RAYMAR TELENETICS

Alliance / Datalink Series

PENRIL MODEM FAMILY
V.34M/33.6, V.32M/19.2, V.32M/14.4

KEY FEATURES

- Universal, multimode, multispeed data and fax modems
- High performance Digital Signal Processing provides fast, flexible communications, 33.6Kbps to 300bps with DTE speeds to 230Kbps and support for 14.4Kbps fax traffic
- Supports advanced features that maximize network uptime
- Multiple hardware versions to satisfy diverse installation requirements
- Rapid set-up for both local and remote devices
- Continuous Data Terminal Equipment (DTE) and telephone line status reporting and comprehensive diagnostics
- Compatible with Group 3, Class 1 and Class 2 fax and supports multiple modulation standards and speeds for fax transmission
- Supports automatic dial backup for leased line and dial applications
- Multiple levels of network security

ADVANCED V.34 FEATURES

The **Raymar-Telenetics** Penril V.34 modem operates at speeds up to 33.6Kbps over the standard Public Switched Telephone Network (PSTN) in accordance with ITU-R V.34 recommendation and over 2- or 4-wire unconditioned leased lines. Call setup is accommodated by either ITU-R V.8 or V.25 procedures. Channel probing by the Penril V.34 automatically conditions the unit for maximum throughput and performance. Asymmetrical connection data rates allow maximum throughput when channel directional characteristics differ. The Penril V.34 provides fallback rates in accordance with the V.34 recommendation to accomodate channel limtis: 33.6K, 28.8K, 26.4K, 24.0K, 21.6K, 19.2K, 16.8K, 14.4K, 12.0K, 9600, 7200, 4800, 2400, 1200, 600, and 0-300 bits per second (bps).

INSTALLED BASE COMPATIBILITY

The **Raymar-Telenetics** Penril V.34 will fall back to non-V.34 modes to connect with installed base V.32terbo, V.32bis, V.32, V.22bis, Bell 212A, V.22, V.21, and V.23 modems. Also, the Penril family of modems support ITU-T V.13 for half-duplex simulation to work with those systems already configured for half-duplex modems. The V.29 Fast Train (FT) mode is available for multidrop applications on all Penril modems.

FAX TRANSMISSIONS

The **Raymar-Telenetics** Penril modem family is compatible with Group 3, Class1, and Class 2 fax and supports multiple modulation standards and speeds for fax transmission, including:

- ITU-T V.17 at 14.4K, 12.0K, 9600 & 7200bps
- ITU-T V.29 at 9600 & 7200 bps
- ITU-T V.27ter at 4800 & 2400bps
- ITU-T V.21 channel 2 at 300bps for T.30

Integrated support for fax traffic means that the Penril family works with standard communications software packages to:

- Receive faxes on your computer and print faxes on a local plain paper printer
- Send faxes directly from your computer, and,
- Send data at rates up to 230.4Kbps

NETWORK MANAGEMENT

The management software built into the **Raymar-Telenetics** Penril modem family is compatible with Penril Communications Series 6000 Network Management System. The Series 6000 provides centralized configuration, status monitoring and diagnostic control over a network of Penril modems in any operating mode: dial-up line, leased line, or a combination of both. The Penril reports the condition of the attached DTE port and telephone line to the network management console for easy detection and diagnosis of network faults.

PENRIL MODEM FAMILY: *Alliance / Datalink Series*
V.34M/33.6, V.32M/19.2, V.32M/14.4   PRODUCT SPECIFICATIONS

AUTOMATIC DIAL BACKUP

Penril modems support auto dial backup for leased line & dial applications. For leased line applications, the modem monitors the received carrier level and signal quality; in the event performance drops below selected thresholds, Penril modems will automatically establish a dial connection to the remote modem. Automatic loopback allows the communications path to be returned to the leased line when conditions permit. In dial mode, the modem will redial the number stored in any selected memory cell in the event the connection is lost.

AT & V.25bis AUTODIALERS

Automatic call origination is provided via an AT-compatible or ITU-T V.25bis-compliant autodialer. The AT emulation mode allows the modem to interface with a computer or device running intelligent communications software designed to drive an AT-style modem. The V.25bis autodialer complies with asynchronous and synchronous international serial call origination standards.

V.54 DIAGNOSTICS

Versatile diagnostics are supported for rapid problem isolation and uptime maximization. ITU-T V.54 tests plus selftest can be initiated from the units front panel via AT commands throught the DTE interface or through the DIAG port. Penril modems support Analog Loopback (Loop3), Analog Loopback Selftest, Analog Loopback Selftest with Errors, Remote Digital Loopback (Loop2), and Remote Digital Loopback Selftest. In addition to diagnostic tests, Penril modems provide numerous status displays for monitoring the DTE interface and telephone line transmit and receive conditions. The status information is displayed on the units front panel and is available remotely to minimize service calls to remote locations.

V.42bis & MNP CLASS 5

The Penril modem family supports ITU-T V.42bis and MNP classes 1 through 5 to provide end-to-end error correction and data compression between modems equipped with V.42bis or MNP in the asynchronous operating mode. Error correction is provided by V.42 and MNP classes 2-4. Error correction and data compression is available in both dial and leased line operation.

NETWORK SECURITY

Multiple levels of network security are provided by the Penril family of modems. Penril modems can be programmed to provide manual password protection (MPP) by calling back or passing through the incoming caller after password validation. Automatic password protection (APP) can be used in the synchronous operating mode as well. APP provides transparent security support by incorporating the password as part of the modem training process. Additionally, the Penril modem can be programmed to call back the originator during the APP security process.

SOFT SETUP

Penril modems support multiple methods of modem configuration. The LCD and six frontpanel pushbuttons can configure the unit and alleviate the need for internal switches. AT commands can be used to control configuration parameters through DTE interface. There is also a separate DIAG port through which configuration can be done from a dumb terminal or the Series 6000 Network Management System on both the local and remote modems.

COMPATIBLE STANDARDS		
ITU-T V.34	33.6K to 19.2K bps	V.34M/33.6 only
V.32 TERBO	19.2K, 16.8K bps	N/A V.32M/14.4
ITU-T V.32BIS	14.4K, 12.0K bps	ALL MODELS
ITU-T V.33	14.4K, 12.0K bps	ALL MODELS
ITU-T V.29	9.6K, 7.2K, 4.8K bps	ALL MODELS
V.29FT (Fast Train)	9.6K, 7.2K, 4.8K bps	ALL MODELS
BELL 208 A/B	4.8K bps	ALL MODELS
ITU-T V.22 BIS	2.4K bps	ALL MODELS
BELL 212A	1.2K bps	ALL MODELS
BELL 103	0-300 bps	ALL MODELS
ALTERNATE FALLBACK CAPABILITY		
ITU-T V.22	1.2K bps	ALL MODELS
ITU-T V.21	0-300 bps	ALL MODELS
ITU-T V.23	1.2K/75 bps	ALL MODELS
FAX MODE COMPATIBILITY		
ITU-T V.17	14.4K,12.0K,9.6K,7.2K bps	ALL MODELS
ITU-T V.29	9.6K, 7.2K bps	ALL MODELS
ITU-T V.27TER	4.8K, 2.4K bps	ALL MODELS
ITU-T V.21 CHAN	300 bps	ALL MODELS
2 T.30		
FAX OPERATION		
Class 1		ALL MODELS
Class 2 (TIA/EIA 578, preliminary EIA 2388)		ALL MODELS
MODEM OPERATION		
LEASED:		
Tx Level: Selectable, 0 to -15dBm		ALL MODELS
CD Threshold: Selectable, -26, -33, -43dBm		ALL MODELS
DIAL:		
Tx Level: Permissive or Selectable, 0 to -15dBm		ALL MODELS
CD Threshold: Selectable, -26 -33, -43dBm		ALL MODELS

DATA RATES		
Dial Modes 33.6K to 300 bps		V.34/33.6 only
Leased line Modes 33.6K to 2.4K bps		V.34/33.6 only
Dial Modes 19.2K to 300 bps		NA V.32m/14.4
Leased Line Modes 19.2K to 2.4K bps		NA V.32m/14.4
Dial Modes 14.4K to 300 bps		ALL MODELS
Leased Line Mode 14.4K to 3500bps		ALL MODELS
TELCO CONNECTION		
Full Duplex over 2-Wire Dial Lines		ALL MODELS
Full Duplex over 2- or 4-Wire Leased Line		ALL MODELS
Half Duplex		ALL MODELS
Simulated Half Duplex V.13		ALL MODELS
DTE (Data Terminal Equipment) CONNECTION		
RS232C/D, ITU-T V.24/28		
Async: 230K to 300 bps		V.34
115.2K to 300 bps		V.32
Sync: Internal, External, or Slaved Xmit Clock		ALL MODELS
PHYSICAL CONNECTIONS		
2- and 4-Wire Leased Line	RJ45S and RJ11	
2-Wire Dial Line	RJ45S	
Diagnostic Port	RJ45S	
RS232C/D Port	DB25S	
Power	(5-pin DIN Connector, 9/9VAC 50/60Hz)	
	12/24/48VDC Versions Available	
PHYSICAL DIMENSIONS		
Stand-Alone & Full Height Rack Mount:	2.5"H x 9.7"W x 10.1"D	
Half-Height Rack Mount Models:	1.25"H x 9.7"W x 10.1"D	
WEIGHT		
Stand-Alone Model:	4 lb, 2 oz.	
Full-Height Rackmount Model:	2 lb	
Half-Height Rackmount Model:	1 lb, 8 oz	

RAYMAR TELENETICS

Manufactured in the USA by RAYMAR-TELENETICS

WARRANTY

Raymar-Telenetics manufactured products are warranted against defects in hardware material and workmanship under normal use for one (1) year from date of original retail purchase. Defective product will be repaired or replaced, determination to be made by Raymar-Telenetics, at no charge. Repaired or replaced products are warranted for 90 days or for original warranty period, whichever is longer. Warranty extends to original end-user only.