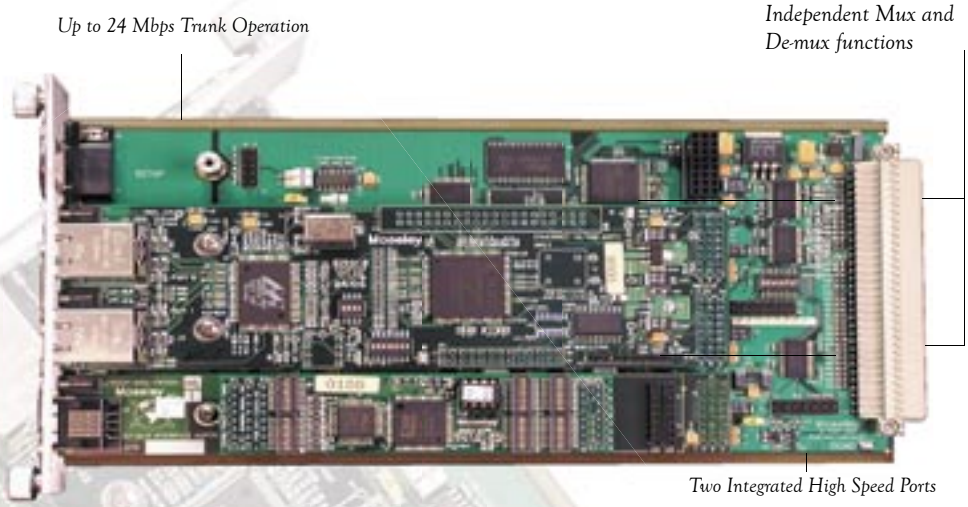
6-Port Voice/Data Multiplexer



Intelligent Multiplexer

- *6-Port Multiplexer*
- *12 Mbps resolution*
- *Voice / Fax / Data / Program / Video*
- *Over / Under Framing*
- *Up to eight cards can deliver 48 channels*
- *Six user-specified daughter cards for voice, low and high speed data*
- *Provides and accepts clocks*
- *Windows®-based network management and SNMP manager*

Ports	*1 to 6 Inputs, Trunk Output*
NMS Port	*Used for setup*
Aggregate Rate	*Up to 12 Mbps*
Trunk Interface	*V.35, V.11, RS-449, EIA 530, G.703,*
Resolution	*200 to 8000 bps Trunk Rate Dependent*
Clocks	*Interval, Derived, External Port*
High Speed	*Interface V.11, V.35, RS-449, EIA 530, G.703 Selectable 800 bps to 12 Mbps*
Low Speed	*RS-232 Interface Selectable 300 bps to 38,400 bps*
Voice	*RJ11 Interface Selectable G.711 (64 kbs), G.721 (32 kbps), FXS, FXO or 2W/4W E&M*
Ethernet	*10/100 Mbps with LAN Support*

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FXO Module

A plug-in interface card, the FXO module is used in the integrated multiplexer and provides a 2-wire voice interface to PBX or Central Office equipment.

- Indicators: Local ringing or remote off hook.
- Configuration: Software programmable via RS-232 setup port on multiplexer.
- Voice
  - 64 kbps PCM mu-law per G.711
  - 32, 24 or 16 kbps ADPCM per G.726
- General FXO Function
  - Programmable Line Interface
    - AC Termination
    - DC Termination
    - Ring Detect Threshold
    - Ringer Impedance
  - 84 dB Dynamic Range TX/RX Paths
  - Integrated Analog Front End (AFE) and 2- to 4-Wire Hybrid
  - Integrated Ring Detector
  - Caller ID Support
  - Loop Current Monitor
  - Clock Generation
  - Pulse Dialing Support
  - Billing Tone Detection
  - Overload Detection
  - Greater than 3000 V Isolation

FXS Module

A plug-in interface card, the FXS module is used in the integrated multiplexer and provides a 2-wire voice interface to a telephone.

- Indicators: Local off-hook.
- Configuration: Software programmable via RS-232 setup port on multiplexer.
- Voice
  - 64 kbps PCM mu-law per G.711.
  - 32, 24 or 16 kbps ADPCM per G.726 (without 40 kbps)
- General FXS Function
  - Performs all BORSCHT Functions Ideal for Short Loop Applications
  - Compliant with Relevant LSSGR and CCITT Specifications
  - 5REN Ringing Generator
  - Programmable Frequency, Amplitude, Waveshape, and Cadence
  - Programmable AC Impedence
  - A-Law/μ-Law, Linear PCM Companding
  - On-Hook Transmission
  - Programmable Constant Current Feed (20-41 mA)
  - Programmable Loop Closure and Ring Trip Thresholds with Debouncing
  - Loop or Ground Start Operation and Polarity Battery Reversal
  - DTMF Decoder
  - Dual Tone Generator
  - Multiple Loopback Modes for Testing
  - Pulse Metering
  - FSK Caller ID Generation

T1 / E1 Module

Fractional T1/E1 interface connects T1/E1 and transmits selected T1/E1 timeslots over synchronous interface with framing information and consists of a T1/E1 framer/deframer, a time-slot-assigner, a FIFO, and T1/E1 clock generator, and a Fractional T1/E1 clock generator.

- Fractional / Full T1 Interface:
  - Framing: D4, ESF
  - Supported Link Speeds: n x 64 kbps up to n = 24 (one less for fractional)
  - Line Code: AMI
  - Zero Suppression: Transparent, B8ZS
  - Impedance: 120 ohms, balanced
  - Jitter Performance: As per AT&T TR-62411
  - Connector: 15-pin HD (RJ-45 with adaptor)
  - Transmit Timing: Internal
  - Timeslot Allocation: Individually Selectable
- Fractional / Full E1 Interface:
  - Standard Compliance: CCITT Rec. G.703, G.704, G.732 (including CRC-4 and E bit)
  - Framing: 256N, 256S; with or without CRC-4
  - Supported Link Speeds: n x 64 kbps up to n = 32 (one less for fractional)
  - Line Code: AMI
  - Zero Suppression: HDB3
  - Impedance: 120 ohms, balanced; 75 ohms, unbalance (selectable)
  - Jitter Performance: As per CCITT G.823
  - Connector: 15-pin HD (RJ-45 or BNC with appropriate adaptor)
  - Transmit Timing: Internal, LBT

Ethernet Module

The interface provides a fully compatible IEEE 802.3 bridge for a multiplexer channel. WAN or LAN data can be passed transparently across the link at the full capacity or any sub-rate of the multiplexer.

Operation of the interface is at the MAC (Media Access Control) level and transparently passes higher-level protocols including TCP/IP. A 4-port Ethernet switch is a standard feature of the module.

- LAN Interface
  - Standard: Conforms to Ethernet / IEEE 802.3
  - Type: 10/100 base-T with RJ-45 connector
- Data Buffer Size: 1 Mb
- Protocol: HDLC based
- High performance Ethernet bridge module
- Bridge Mode: Self-learning MAC [Disabled on high-speed modem (Supernet) version (only supports packet forwarding)]
- 2048 MAC address LAN table
- WAN TTL interface to Intelli-Mux
- WAN link rate of up to 8.192 Mbps sync
- Wire-speed filtering/forwarding rate is only limited by multiplexer throughput
- Supports QoS, VLAN Tagging, Destination MAC IPv4 /IPv6 Traffic
- Port Rate Limiting and Port Rate Priority

4-Wire E&M Voice Module

The 4-Wire E&M Module accepts a user's 4-wire loop circuit with a frequency response from 300 Hz to 3 kHz with a standard impedance of 600 ohms in and out. It encodes into Pulse Code Modulation (PCM) or Adaptive Differential Pulse Code Modulation (ADPCM) for interfacing with the internal multiplexer.

- Interface Modes Supported: 4-Wire E&M
- Data rates:
  - 16 kbps G.726
  - 24 kbps G.723
  - 32 kbps G.721
  - 64 kbps G.711
- Complies with G.712 and G.713 specifications

64/128 kbps G.703 Module

The G.703 Synchronous High-Speed Module interface is a plug-on module for the internal multiplexer that provides synchronous, bi-directional G.703 communications with a data rate of 64/128 kbps. It complies with ITU-T recommendations: G.703 paragraph 1 and ITU-T recommendation 823. The module also performs under all G.703 conversion interface rules. The physical electrical interface is 120 ohms impedance, balanced, or optionally 75 ohms impedance, unbalanced.

- Interface Modes Supported: G.703
- Synchronous 64/128 kbps data rate.

USI Module

The Universal Serial Interface (USI) is a plug-on module that provides a channel interface to a variety of synchronous and asynchronous devices. The interface supports V.35, RS-422, RS-449, RS-232 and EIA 530. Synchronous data rates to 10 Mbps and common asynchronous data rates to 115.2 Kbps are supported.

- Interface Modes Supported:
  - V.24 / RS-232
  - EIA-530
  - V.35
  - V.36 / RS-422
  - V.11 / RS-449
- Synchronous/Asynchronous RS-232 operation.
- Synchronous data rates to 10 Mbps (dependent on cable lengths.)
- Asynchronous data rates: 1200,2400,4800,9600,19200,38400,57600,115200 baud.
- Clock timing modes dependent on Integrated Multiplexer

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