatic E1 channel source selection
- > Internal transmit clock

HIGH-SPEED DATA INTERFACE

- Clocking Speed
- > 1952, 3904, 5856, 7808 kbps, following the number of E1 links used
 - > Automatic fallback to next lower rate in case of E1 link failure
- Serial interfaces available:
- > V.35
 - > V.36/RS-449
 - > X.21

- > RS-530/RS-530A
- > Ethernet Router 10M

FRONT PANEL INDICATORS

- > General: PWR: Power
TST: Test indicator
- > Ethernet: LNK: Link Integrity
COL: Data Collision
TXD: Transmit Data
RXD: Receive Data
- > For each E1: LOS: Loss Of Signal
LOF: Loss Of Frame synchronisation
AIS: Alarm Indication Signal
ERR: CRC-4 performance problem
- > DTE: TXD: Transmit Data (circuit 103)
RXD: Receive Data (circuit 104)

TESTS

- > Local analogue loop-back (Loop3) for each individual E1 line
- > Local line loop-back (Loop4) for each individual E1 line
- > Local digital loop-back (Loop2) for high-speed user interface
- > Remote digital loop-back (remote Loop2) for high-speed user interface
- > Integrated BER testing conform ITU-T O.151 (2¹⁵-1 pattern)

MECHANICAL DATA (H X W X D)

- > Desktop version: 50 x 430 x 270 mm weight: 4.3 kg
- > Rack-mount version: 43 x 482 x 270 mm weight: 4.6 kg

POWER REQUIREMENTS

- > Power voltage: 90-264 Vac, 47-63 Hz
36-72Vdc Vdc
- > Maximum power consumption: 25 W

SALES CODES

- > 153862 Crocus 4E1 inv mux BU 115/230Vac
- > 153863 Crocus 4E1 inv mux BU 48Vac
- > 150322 RMK 01003/Crocus 4E1 inv mux (19" rackmount kit)

SALES CODES: INTERFACES

All transparent data interface modules are found in the sales codes quick reference section

Based on an efficient bonding mechanism for multiple E1 lines, the equipment enables one to cross the 2 Mbps barrier without having to adapt the installed user applications. These E1 lines may have a difference in throughput delay as high as 64 msec, so different routings of the constituent E1 lines can be used. In addition, an automatic fallback/step-up mechanism permits the user to add or suppress E1 lines and so to adapt dynamically the user speed in multiples of 1952 kbps.

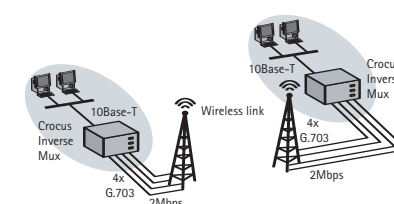
A complete range of plug-in interface boards makes the Crocus Inverse Multiplexer ideal for interfacing with almost any high-speed application. Not only traditional interfaces such as V.35, V.36, X.21 or RS-530, but also direct 10/100Base-T connections with integrated bridge or router functionality are available.

Typical 2 Mbps transport infrastructures on which this equipment can realise a cost-effective high-speed connection include HDSL (High-speed Digital Subscriber Lines), wireless 2 Mbps point-to-point and SDH (Synchronous Digital Hierarchy).

The example shows how the Crocus Inverse Multiplexer, equipped with an Ethernet interface, is used in combination with 2 Mbps wireless links to offer a high-speed (7808 kbps) LAN-to-LAN connection. This system offers a very attractive alternative to the use of routers equipped with multiple G.703/E1 ports, since the solution with a multi-port router is expensive and can be subject to poor performance because of issues related to load-balancing.

The unit is designed for integration into demanding network environments and can be controlled by the complete set of network maintenance and management tools as they are described in this catalogue.

TYPICAL APPLICATION: HIGH SPEED LAN-TO-LAN CONNECTION USING 2 MBPS BASED WIRELESS LINKS



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