



PremNet[®]

Synchronous/Asynchronous Interface Modules

- Transparent transport of traffic across campus or metropolitan-area networks
- V.35, RS-232, and RS-422 support
- Multipoint capability
- DCE or DTE interface
- Mappable control lines
- Enhanced diagnostics and maintenance capability
- Network management through Milgo Management System, built-in management, or SNMP

PremNet®

Synchronous/Asynchronous Interface Modules

This PremNet® family of interface modules (V.35, RS-232, and RS-422) provides synchronous and asynchronous data communication and long-distance connectivity across the PremNet broadband access system. The PremNet system uses T3 (45 Mbps), Unilink (100 Mbps), SONET/SDH OC-3c/STM-1 (155 Mbps), and ATM OC-3c/STM-1 (155 Mbps) technology to seamlessly connect V.35, RS-232, and RS-422 devices that are geographically dispersed by hundreds of miles.

Multipoint Without Extra Bandwidth

Using PremNet, these interface modules allow several connections to be on the same virtual circuit. You can drop ports to different locations on the PremNet backbone network. The PremNet matrix switch technology allows your multipoint synchronous/asynchronous applications to share the same bandwidth (time-slot allocation) regardless of how many drop-offs are configured.

Choice of Network Management Interface

The PremNet interface modules and the entire PremNet network can be managed from a variety of network management platforms. You can choose to use existing Simple Network Management Protocol (SNMP)-compliant network management system, the Milgo CMS® Management System, or the PremNet local on-board management via an asynchronous terminal attached to any node on the network.

The PremNet synchronous/asynchronous interface modules are network-managed, providing configuration, test and view/monitor capability on a port-by-port or module-by-module basis. Each port on a module can be independently software-configured.

DTE or DCE and Configurable Options

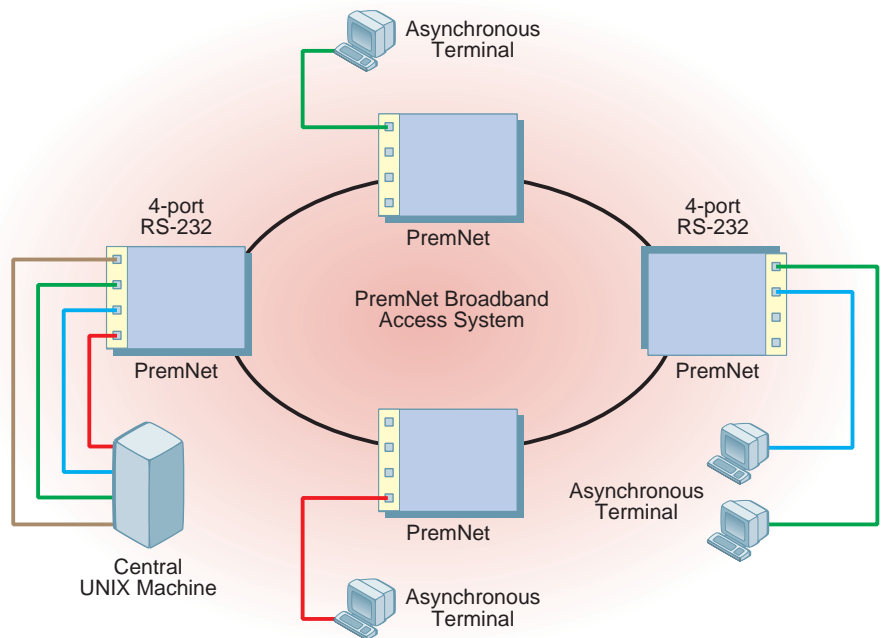
All three synchronous/asynchronous interface modules are software-configurable for either DTE or DCE interface, allowing you to change the direction of the data from DTE to DCE or vice-versa. The configuration options include DDS, Loopback, and Strap Control Line.

- **DDS** - Allows ports to be configured for digital data service via a built-in retiming buffer.
- **Loopback** - Sets the interface into port or fiber loopback for easy diagnostics and maintenance.
- **Strap Control Line** - Connects any output control signal to any input control signal (control or fiber).

V.35 Interface Module

The PremNet V.35 interface module provides software-configurable data rates (up to 2.048 Mbps on each port). Each of the four Winchester (M34) ports on a module may be configured independently.

The module has a total of six mappable control signals (three transmit and three receive), each with a software-configurable delay of up to ~24 msec. A built-in test-pattern generator also is included for enhanced diagnostics and maintenance.



PremNet Asynchronous Multidrop Application

RS-232 Interface Module

Milgo offers two versions of the PremNet RS-232 interface module: 4 ports or 32 ports with data rates of up to 19.2 Kbps.

Typical applications for the RS-232 module include machine control, remote sensing, and remote video camera control. Airports (throughout the United States and overseas) also use PremNet RS-232 modules to transport low-speed telemetry and radar data.

Highway Monitoring – A transportation department uses a widely deployed PremNet fiber optic backbone network to monitor and control traffic in congested downtown areas of the city. Sensor pads (imbedded in roadway on-ramps and toll areas) can collect data as vehicles pass over them, reporting back to a 170 controller. The data (in RS-232 format) can then be transported across a PremNet fiber backbone ring to a central Traffic Control Center, where it is processed via a Digital Equipment Corporation VAX.

Remote Camera Control – A Traffic Control Center can use additional RS-232 interface modules to remotely control dozens of video cameras mounted on roadway overpasses. Using the RS-232 modules to transport all camera pan, tilt and zoom command functions, the Traffic Control Center can detect congestion problems and accidents immediately, improving safety and reducing accident response times.

Multidrop Capability, Full-Control Signals, Low-Speed Telemetry

The 4-port version of the PremNet RS-232 module offers multidrop functionality as well as synchronous and asynchronous data transport via four standard RS-232 ports.

Full control-line signals – CTS, DTR, RTS, BSY, UNA, DSR, DCD, and RI – enable you to continuously monitor the activity of the control lines.

High Port Density

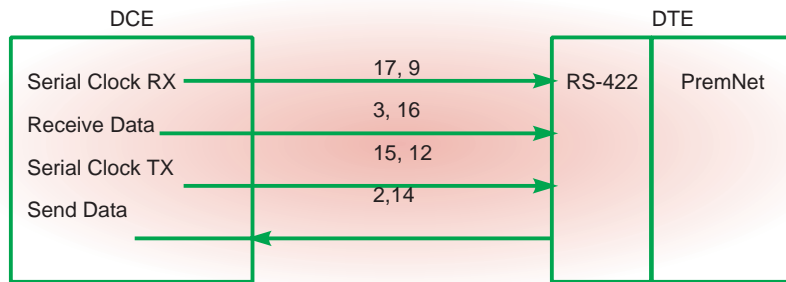
When multiple RS-232 connections are a major concern, the 32-port asynchronous module offers unparalleled port density – you can connect as many as 32 terminals to a single PremNet module. Each PremNet chassis (node) has slots for eight interface modules, and up to 16 PremNet nodes can be connected in a single ring. A fully populated network can support up to 4,096 RS-232 connections.

On the 32-port version, the ports are distributed among 8 groups of 4 ports each. Each group can be software-configured independently; “loop-back” mode allows groups to be dropped off at user-specified locations.

RS-422 Interface Module

The PremNet RS-422 module has four DB-25 ports with data rates that range from 56 Kbps to 2.048 Mbps on each port. With as many as eight modules in one node (chassis), up to 512 RS-422 ports may be connected in a single PremNet ring.

The RS-422 interface module has a total of five mappable control signals (three transmit and two receive), each with software-configurable delay of up to ~24 msec. A built-in test-pattern generator also is included for enhanced diagnostics and maintenance capability.



RS-422 Module Configured as a DTE being Clocked by the DCE

PremNet®

technical specifications

RS-232 Module-Specific

Part Numbers	PN850020	RS-232 interface module (4-port)
	PN850057	RS-232 interface module (32-port)
Ports/Connectors	4-port version configured as DCE presented on DB-25 female connectors 32-port version is via 50-pin telco female connectors	
Data Format	EIA-232C compliant	
Data Rate/Timing Jitter	19.2 Kbps ± 2.7% for 4-port 19.2 Kbps ± 2.7% for 32-port using two time slots	
Clock Modes/Rates	Internal (six software-selectable), external, slave, and asynchronous for 4-port version Asynchronous for 32-port version	
Control Signals	Four each direction, with less than 6 msec delay (4-port version)	
Bandwidth/Time Slot Requirements	One PremNet time slot is required for an RS-232 point-to-point or multipoint virtual circuit	

technical specifications continued

RS-422 Module-Specific

Part Number	PN850022	RS-422 interface module
Ports/Connectors	Four DB-25 female connectors	
Data Format	EIA-422 compliant	
Data Rates/Timing Jitter	Internal Clock: 56, 64, 112, 128, 256, 384, 448, 512, 768, 772, 1,024, 1,536, 1,544, and 2,048 Mbps External Clock: 24.4 Kbps to 2.048 Mbps Asynchronous: 0 to 256 Kbps (maximum timing jitter ~3% at 64 Kbps sync)	
Control Signals	Five (three transmit, two receive), with soft-configurable delay up to ~24 msec Control line delay <3 msec typical	
Bandwidth/Time Slot Requirements	One PremNet time slot is required for an RS-422 point-to-point or multipoint virtual circuit	

V.35 Module-Specific

Part Number	PN850023	V.35 interface module
Ports/Connectors	Four Winchester (M34) female connectors	
Data Format	CCITT V.35 compliant	
Data Rates/Timing Jitter	Internal clock: 56, 64, 112, 128, 256, 384, 448, 512, 768, 772, 1,024, 1,536, 1,544, and 2,048 Kbps External clock: 24.4 Kbps to 2.048 Mbps Asynchronous: 0 to 256 Kbps (maximum timing jitter ~3% at 64 Kbps sync)	
Control Signals	Six (three transmit, three receive), with software-configurable delay up to ~24 msec Control line delay <3 msec typical	
Bandwidth/Time Slot Requirements	One PremNet time slot is required for a V.35 point-to-point or multipoint virtual circuit	

RS-232, RS-422, and V.35 Modules

LEDs	Three (alarm, standby and active) on chassis	
Configuration Maximum	Up to eight modules per node; 16 nodes per ring	
Network Management	Managed via the standard PremNet integrated system, the Milgo CMS Management System or SNMP-compliant network management	
Environmental	Operating temperature	32° to 122° F (0° to 50° C)
	Storage temperature	-40° to 158° F (-40° to 70° C)
	Humidity	95% noncondensing

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