Line Drivers

Short-Range Modems and Modem Eliminators

Self-Powered Line Drivers

ASYNC

DB-25, DB-9, DB-15

to 19.2 kbps
17 miles
(27 km)

Model 1000, 1009, 1015
Page 203

ASYNC/MULTIDROP

DB-25, DB-9

to 115.2 kbps
9 miles
(14.5 km)

Model 1004A/1008
Page 205

SYNC

to 19.2 kbps
11 miles
(17.7 km)

Model 1020
Page 207

SYNC & ASYNC

Low Speed

to 38.4 kbps
12 miles
(19.3 km)
Multi-Drop

Model 1040
Page 206

Powered Line Drivers

LOW SPEED UNITS

Basic

to 38.4 kbps
14 miles
(22.5 km)

Model 1050
Page 210

Multipoint

to 115.2 kbps
14 miles
(22.5 km)

Model 1060
Page 210

Long Range & Multipoint

to 64 kbps
17 miles
(27 km)

Model 1080A
Page 212

Fiber Modems

ASYNC RS-232

to 19.2 kbps
5 miles
(8 km)

Model 1110A
Page 216

ASYNC RS-485

to 115.2 kbps
1.25 miles
(2.01 km)

Model 1104
Page 216

ASYNC/SYNC RS-232

to 38.4 kbps
4 miles
(6.4 km)

Model 1140A
Page 216

Modem Eliminators

ASYNC

Null Modem
Adapters

Model 6
Page 241

SYNC RS-232

Low Speed

300 ft (91 m)
Extension

Model 1200
Page 214

to 512 kbps

150 ft (46 m)
Extension

Model 1202
Page 214

Going the Distance

SYNC & ASYNC

High Speed

to 64 kbps
6 miles
(9.7 km)

Model 1045
Page 209

PARALLEL

Wire Speed

2,000 feet
(610 m)

Model 1225
Page 208

INDUSTRIAL MODEMS FOR OUTDOOR USE

Temp: 32 to 158°F (0 to +70°C) **Temp: 14 to 158°F (-10 to +70°C)**

Environmentally
ruggedized sync./async.
baseband modems

Model 1065A (Standard Temp/Humidity)
Page 213

Model 1065E (Extended Temp/Humidity)
Page 213

USB & Wireless Modems

USB

to 196 feet
(60 m) over
Cat5e cable

Model 110
Page 202

WIRELESS

to 380 kbps
3,900 feet
(1,188 meters)

Model 1013
Page 217

V.35

to 144 kbps
300 ft (91 m)
Extension

Model 1205
Page 215

X.21

to 144 kbps
300 ft (91 m)
Extension

Model 1206
Page 215

In This Section

High Speed Serial Extender & RS-232 Serial Extender

Models 1053AF & 1052AF

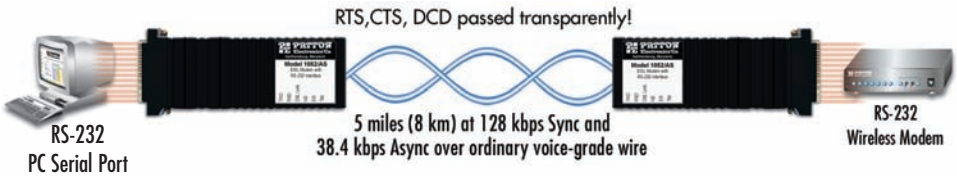
These miniature high-speed digital modems offer multi-rate Async/Sync while transparently passing modem control signals. Both 2-wire full-duplex modems uses 2B1Q modulation for superior noise immunity.

The 1053AF and 1052AF are long-range, powered, digital modems that operate synchronously or asynchronously at full duplex over a single twisted pair. The 1053AF operates at multi-rate async/sync speeds up to 115.2/128 kbps; the 1052AF at speeds up to 38.4/128 kbps. Both modems utilize 2B1Q modulation for superior signal strength, even in the noisiest environments. RS-232 serial connections with speeds of 128 kbps can now be extended to distances over 5 miles (8 km) without the use of repeaters! Using ordinary voice-grade wire, the serial extenders provide a cost-effective solution for high speed, dedicated, end-to-end connections with synchronous line rates up to 128 kbps and asynchronous line rates up to 115.2 kbps (1053AF) or 38.4 kbps (1052AF) that include RTS, CTS and DCD modem signals.

The modems' miniature size allow for a direct connection to your transmission device's serial port. Two 8-position DIP switches enable configuration of asynchronous or synchronous line rate settings. Additionally, LEDs are conveniently located on the side of the modems to provide at-a-glance status indication of the unit.

Application diagram

The Model 1053AF and Model 1052AF offer premium performance using the most common, inexpensive cabling infrastructure in the world, voice-grade telephone wire. Using 2B1Q modulation a serial port can be extended to distances of over 5 miles (8 km).



FEATURES & BENEFITS

- ✔ Multi-Rate Speeds—**1053AS**: Full-duplex synchronous rates to 128 kbps and asynchronous rates to 115.2 kbps **1052AS**: Full-duplex synchronous rates to 128 kbps and asynchronous rates to 38.4 kbps.
- ✔ Extends serial devices up to 5 miles (8 km) over ordinary grade twisted pair
- ✔ Pass RS-232 Control Signals—Transparently passes CTS, RTS, and DCD over the 2-wire line.
- ✔ Long Reach—Industry leading distances of over 26,000 feet (8 km) without repeaters.

ORDERING INFORMATION

1052/AF/UI: Async 38.4/Sync 128 kbps RS-232 Extender
1053/AF/UI: Async 115.2/Sync 128 kbps RS-232 Extender

SPECIFICATIONS

Clocking: Internal, external, or receive recover.
Line Coding: 2B1Q conforming to ANSI T1.601 and ETSI ETR-080 standards.
Line Interface: RJ-45; Two-wire twisted-pair using pins 4 & 5; Transformer coupled 1500 VRMS isolation
Maximum Line Distance for All Data Rates: 10.1 miles (16.4 km) on 19 AWG (0.9 mm) wire • 7.2 miles (11.5 km) on 22 AWG (0.64 mm) wire • 5.0 (8 km) on 24 AWG (0.5 mm) wire • 3.4 (5.5 km) on 26 AWG (0.4 mm) wire
Serial Interface: DB-25 Female or DB-9 Female depending on model ordered.
Serial Data Rates:
1083AS: Synchronous: 2, 56, 64, and 128 kbps • Asynchronous: 38.4, 57.6, 76.8, and 115.2 kbps
1052AS: Synchronous: 32, 56, 64, and 128 kbps • Asynchronous: 0–38.4 kbps.
LED Indicators: TXD, RXD, Link, NS (no signal), ER (CRC error)
Power Supplies: External wall-mount power supply with universal 90–260 VAC input or -12,-24, and -48 VDC input
Dimensions:
5.18L x 1.69W x 0.75H in.
(13.16L x 4.29W x 1.91H cm)
Weight: 2.01 lbs. (<1.0 kg)
Compliance: EMC: FCC Part 15, subpart B, class A (US) • EMC Directive 89/336/EEC (EU) • ICES-003 (Canada) • AZ/NZS 3548 (Australia C-Tick) • CISPR 22 (International)
Safety: UL 60950/CAN-CSA-C22.2 60950 (Safety—US/Canada) • EN 60950 (Safety—Europe/International)
Operating temp.: 32–122°F (0–50°C)
Humidity: 5–95% non-condensing
Altitude: 0–15,000 feet (0–4,572 meters)

USB 1.1 Extender Kit

Model 110

Extends the distance of a USB device to a host computer up to 196 feet (60 m) over Cat5e cable

Patton's Model 110 overcomes USB length limitations of 16 feet so that you have the flexibility to locate your USB printer, camera, web cam or any other USB device where you want them. The Model 110 extends the distance of a USB device to a host computer up to 196ft (60m) over Cat5e. The 110 is plug-and-play with absolutely no special software or drivers to install.

ORDERING INFORMATION

110-KIT: USB Extender Kit
0805XXX: USB Power Supply

FEATURES & BENEFITS

- ✔ Fully compliant with USB 1.1 specifications
- ✔ Provides support for any full speed (12 Mbps) or low speed (1.5 Mbps) USB devices
- ✔ No software required
- ✔ USB LED indicator for quick glance status checks

SPECIFICATIONS

USB: Fully compliant to USB 1.1
Rates: Full speed (12 Mbps)/Low speed (1.5 Mbps)
Connector:
- Local Unit: USB Type A Male; RJ-45
- Remote Unit: USB Type A Female; RJ-45

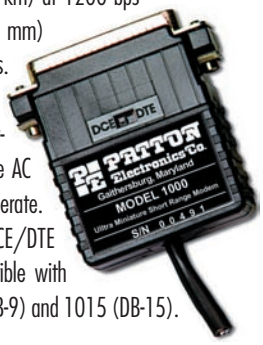
Active Pins: Power 1 & 4; Data 2 & 3
Distances:
- **Cat 5:** non-powered 98 ft (30m)
- **Cat 5:** powered 165ft (50m)
- **Cat 5e/6:** non-powered 196 feet (60 m)
- **Cat 5e/6:** powered 263 feet (80 m)

Operating temp.: 32 to 104°F (0 to 40°C)
Storage temp.: -40 to 185°F (-40 to 85°C)

Basic Point-to-Point Async SRMs

Models 1000 & 1009

The Model 1000 async short range modem plugs directly into a DB-25 RS-232 port. A pair of Model 1000s supports distances up to 17 mi (27.4 km) at 1200 bps over two 19 AWG (0.9 mm) unconditioned twisted pairs. Operating at data rates up to 19.2 kbps, this cost saving device does not require AC power or batteries to operate. The Model 1000 is DCE/DTE switchable, and is compatible with the Patton Model 1009 (DB-9) and 1015 (DB-15).



The Model 1000S incorporates 600 watts per wire of built-in Silicon Avalanche Diode surge protection.

Rack card, DB-9 (EIA-574), & DB-15 versions are also available!

The dual-port Model 1000RC rack card incorporates two Model 1000 short range modems. You can fit up to 32 SRMs in each 19-in. rack. The Model 1000RC card is available with RJ-11 or RJ-45 rear interface cards.

FEATURES & BENEFITS

- ✔ Range to 17 miles (27.4 km) on 19 AWG at 1,200 bps
- ✔ Data rates to 19,200 bps
- ✔ External DCE/DTE switch
- ✔ FCC Approved—Part 15 Class A

SPECIFICATIONS

Transmission Format: Async
Data Rate: 0 to 19,200 bps (no strapping)
Control Signal: CTS (Pin 5) turns ON immediately after the terminal raises RTS (Pin 4); DSR (Pin 6) and DCD (Pin 8) turn ON immediately after the terminal raises DTR (Pin 20)
Transmit Line: 4 wire, unconditioned line (2 twisted pair)
Transmit Mode: Full duplex, 4-wire
Transmit Level: 0 dBm
Line Connection: RJ-11 or RJ-45 jack or 5 screw terminal posts and a strain relief
Surge Protection: 600W power dissipation at up to 1 msec
Power: None required, uses ultra low power from EIA data and control signals
Dimensions: 2.20 x 1.75 x 0.75 in. (5.59 x 4.45 x 1.91 cm)

ORDERING INFORMATION

1000M: Male DB-25/terminal block
1000F: Female DB-25/terminal block
1000SM: DB-25, surge protected
1000F RJ11: DB-25/RJ-11 jack
1000M RJ45: DB-25/RJ-45 jack

1009M: Male DB-9/terminal block
1009F: Female DB-9/terminal block
1009SM: DB-9, surge protected
1009F RJ11: DB-9/RJ-11 jack
1009M RJ45: DB-9/RJ-45 jack)

Rack card supports two modems per card.
1000RC11: Dual Rack Card, RJ-45 DTE, RJ-11 line
1000RC45: Dual Rack Card, RJ-45 DTE, RJ-45 line

Note: Other models (including DB-15) are available, call for details.

Transformer Isolated SRMs Guard Against Ground Loops

Models 1010B, 1016 & 1019

The Patton Model 1010B async, 4-wire, transformer isolated short range modem is the best choice for data-only RS-232 connections between buildings. Capable of distances up to 9.5 miles, the Model 1010B's transformer isolation provides immunity from ground loops. 600 watts of built-in surge protection is standard. No AC power or batteries are required for operation.

Rack card, DB-9, DB-15, & RJ-11 versions are also available!

Patton has DB-9, DB-15, RJ11 and rack-card versions! And they're all compatible with the Model 1010B up to 19.2 kbps!

FEATURES & BENEFITS

- ✔ Immune to ground loops
- ✔ Range to 8 miles (12.9 km) over 2 twisted pairs
- ✔ Asynchronous data rates to 115.2 kbps (Model 1010B only)
- ✔ Surge protection is standard (on Model 1010B only)
- ✔ External DTE/DCE switch
- ✔ Support async, point-to-point, RS-232, communication over two twisted pairs
- ✔ Connects to DB-9 and DB-15 interfaces
- ✔ Compatible with Patton Model 1000
- ✔ Transformer isolated Models 1016 and 1019 for between-building applications

SPECIFICATIONS

Transmission Format: Asynchronous, full duplex
Transmission Line: Two unconditioned twisted pair 19–26 AWG
Interfaces: EIA RS-232, CCITT V.24
Data Rates: Low speed mode: 300 bps–57.6 kbps; High speed mode: 2400 bps–115.2 kbps
Isolation: Minimum 1500V RMS using custom transformers
Control Signals: DSR and DCD follow DTR from the terminal (DTE); CTS follows RTS from the terminal (DTE)
Surge Protection: 600W power dissipation
Connectors: DB-25 male or female on RS-232 side; RJ-11, RJ-45 or terminal block with strain relief on line side
Dimensions: 2.66 x 2.10 x 0.73 in. (6.7 x 5.3 x 1.9 cm)
Power Supply: None required; uses power from EIA data and control signals
Op. Temp: 32–122°F (0–50°C)
Altitude: 0–15,000 ft (0–4,572 m)
Humidity: 5 to 95% non-condensing
Weight: 2 oz. (56.8 grams)

ORDERING INFORMATION

1010BM: Male DB-25/terminal block
1010BF: Female DB-25/terminal block

1010BF RJ11: with RJ-11 jack
1010BM RJ45: with RJ-45 jack

Rack card supports two modems per card
1010RC11: Dual Rack Card, RJ-45 DTE, RJ-11 Line
1010RC45: Dual Rack Card, RJ-45 DTE, RJ-45 Line

Full-duplex RS-232 Over 2-wire Twisted Pair or Coax!

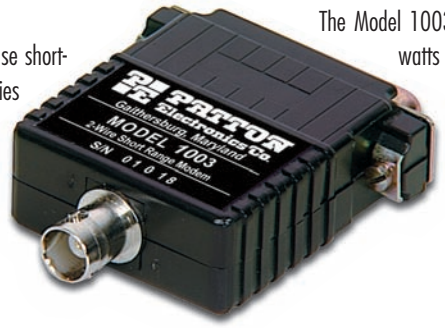
Models 1002 & 1003

The best choice for data-only applications using coax or a single twisted pair.

The **Model 1002** miniature RS-232 short range modem operates full duplex over a single twisted pair or coax cable. Requiring no AC power for operation, the Model 1002 is available with male or female DB-25 connectors, and either strain relief/terminal block, RJ-11, RJ-45 or coax line connections. The surge-protected Model 1002S provides 600 watts per wire of protection against nearby lightning strikes and other transients.

The Model 1003 is particularly applicable to environments where coax cable is already installed, or where there is a desire to double the carrying capacity of existing twisted pair lines. Besides its usefulness in UNIX environments (where the host must see carrier to send a logon screen to a terminal), the Model 1003 is also tailored for troubleshooting in systems where the presence or absence of carrier indicates positive or negative line integrity.

The **Model 1003** async., 2-wire, carrier sense short-range modem combines the 2-wire capabilities of the Model 1002 with the carrier sense capabilities of the Model 1005. The result is a versatile short haul that allows RS-232 UNIX systems (and similar systems that require carrier sense handshaking) to communicate over coax or a single twisted pair.



The Model 1003S incorporates 600 watts per wire of silicon avalanche diode surge protection on the line side.

Model 1002 & 1003 Distance Table - Mile (Km)			
Data Rate	Wire Gauge		
	19 (.9mm)	22 (.6mm)	24 (.4mm)
19,200	2.2 (3.5)	1.6 (2.6)	1.2 (1.9)
9,600	3.0 (4.8)	2.1 (3.4)	1.6 (2.6)
4,800	4.3 (6.4)	2.6 (4.2)	1.7 (2.7)
2,400	5.3 (8.5)	2.8 (4.5)	1.8 (2.9)
1,200	5.6 (9.0)	2.8 (4.5)	1.8 (2.9)

FEATURES & BENEFITS

- ✔ Carrier sense handshaking (1003)
- ✔ Operates over coax or a single twisted pair
- ✔ Data rates to 19.2 kbps at 1 mile (2 km)
- ✔ Ideal for UNIX operating environment
- ✔ Available with BNC, RJ-11, RJ-45 or terminal block 2-wire interfaces
- ✔ 600 watts per wire of surge protection

Carrier Sense

Patton's carrier sense short range modems incorporate a special handshaking feature that allows them to "sense" the presence of a carrier signal on the line. This carrier sense feature enables the Model 1003, 1005 and 1006 to perform specialty functions not possible with "data only" SRMs. For example, in UNIX operating environments, the host often needs to see that a terminal is ON before it will send a logon screen. The Model 1003 automatically senses carrier on the line when a terminal is ON, thus fulfilling this requirement.

Coax (BNC) Connections

Available for All 2-Wire Modems

All Model 1002/1003 versions are available with coaxial (BNC) line connections. They're perfect for your installed base of coax cable.

*I'm Denise, one of Patton's Sales Associates for Western Europe. Call me at **+1 301.975.1000** when you want to purchase Patton products or if you have questions about our products. You can also send e-mail to **sales@patton.com**.*

ORDERING INFORMATION

1002M: Male DB-25/terminal block
1002F: Female DB-25/terminal block
1002SM: with surge protection
1002F RJ11: with RJ-11 jack
1002M RJ45: with RJ-45 jack
1002M CX: with coax BNC connection
1003M: Male DB-25/terminal block
1003F: Female DB-25/terminal block
1003SM: with surge protection
1003F RJ11: with RJ-11 jack
1003M RJ45: with RJ-45 jack
1003M CX: with coax BNC connection

Example
1003SFRJ45: Female DB-25, surge protected, RJ-45 jack

SPECIFICATIONS

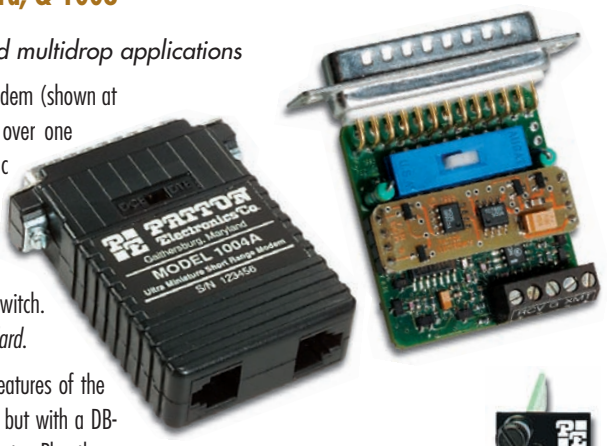
Transmission Format: Asynchronous
Transmit Line: 2 wire unconditioned twisted pair or coaxial cable
Transmit Mode: Full duplex
Transmit Level: 0 dBm
Control Signals: DSR and DCD turn ON immediately after the terminal raises DTR; CTS turns ON immediately after the terminal raises RTS
Range: Up to 1 mile (coax)
Data Rate: 0 to 19,200 bps (no strapping)
Power: None required, uses ultra low power from EIA data and control signals
Dimensions: 2.20 x 1.75 x .75 in. (5.6 x 4.4 x 1.9 cm)
Temperature: 32–122°F (0–50°C)
Humidity: 95% non-condensing

High-Speed, Multipoint Short-haul Modem

Models 1004A, 1004A Rack Card, & 1008

Still the best choice for high speed multidrop applications

The **Model 1004A** 2/4 wire short range modem (shown at right) gives you up to 50 terminal drops over one (half duplex) twisted pair, and supports async data rates up to 115.2 kbps. Great for same-building applications, the Model 1004A has high/low impedance settings, selectable RTS/CTS delay and a DTE/DCE switch. *Plus*, 600 watts of surge protection is *standard*.



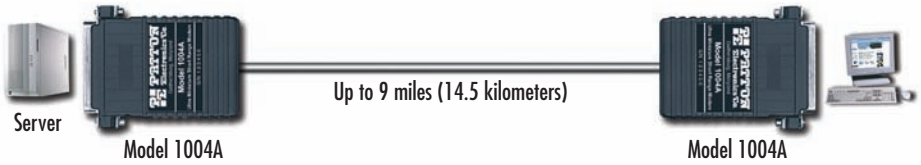
The **Model 1008** modem supports all the features of the popular Model 1004A, but with a DB-9 (EIA-574) connector. Plug them directly into closely-spaced serial ports. They are even compatible with stand-alone and rack-mount versions of the 1004A!

1004A rack card houses two SRMS!

Plug 16 Model 1004A rack cards into a 2U Patton 1001 or 1000 rack system and get 32 short-range modems!

Typical application

Typical application



Model 1004 & 1008 distance table, in miles (kilometers)

Data Rate (kbps)	Wire Gauge			
	19 (0.9mm)	22 (0.6mm)	24 (0.4mm)	26 (0.2mm)
115.2	3.5 (5.6)	2.6 (4.2)	1.4 (2.3)	0.9 (1.4)
38.4	5.0 (8.0)	2.9 (4.7)	2.2 (3.5)	1.5 (2.4)
9.6	7.1 (11.4)	4.6 (7.4)	3.5 (5.6)	2.8 (4.5)
1.2	9.0 (14.5)	6.5 (10.5)	5.0 (8.0)	3.9 (6.3)

FEATURES & BENEFITS

- ✔ Point-to-point full-duplex operation over 4 wires
- ✔ Multipoint (half-duplex) operation over 2 or 4 wires
- ✔ Multidrop up to 50 terminals
- ✔ Async. data rates to 115.2 kbps
- ✔ Range to 9 mi (14.5 km) on 19 AWG (0.9mm) at 1.2 kbps
- ✔ No AC power or batteries required

SPECIFICATIONS

Transmission Format: Asynchronous
Data Rate: Up to 115,200 bps
Transmit Line: 2, 4 wire unconditioned twisted pair
Transmit Mode: Full or half duplex
Transmit Level: 0 dbm
Range: Over 9 miles (14.5 km)
Dimensions: 2.66 X 2.10 X 0.73 in. (6.8 X 5.3 X 1.9 cm)
Surge Protection: 600W power dissipation for up to 1 msec
Control Signals: DSR turns "ON" immediately after the terminal raised DTR; DCD turns on after recognizing the receive signal from the line; CTS turns on 8 mSec after the terminal raises RTS
Power: None required, uses ultra low power from EIA data and control signals
Carrier: The carrier is a strap selected for either continuous operation or controlled by RTS

ORDERING INFORMATION

1004AM: Male DB-25/terminal block
1004AF: Female DB-25/terminal block
1004AFRJ11: with RJ-11 jack
1004AMRJ45: with RJ-45 jack
1004AMDR11: with dual RJ-11
1004AMDR45: with dual RJ-45
1004ARC11: Dual Rack Card, RJ-45 DTE, RJ-11 line:
1004ARC45: Dual Rack Card, RJ-45 DTE, RJ-45 line
1008M: Male DB-9/terminal block
1008F: Female DB-9/terminal block
1008FRJ11: with RJ-11 jack
1008MRJ45: with RJ-45 jack
1008MDR11: with dual RJ-11
1008MDR45: with dual RJ-45

Note: More models are available, check online at www.patton.com or call for details.

Multidrop Transformer-Isolated Asynchronous Short-Range Modem

Models 1012B & 1012ARC

Perfect for multidrop environments, transformer isolated for between-building applications.

The Model 1012B asynchronous short range modem is ideal for multidrop environments or for applications requiring hardware control signals. Attaining DC isolation through custom-designed ferrite core transformers, the Model 1012B operates effectively between buildings. In a point-to-point application, the Model 1012B will operate full or half duplex up to 5.2 mi (8.4 km). Supporting data rates to 38.4 kbps, the Model 1012B requires no AC power for operation. 600 watts per wire of silicon avalanche diode surge protection on the line side is standard.

The Model 1012ARC is a rack-mountable version of the Model 1012A. Model 1012ARC plugs into Patton's 2U high 19 inch chassis and provides you with two short haul modems per card. And, they are available with RJ-11 or RJ-45 line connectors.

Model 1012 distance table, in miles (kilometers)			
Data Rate	Wire Gauge		
	19 (0.9mm)	22 (0.6mm)	24 (0.4mm)
1,200 to 38,400	5.2 (8.4)	2.8 (4.5)	2.0 (3.2)

SPECIFICATIONS

Trans. Format: Asynchronous
Transmit Line: 4 wire unconditioned twisted pair
Transmit Mode: Full or half duplex
Transmit Level: -6 dBm

Control Signals: DSR turns "ON" immediately after the terminal raises DTR; DCD turns "ON" after recognizing the receive signal from the line; carrier is continuously "ON" or controlled by RTS; CTS turns "ON" 40 mSec after the terminal raises RTS

Surge Protection: 600W power dissipation at 1 mS
Data Rate: 0 to 38.4 kbps (no strapping)
Range: Up to 6 miles (9.7km), depending on wire gauge

Power: None required
Dimensions: 2.66" x 2.10" x 0.73" (6.8 x 5.3 x 1.9 cm)

FEATURES & BENEFITS

- ✔ Data rates to 38.4 kbps
- ✔ Supports 15 drops in a multipoint polling environment
- ✔ Transmits and receives one control signal each way
- ✔ Transformer isolated and surge protected
- ✔ External DCE/DTE switch

ORDERING INFORMATION

1012BFR11TB: Female DB-25; RJ-11 & terminal block
1012BMR11TB: Male DB-25; RJ-11 & terminal block
1012BFR45TB: Female DB-25; RJ-45 & terminal block
1012BMR45TB: Male DB-25; RJ-45 & terminal block
1012ARC11: Dual Rack Card, RJ-45 DTE, RJ-11 Line
1012ARC45: Dual Rack Card, RJ-45 DTE, RJ-45 Line

Note: More models are available, call for details.

Synchronous/Asynchronous Short-Range Modem

Model 1040

Sync/async in a compact SRM.

The Model 1040 self-powered miniature short range modem packs the features of Patton's Model 1080 into a package that requires no AC power. Operating asynchronously or synchronously, the Model 1040 supports data rates to 38.4 kbps and distances to 12 miles (19.3 km). The Model 1040 will operate over 2 or 4 wires, in point-to-point or multipoint environments. In synchronous mode, the Model 1040 supports internal, external or receive loopback clocking.

The Model 1040 incorporates two V.54 and two V.52 BER test modes, which can be activated via the RS-232 interface. Built-in LEDs let you monitor test mode operation.

Additional peace of mind comes from knowing that the Model 1040 has both transformer isolation and surge protection to guard against data loss. The Model 1040 is designed to plug directly into the RS-232 interface. Twisted pair wire is connected using RJ-11, RJ-45 or terminal blocks.

SPECIFICATIONS

Range: 10 miles (16.1Km) @ 1200 bps on 22 AWG 2-pair wire
Data Rates: Sync & Async: 1.2, 1.8, 2.4, 3.6, 4.8, 7.2, 9.6, 14.4, 19.2, 28.8, 38.4, externally switch selection
Operation: Point-to-point or multipoint
Transmit Mode: 2-wire/half duplex, 4-wire/full duplex

Connectors: DB-25 M, F (RS-232), RJ-11 jack and terminal block
Diagnostics: 100% V.54 compliant and 100% V.52 compliant BER tests
LED Indicators: BERT indicator, Loop/Test indicator
Interface: EIA RS-232, CCITT V.2

Carrier: Constantly ON or controlled by RTS
RTS/CTS Delay: Externally strap selected to 0.7, or 50 mS
Receive Clock: Derived from receive signal
Isolation: Transformer, 1500V RMS

Transmit Clock: Internal, external or looped back from recovered signal
Surge Protection: 600 watts power dissipation for up to 1 msec
Dimensions:
2.6 x .73 x 2.1 in.
(6.6 x 1.9 x 5.3 cm)

FEATURES & BENEFITS

- ✔ Async or sync operation
- ✔ RS-232 data rates to 38.4 kbps
- ✔ Distances to 12 mi (19.3 km)
- ✔ Point-to-point or multipoint
- ✔ 2-wire half duplex, 4-wire full duplex
- ✔ V.54 and V.52 test modes
- ✔ Internal, external or receive recover clocking (sync. mode)
- ✔ Transformer isolation and surge protection

ORDERING INFORMATION

1040M: Male DB-25/terminal block
1040F: Female DB-25/terminal block
1040SM: with surge protection
1040F RJ11: with RJ-11 jack
1040M RJ45: with RJ-45 jack

Note: More models are available, call for details.

Self-Powered, Synchronous, Short-Range Modems

Models 1020, 1025, & 1030

The Lowest Cost Solution for Sync Applications

The Models 1020, 1025, and 1030 are our most basic self-powered, synchronous short-range modems. Supporting data rates from 1.2 to 19.2 kbps, these units extend RS-232 communication up to 11 mi (17.7 km) at 1200 bps over two 19 AWG (0.9mm) unconditioned twisted pairs. The Model 1020 provides internal clock only, while the Model 1025 supports internal external and receive recover clock. The Model 1030 has all these features *plus* it passes a control signal in each direction—making it ideal for synchronous multipoint applications. All models have transformer isolation guarding against ground loops in between-building applications.

FEATURES & BENEFITS

- ✔ Selectable sync data rates from 1,200 to 19,200 bps
- ✔ Internal, external or receive recover clock (Model 1020, internal clock only)
- ✔ Ideal for multipoint configurations (Model 1030 versions only)
- ✔ Transformer isolation helps prevent ground loops
- ✔ Optional surge protection (Models 1020S, 1025S, and 1030S)
- ✔ FCC approved—Part 15 Class A
- ✔ No AC power required

RACKABLE See Pg 226

Dual RJ-11 or RJ-45 versions (1030) for easy daisy-chain installation!

Model 1020/1025/1030 distance table, in miles (kilometers)			
Data Rate	Wire Gauge		
	19 (0.9mm)	22 (0.6mm)	24 (0.4mm)
19,200	7.5 (12.1)	3.5 (5.6)	2.5 (4.0)
9,600	10.0 (16)	3.6 (5.6)	2.5 (4.0)
4,800	10.0 (16)	7.0 (11.3)	4.0 (6.4)
2,400	10.0 (16)	8.5 (13.7)	5.0 (8.0)
1,200	11.0 (17.6)	8.5 (13.7)	6.0 (9.7)

*I'm Natalie, Patton's Inside Sales Manager, US & Canada. Call me at **+1 301.975.1000** when you want to purchase Patton products or if you have questions about our products. You can also send e-mail to **sales@patton.com**.*

SPECIFICATIONS

Transmission Format: Synchronous
Clocking: Model 1020—Internal clock; Model 1025/30—internal, external, or receive recover clock (switch selectable)
Transmit Mode: Full duplex
Transmit Level: -6 dBm
Control Signals: CTS turns "ON" 8 mS after the terminal raises RTS; DSR and DCD are constantly "ON"
Surge Protection: 600W power dissipation
Data Rate: 1200 to 19,200 bps including 7.2 & 14.4
Power: None required; uses ultra low power from EIA data and control signals
Range: Up to 11 miles (17.7 km)
Dimensions: 2.66 x 2.10 x 0.73 in. (6.8 x 5.3 x 1.9 cm)

ORDERING INFORMATION

1020M: Male DB-25/terminal block
1020F: Female DB-25/terminal block
1020SM: with surge protection
1020F RJ11: with RJ-11 jack
1020M RJ45: with RJ-45 jack
1025M: Male DB-25/terminal block
1025F: Female DB-25/terminal block
1025SM: with surge protection
1025F RJ11: with RJ-11 jack
1025M RJ45: with RJ-45 jack

1030M: Male DB-25/terminal block
1030F: Female DB-25/terminal block
1030SM: with surge protection
1030F RJ11: with RJ-11 jack
1030M RJ45: with RJ-45 jack

Note: More models are available, call for details.

High Speed, Synchronous Short-Range Modem

Models 1035

Great for Low Cost LAN-to-LAN Campus Connectivity

The Model 1035 high speed short range modem supports synchronous data rates of 32, 56 and 64 kbps, and distances up to 6 mi (9.7 km) (19 AWG at 32 kbps) over two unconditioned twisted pair. Transmit clock options are internal, external and receive recover clock.

Powered from a 7.5V wall-mount transformer, the Model 1035 incorporates two V.54 test modes and a V.52 BER test pattern generator/detector. Five easy-to-read LED indicators monitor power, transmit data, carrier detect, test mode and test pattern. For protection against ground loops and transient surges, the Model 1035 incorporates both isolation transformers and silicon avalanche diode surge suppressors. The Model 1035 is available in an RS-232/V.24 version and a CCITT V.35/RS-530 version, both supported on a DB-25 connector. Twisted-pair connection are made using RJ-11 or RJ-45.

SPECIFICATIONS

Transmission Format: Synchronous
Transmission Line: Unconditioned twisted pair 19–26 AWG (0.7mm–0.4)
Clocking: Internal, external or receive recover
Interfaces: EIA RS-232/ V.24 or CCITT V.35
Data Rates: 32, 56 and 64 kbps (switch selectable)
Isolation: Minimum 1500 V RMS using isolation transformers
Surge Protection: 600W power dissipation for up to 1 msec
Control Signals: "Constantly on" or "Controlled by RTS"
RTS/CTS Delay: No delay, 7ms, 53ms
Power Supply: 7.5V DC wall mount transformer
Distance: To 6 mi (9.7 km)
Temperature Range: 32–122°F (0–50°C)
Dimensions: 3.6 x 2.1 x 0.8 in. (9.0 x 5.3 x 2.0 cm)

FEATURES & BENEFITS

- ✔ Sync Data Rates of 32, 56 and 64 kbps
- ✔ Distances up to 6 Miles (9.7Km)
- ✔ V.54 and V.52 Diagnostic Modes
- ✔ RS-232 or V.35 (RS-530) Versions
- ✔ Internal, External or Receive Recover Clocking Options
- ✔ Transformer Isolation and Surge Protection

ORDERING INFORMATION

RS-232/V.24 Versions
1035/24M RJ-11: Male DB-25/RJ-11 jack
1035/24F RJ-11: Female DB-25/RJ-11 jack
1035/24M RJ-45: Male DB-25/RJ-45 jack
1035/24F RJ-45: Female DB-25/RJ-45 jack

CCITT V.35 Versions
1035/35M RJ-11: Male DB-25/RJ-11 jack
1035/35F RJ-11: Female DB-25/RJ-11 jack
1035/35M RJ-45: Male DB-25/RJ-45 jack
1035/35F RJ-45: Female DB-25/RJ-45 jack

Note: More models are available, call for details.

Self-Powered Line Extenders

Model 1225 ParaLink™

Extend parallel communication to 2,000 feet (610 m) over a single twisted pair

The Model 1225 ParaLink answers a common office complaint: "Why can't we move our printer further away?" Using surface mount technology, the interface-powered ParaLink converts parallel signals to serial and transmits them up to 2,000 feet (610 m) before converting them back to parallel. This overcomes the inherent distance limitations of parallel communication! What's more, the ParaLink transmits over a single pair of wires—no more bulky 25 or 36-conductor cables. Because the ParaLink lets you choose between BUSY and ACKNOWLEDGE handshaking modes, it is compatible with most parallel printers and sharing devices on the market.

SPECIFICATIONS

Interface: Centronics/IBM parallel (DB-25)
Data Rate: 5 kbps (parallel)/40 kbps (serial)
Range: Up to 2,000 feet (610 m)
Transmit Line: One unconditioned twisted pair (2 wires)
Transmit Mode: Half duplex
Line Connection: RJ-11 or RJ-45 jack or 2 position terminal post and a strain relief
Interface Signals: Data bits 0-7, ground, busy or acknowledge (external switch selectable)
Power Supply: Interface powered, no AC power or batteries required
Dimensions: 2.67L x 2.10W x 0.74H in. (6.7L x 5.3W x 1.88H cm)

FEATURES & BENEFITS

- ✔ Interface Powered—No AC Needed
- ✔ Switchable ACK/BUSY handshaking enhances printer compatibility
- ✔ Accommodates "low power" printer interfaces
- ✔ DB-25 or Centronics connectors
- ✔ RJ-11, RJ-45 or terminal block twisted pair connection

ORDERING INFORMATION

Terminal block version
1225TM: Transmitter, male DB-25
1225CRM: Centronics receiver, male
1225RM: Receiver, male DB-25
1225RF: Receiver, female DB-25

RJ-11 version
1225TMRJ11: Transmitter, male DB-25
1225CRM: Centronics receiver, male
1225RM: Receiver, male DB-25
1225RF: Receiver, female DB-25

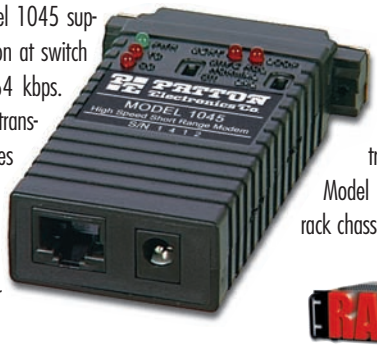
Note: More models are available, call for details.

High Speed, Short-Range Modem (RS-232 & RS-530)

Model 1045

Great for LAN-to-LAN or Tail Circuit Applications in Sync or Async Environments

The Model 1045 KiloModem™ is Patton's most capable plug-in short haul modem to date. The Model 1045 supports both async and sync communication at switch selectable data rates of 32, 56 and 64 kbps. Deriving power from an external AC transformer, the Model 1045 supports distances up to 6 miles/9.7Km (19 AWG @ 32 kbps) over two unconditioned twisted pair. Synchronous transmit clock options are internal, external and receive recover clock. The Model 1045 includes V.54 loopback diagnostics and a built-in V.52 BERT pattern generator/detector. Transformer Isolation and surge protection guard against ground loops and transients. A rack mount version, the Model 1045RC, fits in Patton's 16 slot rack chassis and 2/4/8-slot ClusterBoxes™



See Pg 226

RACKABLE

SPECIFICATIONS

Transmission line: 19–26 AWG (0.9–0.4mm) private unloaded twisted pair or unconditioned telephone company local area data (LAD) channels; (see AT&T specification 41028)
Data Rates: Async. 32, 56 and 64 kbps. Sync. 32, 56 and 64 kbps.
Carrier: Always on or controlled by RTS (point-to-point or multipoint operation)
Interface: EIA RS-232 or CCITT V.35
RTS/CTS delay: Switch-selected to 0, 7, or 53 mS
Diagnostics: 100% compliance with V.54 test modes (switch-selectable)
BERT: 100% compliance with V.52 including 511 & 511E bit pattern generation (switch-selectable)
Receive clock: Derived from receive signal
Transmit clock: Internal, external (from pin 24) or receive recover
Indicators: Status LEDs for TD, DCD,PWR and Test
Isolation: 1500V RMS via isolation transformers
Power supply: External wallmount transformer available with 120 or 230V
Surge suppression: 600W power dissipation
Dimensions: 3.55 x .2.1 x 78 in. (9.0 x 5.3 x 2 cm)

Model 1045 distance table, in miles (kilometers)			
Data Rate	Wire Gauge		
	19 (0.9mm)	24 (0.5mm)	24 (0.4mm)
64,000	5.3 (8.5)	4.2 (6.7)	2.5 (4.0)
56,000	6.8 (10.9)	4.2 (6.7)	2.6 (4.2)
32,000	9.1 (14.6)	4.7 (7.5)	3.0 (4.8)

FEATURES & BENEFITS

- ✔ Async or sync operation
- ✔ Data rates of 32, 56 & 64 kbps
- ✔ Distances to 6 miles (9.7 km)
- ✔ V.54 loopback test modes
- ✔ Built-In V.52 BER generator/detector
- ✔ Internal, external or receive recover clocking in sync mode
- ✔ Transformer isolation and surge protection

ORDERING INFORMATION

RS-232/V.24 Versions
1045/24M: RJ-11 Male DB-25/RJ-11 jack
1045/24F RJ-11: Female DB-25/RJ-11 jack
1045/24M RJ-45: Male DB-25/RJ-45 jack
1045/24F RJ-45: Female DB-25/RJ-45 jack

CCITT V.35 Versions
1045/35M RJ-11: Male DB-25/RJ-11 jack
1045/35F RJ-11: Female DB-25/RJ-11 jack
1045/35M RJ-45: Male DB-25/RJ-45 jack
1045/35F RJ-45: Female DB-25/RJ-45 jack

Async./Sync. Rack Card
1045RC11: DB-25 DTE & RJ-11 Line
1045RC45: DB-25 DTE & RJ-45 Line
1045RC4511: RJ-45 DTE & RJ-11 Line
1045RC4545: RJ-45 DTE & RJ-45 Line

Note: More models are available, call for details.

Async Short Range Modem with Extra Controls

Model 1018

The Perfect Solution for Inexpensive SLIP/PPP Campus Internet Connections

The Model 1018 async short range modem is able to pass two discrete sets of handshaking signals: DTR & DCD are used to control the point-to-point session, while RTS & CTS are used for flow control. This capability—combined with the Model 1018's ability to support RS-232 data rates up to 57.6 kbps over two twisted pair—makes the Model 1018 perfect for inexpensive campus Internet links. Just use a plug-in Model 1018 at each remote computer, a rack of Model 1018RC cards at the central site, and connect them with 2-pair copper wire at up to 2.4 miles (3.9 km)!

SPECIFICATIONS

DTE transmission format: Async
Transmission line: Unconditioned twisted pair 19–26 AWG (0.4mm)
Link Clocking: Internal
Distance: 2.4 miles (3.9km) at all data rates
Interfaces: EIA RS-232/CCITT V.24
DTE Data Rates: 1.2, 2.4, 4.8, 9.6, 19.2, 28.8, 38.4 and 57.6 kbps (switch selectable)
Control Signals: DTR/DCD (Session Control), RTS/CTS (Flow Control)
Carrier: "Constantly on" or "Controlled by DTR"
Surge Protection: 600W power dissipation for up to 1 msec
Isolation: Minimum 1500 V RMS using isolation transformers
Connectors: DB-25 female or male on RS-232 side; RJ-11 or RJ-45 on line side
Power: 7.5V DC wall mount transformer
Op. Temp: 32–122°F (0–50°C)
Dimensions: 3.55 x 2.1 x .80 in. (9.0 x 5.3 x 2.0 cm)

FEATURES & BENEFITS

- ✔ Async data rates from 1.2 to 57.6 kbps
- ✔ External AC power supply
- ✔ Transformer isolated and surge protected
- ✔ Passes "Session Control" (DTR/DCD) and "Flow Control" (RTS/CTS) handshaking signals

ORDERING INFORMATION

1018M RJ11: Male DB-25/RJ-11 jack
1018F RJ11: Female DB-25/RJ-11 jack
1018M RJ45: Male DB-25/RJ-45 jack
1018F RJ45: Female DB-25/RJ-45 jack
1018RC11: Female DB-25/RJ-11 jack
1018RC45: Female DB-25/RJ-45 jack

Note: More models are available, call for details.

See Pg 226

AC Powered, Asynchronous SRM (up to 38.4 kbps)

Model 1050

The Key Features You Need at a Price that Leaves a Small Footprint on Your Budget!

The Model 1050 AC Powered Asynchronous Short Range Modem is to our AC powered short haul line what the Model 1000 is to our interface powered line—a basic short haul at a great price! And the Model 1050 has the key features you need: optical isolation, a local loopback test mode, LED indicators and a DCE/DTE switch.

The Model 1050 supports asynchronous RS-232 data rates to 38.4 kbps, and supports distances up to 14 miles (22.5 km). Housed in an ultra-compact enclosure, the Model 1050 provides both an external RJ-11 jack and internal terminal block for line connection. On the RS-232 side, a female DB-25 is standard. The Model 1050 is designed for point-to-point applications, with one unit on each end of the line. However, the Model 1050 is also compatible with the Patton Models 1060 and 1226 short hauls.

FEATURES & BENEFITS

- ✔ Asynchronous RS-232 operation over two twisted pair
- ✔ Data rates to 38,400 bps
- ✔ Optical isolation
- ✔ Loopback test
- ✔ Distances to 14 miles (22.5 km)
- ✔ DCE/DTE switchable
- ✔ Ultra-compact enclosure

SPECIFICATIONS

Transmission Line: 19 to 26 AWG twisted pair
Range: 4 Miles (6.4 Km) on two 24 AWG pairs
Serial Interface: EIA RS-232 /CCITT V.24, DB-25 female
Line Connection: RJ-11 and internal terminal block w/ strain relief
Data Rates: 1.2 to 38.4 kbps
Diagnostics: Local Loopback
Indicators: Tri-state LEDs for RD, TD and Test
Power: External wallmount transformer available with 115 or 240V
Optical Isolation: 2500V RMS on DCE Interface
Dimensions: 1.58H x 4.16W x 3.75D in. (10.6H x 4.1W x 8.8D cm)

ORDERING INFORMATION

1050-120: Async., Powered, Standalone: Short Haul Modem (120V)
1050-230: Async., Powered, Standalone: Short Haul Modem (230V)

Note: More models are available, call for details.

AC Powered, Asynchronous SRM (up to 115.2 kbps)

Model 1060

The ideal choice for async UTP or STP applications!

The Model 1060 AC Powered, Asynchronous Short-Range Modem is Patton's most sophisticated async twisted-pair short haul. The Model 1060 adapts to a wide range of applications, while providing the resources to deal with less-than-optimum conditions. Supporting hardware or software flow control, the Model 1060 operates in point-to-point and multipoint. The Model 1060 handles data rates to 115.2 kbps, and supports distances to 14 miles (22.5 km) over two twisted pair. Because the line side is optically isolated and surge protected, you can install the Model 1060 in environments where EMR or ground loops would normally prohibit twisted pair data communications. Assignable control signals and DCE/DTE switchability complete the picture.

FEATURES & BENEFITS

- ✔ Asynchronous RS-232 operation over two twisted-pair
- ✔ Data rates to 115.2 bps
- ✔ Optical isolation
- ✔ Loopback test
- ✔ Distances to 14 miles (22.5 km)
- ✔ DCE/DTE switchable
- ✔ Ultra-compact enclosure

Model 1050 & 1060 distance table, in miles (kilometers)			
Data Rate	Wire Gauge		
	19 (0.9mm)	24 (0.5 mm)	24 (0.4mm)
115.200*	1.8 (2.9)	0.75 (1.2)	0.38 (0.6)
57,000	2.5 (4.0)	1.3 (2.1)	0.95 (1.5)
38,400	3.7 (6.0)	1.5 (2.4)	1.33 (2.1)
19,200	4.17 (6.7)	1.9 (3.1)	1.42 (2.3)
9,600	5.41 (8.7)	2.6 (4.2)	2.08 (3.3)
4,800	7.05 (11.3)	3.8 (6.1)	2.84 (4.6)
2,400	11.5 (18.5)	7.0 (11.3)	4.83 (7.8)
1,200	14.0 (22.5)	8.5 (13.7)	5.68 (9.1)

* Model 1060 only.

SPECIFICATIONS

Transmission Format: Asynchronous
Interface: RS-232 (CCITT V.24) DB-25 female
Data Rate: 0 to 115.20 bps
Transmission Line: 4-wire, unconditioned via RJ-11 or terminal blocks (RJ-45 optional)
Diagnostics: Loop 3 and 4, local and remote analog loopback
Indicators: Tri-state indicators for Transmit Data, Receive Data, Control In and Control Out
Power: Wall-mount, 12VAC, 200mA
Dimensions: 4.17W x 1.52H x 5.0L in. (10.6W x 3.9H x 12.7L cm)

ORDERING INFORMATION

1060: Async., Powered, Standalone: Short Haul Modem (120V)
1060-220: Async., Powered, Standalone: Short Haul Modem (230V)
1060RC11: Async., Powered, Rack Card: w/ DB25 DTE & RJ-11 Line
1060RC45: Async., Powered, Rack Card: w/ DB25 DTE & RJ-45 Line
1060RC4511: Async., Powered, Rack Card: RJ-45 DTE, RJ-11 Line
1060RC4545: Async., Powered, Rack Card: w/ RJ-45 DTE & RJ-45 Line

Note: More models are available, call for details.

AC Powered SRM, Synchronous & Opto-Isolated

Model 1070

Ensure data integrity with loopback tests, status indicators and opto-isolation

The Model 1070 AC Powered, Synchronous Short Range Modem is designed with three RS-232 communications environments in mind: low power, high noise, and mission critical.

A low power environment is one where the RS-232 interface does not provide the necessary signal voltages to operate a self-powered short haul. The Model 1070 handles this problem by deriving power via external AC transformer—either 120 or 230 volts.

A high noise environment is one where transmission is impeded by unwanted energy on the twisted pair line. The Model 1070 counters this problem in several ways: Optical isolation eliminates ground loop currents in between-building applications. Silicon Avalanche Diode surge protection takes out data line transients from lightning strikes and other sources of EMR. Finally, a custom VLSI chip inside the Model 1070 filters out noise separately at each data rate.

A mission critical environment is one where data integrity is essential. The user needs to ensure that the modem connection is operating properly and that the data is being passed. The Model 1070 ensures data integrity, not only by using surge protection and optical isolation, but by providing local and remote loopback tests and front panel LED signal monitors.

The Model 1070 has convenience features that make it the best choice for many other sync. applications: The 1070 handles both hardware and software flow control requirements, has both a terminal block and RJ-11 jack for twisted pair hook up, and provides external access for all configuration switches.

Model 1070 Distance Table - Mile (Km)			
Data Rate	Wire Gauge (AWG/mm)		
	19 (.9mm)	22 (.6mm)	24 (.4mm)
19,200	2.5 (4.0)	2.1 (3.4)	1.3 (2.1)
9,600	3.7 (6.0)	2.3 (3.7)	1.7 (2.7)
4,800	4.9 (7.9)	4.9 (7.9)	2.5 (4.0)
2,400	5.8 (9.3)	5.8 (9.3)	4.6 (7.4)
1,200	8.3(13.4)	8.3 (13.4)	6.8 (10.9)

FEATURES & BENEFITS

- ✔ Data Rates from 1.2 to 19.2 kbps
- ✔ Point-to-Point or Multipoint Operation
- ✔ Optically Isolated & Surge Protected
- ✔ Internal or External Clocking

See Pg 226

RACKABLE

ORDERING INFORMATION

1070: Sync., Powered, Standalone: Short Haul Modem (120V)
1070-220: Sync., Powered, Standalone: Short Haul Modem (230V)
1070RC11: Sync., Rack Card: with DB-25 DTE & RJ-11 Line
1070RC45: Sync., Rack Card: with DB-25 DTE & RJ-45 Line
1070RC4511: Sync., Rack Card: with RJ-45 DTE & RJ-11 Line
1070RC4545: Sync., Rack Card: with RJ-45 DTE & RJ-45 Line

Note: More models are available, call for details.

AC Powered X.21 SRM, Synchronous & Opto-Isolated

Model 1075

Our most cost effective way to extend sync X.21 connections!

The Model 1075 KiloModem II™ X.21 short range modem allows point-to-point connection of synchronous X.21 devices at distances to 7.1 miles (11.4 km) (see distance table below). Supporting switch selectable data rates of 32, 56 and 64 kbps, the Model 1075 provides internal, external or receive recovered clocking options. Diagnostics include V.54 and V.52 compliant tests. Both transformer isolation and surge protection are built into the Model 1075 as well.

FEATURES & BENEFITS

- ✔ Synchronous data rates of 32, 56 and 64 kbps
- ✔ Distances to 7.1 miles over two twisted pairs
- ✔ Built-in isolation and surge protection
- ✔ V.54 and V.52 Diagnostics

Model 1075 Distance Table - Mile (Km)				
Data Rate (kbps)	Wire Gauge (AWG/mm)			
	19 (.9mm)	22 (.6mm)	24 (.5mm)	26 (.4mm)
64	3.5 (5.6)	2.6 (4.2)	1.4 (5.6)	0.9 (1.4)
56	5.0 (8.0)	2.9 (4.7)	2.2 (3.5)	1.5 (2.4)
32	7.1 (11.4)	4.6 (7.4)	3.5 (5.6)	2.8 (4.5)

SPECIFICATIONS

Approvals: CE European Directives DTE/DCE I/F: X.21 DB15F DCE or DTE, EIA RS-422 Compliant
Compatibility: 1035, 1045 , 1075, 1080A, 1090 series units
Transmission Format: Synchronous Transmission Unconditioned twisted pair 19—26 AWG
Line Interface: Externally accessible RJ-45 (RJ-11 Optional)
Clock: Internal, External and Network (Receive Recover)
Distance: Up to 7.1 miles (11.4 km)
Interfaces: CCITT/ITU X.21
Data Rates: 32, 56 and 64 kbps (switch selectable)
Isolation: 1500V RMS via isolation transformers
Surge Protection: IEC-801-S, Level 2, 1kV Carrier Control Constantly on or Controlled by "Control" from DTE device (DCE mode) or "Indication" from DCE device (DTE mode)
Connectors: DB-15 female (X.21); RJ-45 on line side*
Power: 9V DC transformer, 200mA
Temperature Range: 32–140°F (0–60°C)
Altitude: 0-15,000 feet (0-4,572 meters)
Humidity: 5 to 95% non-condensing
Dimensions: 1.54H x 4.1W x 3.7D in. (3.9H x 10.4W x 9.4D cm)
Power Options: 120 VAC 50/60Hz, external transformer; 230 VAC 50/60Hz, external transformer
Weight: 2.5 lbs. (1.1 kg)

ORDERING INFORMATION

1075/D/120: Synchronous X.21 Short Range: Modem, DB-15 Female, RJ-45* (120 VAC wall mount power)
1075/D/230: Synchronous X.21 Short Range: Modem, DB-15 Female, RJ-45* (230 VAC power, external)

* RJ-11 available on request

Note: More models are available, call for details.

Universal Short Range Modem

Models 1080A & 1080A-64

You can use the Model 1080A in just about any RS-232 UTP or STP application

The Model 1080A AC Powered, Universal Short Range Modem is the mainstay of our RS-232 short haul line, and it is now better than ever! Recent improvements in the Model 1080A include increased distances (up to 17 miles (27.4 km) on one or two unconditioned twisted pair), support for higher data rates (up to 57.6 kbps), and the addition of a built-in V.52 BER test pattern generator. Of course, the Model 1080A retains all the features that you have come to expect: asynchronous or synchronous RS-232 operation, half duplex communication over two wires or a choice of half or full duplex communication over four wires, support for point-to-point or multipoint applications, and fully compliant V.54 test modes (local analog loop and remote digital loop).

New automated features include equalization, gain control and noise filtering (a separate filter for each data rate is built into a custom VLSI chip). To combat the many nemeses of clear data transmission, the Model 1080A includes surge protection (guards against transients), transformer isolation (eliminates ground looping) and a new anti-streaming timer (stops data streaming).

The Model 1080A packs a lot of convenience into a tiny box: front panel LEDs give a clear picture of link status; V.54 tests can be activated remotely or via the front panel; and the unit can be externally configured (no need to open the case). Best of all, the Model 1080A standalone is fully compatible with the Model 1080A rack card and the new self-powered Model 1040 short haul.

Model 1080ARC rack cards are also available!

The Model 1080ARC fits in Patton's 2U high rack chassis and 2/4/8 ClusterBoxes™. Four plug-in rear interface cards are available.

Model 1080A distance table, in miles (kilometers)			
Data Rate (kbps)	Wire Gauge		
	19 (0.9mm)	22 (0.6 mm)	24 (0.4mm)
57,600	12.0 (19.3)	7.0 (11.2)	5.3 (8.5)
38,400	13.0 (20.9)	7.5 (12.1)	6.2 (10)
19,200	16.0 (25.8)	8.5 (13.7)	7.0 (11.3)
9,600	18.5 (29.8)	13.0 (20.9)	10.4 (16.7)
4,800	19.5 (31.4)	14.0 (22.5)	11.3 (18.2)
2,400	20.5 (33.0)	15.0 (24.2)	11.6 (18.7)
1,200	20.0 (32.2)	15.0 (24.2)	11.4 (18.4)

Model 1080A-64 distance table, in miles (kilometers)			
Data Rate (kbps)	Wire Gauge, in AWG (mm)		
	19 (0.9mm)	22 (0.6 mm)	24 (0.4mm)
64,000	11.0 (17.7)	6.5 (10.5)	5.0 (8.1)
32,000	13.5 (21.7)	7.5 (12.1)	6.4 (10.3)
16,000	16.5 (26.6)	10.0 (16.1)	8.4 (13.5)

FEATURES & BENEFITS

- ✔ Async or sync operation
- ✔ 4-wire half or full-duplex/2-wire half-duplex only
- ✔ RS-232 data rates to 57.6 kbps
- ✔ Distances over 17 miles (27.4 km)
- ✔ Point-to-point or multipoint
- ✔ V.54 and V.52 test modes
- ✔ Automatic equalization/gain control
- ✔ Internal, external, or received recover clocking in sync. mode
- ✔ Custom VLSI noise filter chip
- ✔ Transformer isolation/surge protection
- ✔ Anti-streaming timer
- ✔ Fully compatible with the Model 1040 synchronous/asynchronous short-range modem

I'm Maria, one of Patton's Sales Coordinators. If you have questions about our products, call **+1 301.975.1000** or send e-mail to **sales@patton.com**.

SPECIFICATIONS

Range: 17.5 miles at 1200 bps, 19 AWG 2-pair wire
Data Rates: Sync or Async: 1.2, 1.8, 2.4, 3.6, 4.8, 7.2, 9.6, 14.4, 19.2, 28.8, 38.4, and 57.6 kbps, externally switch selected
Operation: Point-to-point or multipoint

Transmit Mode: Synchronous or asynchronous, 2-W/half duplex, 4-W/half or full duplex
Interface: EIA RS-232, CCITT V.24
Diagnostics: V.54 compliant local analog loopback & remote digital loopback; V.52 compliant 511 and 511E test pattern generator
LED Indicators: TD, RD, RTS, DCD, Power, Test

Carrier: Constantly ON or Controlled by RTS
RTS/CTS Delay: Strap selected: 0.0, 8.5 or 50 mS
Isolation: Transformer, 1500V RMS
Connectors: DB-25 female (RS-232), RJ-45 jack and terminal block (RJ-11 optional)
Transmit Clock: Internal, external or receive recover

Surge Protection: SAD, 600W power dissipation
Power Supply: External transformer, 120V or 230V
Dimensions: 4.17W x 1.52H x 5.0L in. (10.6W x 3.9H x 12.7L cm)

ORDERING INFORMATION

1080: Async./Sync. Standalone Short Haul Modem (120V)
1080A-220: Async./Sync. Standalone Short Haul Modem (230V)
1080A-64-120: Async./Sync. 64k Standalone Short Haul Modem (120V)
1080A-64-230: Async./Sync. 64k Standalone Short Haul Modem (230V)
1080ARC11: Async./Sync. Rack Card with DB-25 DTE & RJ-11 Line
1080ARC45: Async./Sync. Rack Card with DB-25 DTE & RJ-45 Line
1080ARC4511: Async./Sync. Rack Card with RJ-45 DTE & RJ-11 Line
1080ARC4545: Async./Sync. Rack Card with RJ-45 DTE & RJ-45 Line

Note: More models are available, call for details.

See Pg 226

RACKABLE

Industrial Short-Range Modem for Outdoor Use

Model 1065

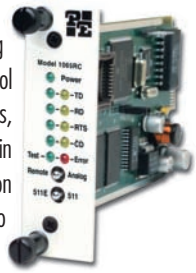
This environmentally enhanced, async. and sync., baseband modem provides reliable data communications—even in the harshest of environments.

The Model 1065 comes housed in a ruggedized chassis that includes extended-temperature components and protective treatments that make it ideal for use in harsh industrial settings such as railways, refineries, and manufacturing facilities.

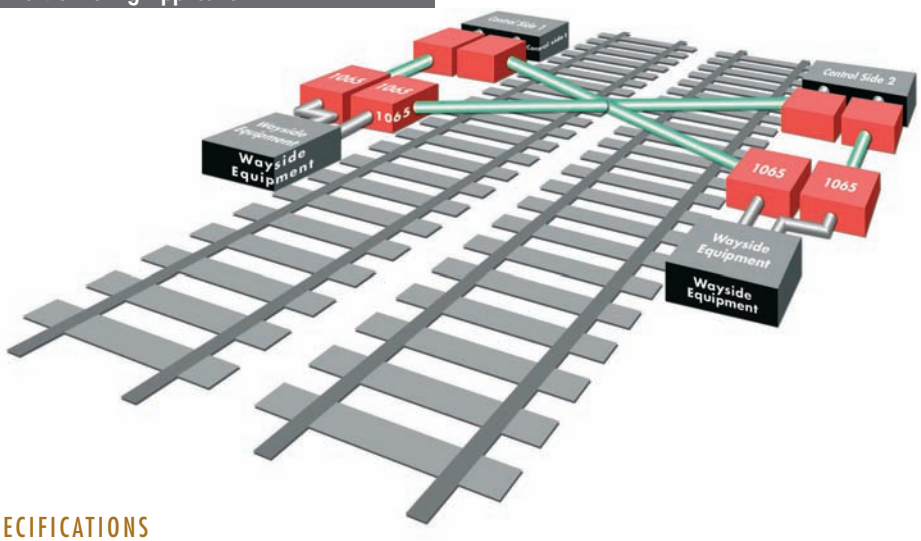
With built-in transformer isolation and surge protection, the 1065 supports data rates to 64 kbps at distances over 12 miles (19.2 km)

For centralized data centers, users can cluster up to 14 1065RC modem rack cards in the Model 1001 rack chassis. The Model 1001 rack system includes redundant power supply options that protect against power-related failures, providing fault-tolerant operation.

Typical applications for the Model 1065 include using it in automatic train control systems where the modems relay data between central control sites and track-side control/monitoring equipment. This application requires equipment that is reliable in all weather conditions, because the electronic interlocking systems must continuously control wayside equipment such as signals, point machines, derailers, etc., in such a manner that trains run on time, and passengers and cargo travel safely to their destinations.



Traffic Monitoring Application



FEATURES & BENEFITS

- ✔ Environmentally ruggedized sync./async. baseband modem
- ✔ V.14 async. to sync. conversion, standard and extended rates.
- ✔ Character lengths of 8, 9, 10, and 11 bits, start and stop bits included
- ✔ Supports point-to-point or multi-point operation
- ✔ Supports data rates up to 64 kbps at distances over 12 miles (19.2 km)
- ✔ Supports 4-wire half- or full-duplex operation, or 2-wire half-duplex operation
- ✔ Internal, external or received recovered sync clocking modes
- ✔ Compliant with V.52 BER and V.54 test modes
- ✔ High voltage transformer isolation/surge protection

ORDERING INFORMATION

Ruggedized Industrial Baseband Modems

1065A/120/z: Async/sync, ruggedized, DB25F, RS-232, RJ-45 line, desktop, 120 VAC power

1065A/230/z: Async/sync, ruggedized, DB25F, RS-232, RJ-45 line, desktop, 230 VAC power

1065RC/A/B: Async/sync, DB25F, RS-232, RJ-45 line, rack card

Extended Environmental Industrial Baseband Modems

1065E/A/120/z: Async/sync, extended environmental, DB25F, RS-232, RJ-45 line, desktop, 120 VAC power

1065E/A/230/z: Async/sync, extended environmental, DB25F, RS-232, RJ-45 line, desktop, 230 VAC power

1065RCE/A/B: Async/sync, extended environmental, DB25F, RS-232, RJ-45 line, rack card

Note: More models are available, call for details.

SPECIFICATIONS

Transmission: Sync. or Async., 2-wire/half-duplex, 4-wire/full- or half-duplex, point-to-point or multi-point operation.
DTE Interface: RS-232/V.24, DB-25 female
Line Interface: 2- or 4-wire UTP, 19-26 AWG

Data Rates: Switch-selectable 1.2, 1.8, 2.4, 3.6, 4.8, 7.2, 9.6, 14.4, 19.2, 28.8, 38.4, 57.6, 64 kbps
Clocking: Internal, external, or receive recover
RTS Anti-stream Timer: Switch-selectable for disabled, 12.5 sec, or 50 sec operation.

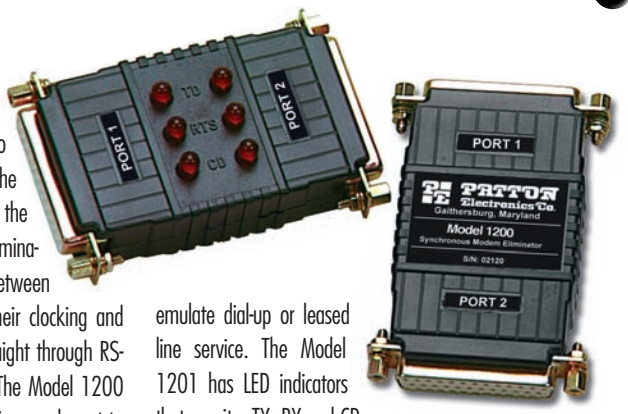
Diagnostics: V.52 compliant BER pattern (511/511E pattern) generator and detector with error injection mode; V.54-compliant local analog and remote digital loopbacks, activated by front panel switch or RS-232 DTE interface
Carrier: Always-on or controlled by RTS; selectable RTS/CTS delay of no delay, 7, or 53 ms

Isolation: Transformer at 2000 VRMS; Extended models 200Meg. Ohm at 500VDC
Surge protection: Immune to IEC-801-5 Level 2, 1kV
Power: 120/230 VAC switchable; IEC-320 male-shrouded connector
Temp/Humidity:
Standard models: 0 to +70°C with 5–95% relative humidity, non-condensing
Extended models: -10 to +70°C, 100% condensing humidity from -10 to +30°C; Absolute humidity from +30 to +70°C
Dimensions: 5.5W x 7.5D X 1.6H in. (13.9W x 19D x 4H cm)r

Synchronous Modem Eliminators

Models 1200 & 1201

Interconnect sync. equipment at 38,400 bps without a modem.



Have you been using synchronous modems to connect two synchronous DTEs, even though the distance between them is negligible? If so, the Patton Model 1200 synchronous modem eliminator can save you lots of money! Installing between the DTEs, the Model 1200 synchronizes their clocking and matches the wiring. All you need is two straight through RS-232 cables of 150 feet (45.7 m) or less. The Model 1200 requires no AC power or batteries. Handshaking can be set to emulate dial-up or leased line service. The Model 1201 has LED indicators that monitor TX, RX and CD.

Point-to-Point Application Connecting Two Sync. Host

FEATURES & BENEFITS

- ✔ Interface powered—no AC power or batteries required
- ✔ Easy to install and configure
- ✔ Data rates up to 38.4 kbps
- ✔ Cable runs to 150 feet (22.9 m) on either side of the device
- ✔ Constant or RTS controlled carrier
- ✔ Internal or external clocking
- ✔ Variable RTS/CTS delay options

ORDERING INFORMATION

1200 F: Sync Modem Eliminator (two DB-25 female connectors)
1200 M: Sync Modem Eliminator (two DB-25 male connectors)
1201 M: Sync Modem Eliminator: (two DB-25 male connectors)
1201 F: Sync Modem Eliminator: (two DB-25 female connectors)

SPECIFICATIONS

Data Rates: Strap selectable: 1.2, 2.4, 4.8, 9.6, 19.2, 38.4 kbps
Clocking: Internal or external

RTS/CTS Delay: Strap selectable 0, 6.6, 53mS separately for each side
Grounding: Protective ground (pin 1) may be strapped to signal ground (pin 7)

Functional: Emulates half or full duplex, dial-up or dedicated lines
Range: 300 feet (91.5 meters) at 9,600 bps

Data Carrier Detect (Pin 8): "On" or controlled, strap selected separately for each side
Ring Indicator (Pin 22): Continuously "on"

LEDs: Transmit, Receive & Carrier Detect (1201)
Connectors: Choice of two male or two female RS-232 connectors

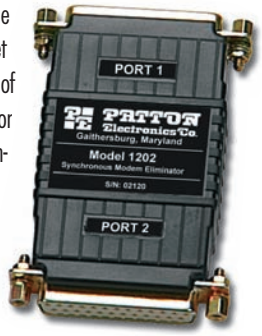
Power: Derived from RS-232 interface
Dimensions: 3 x 2 x 0.75 in (7.62 x 5.0 x 1.91 cm)
Op. Temp.: 32–122°F (0–50°C)

High Speed Synchronous Modem Eliminators

Models 1202 & 1203

Interconnect high speed synchronous hardware at up to 512 kbps—no modems!

Our Model 1202 & 1203 high speed synchronous modem eliminators let two synchronous RS-232 DTE (host) devices communicate without using expensive synchronous modems. The Model 1202 supports data rates of 16, 32, 64, 128, 256 and 512 kbps. The Model 1203 supports data rates of 17, 14, 28, 56, 112 and 224 kbps. Both models are interface powered and provide internal or external clock options. And both can be configured to emulate dial-up or leased line service. Easily visible LEDs let you monitor link status. RS-232 connections can be extended up to 75 feet (23 m) on either side of the device. Two male or two female DB-25 connectors are provided.



FEATURES & BENEFITS

- ✔ **Model 1202**—Sync data rates from 16 to 512 kbps (including 64 kbps)
- ✔ **Model 1203**—Sync data rates from 7 to 224 kbps (including 56 kbps)
- ✔ Cable runs to 75 feet (23 m) on either side of the device
- ✔ Constant or RTS controlled carrier
- ✔ Internal or external clocking
- ✔ RTS/CTS delay options of 0 msec or 6.6 msec
- ✔ No AC power required

ORDERING INFORMATION

High Speed Sync Modem Eliminator
1202 F: Two DB-25 female connectors
1202 M: Two DB-25 male connectors
1203 F: Two DB-25 female connectors
1203 M: Two DB-25 male connectors

Note: More models are available, call for details.

SPECIFICATIONS

Data Rates: Model 1202—up to 512 kbps; 1203—up to 224 kbps
Clocking: Internal or external
Grounding: Protective ground (pin 1) may be strapped to signal ground (pin 7)
RTS/CTS Delay: Strap selectable 0, 6.6, 53mS separately for each side

Functional: Emulates half or full duplex, dial-up or dedicated lines
Ring Indicator (Pin 22): Continuously on
Data Carrier Detect (Pin 8): On or controlled, strap selected separately for each side

Power: Derived from RS-232 interface
Connectors: Choice of two male or two female DB-25 connectors
Dimensions: 3 x 2 x 0.75 in (7.62 x 5.0 x 1.91 cm)
Op. Temp.: 32–122°F (0–50°C)

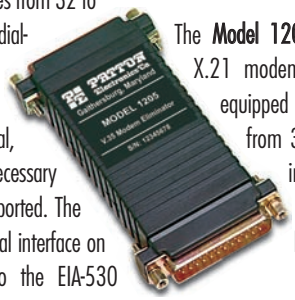
V.35, X.21 Synchronous, Modem Eliminators

Models 1205 & 1206

Don't buy expensive modems when there is a better way!

The Patton Models 1205 & 1206 sync modem eliminators enable two synchronous hosts to communicate with each other in the same room for a fraction of the cost of a pair of high speed modems or line drivers.

The **Model 1205**, supporting sync data rates from 32 to 144 kbps, can be configured to emulate dial-up or leased line service. Maximum distance between the connected hosts is 300 feet (91.4 m). Timing can be set for internal, external, or receive recover clock, and all necessary data, clocking and control signals are supported. The Model 1205 implements the V.35 electrical interface on DB-25 female connectors, according to the EIA-530 Standard (DB-25 to M/34 adapter cables are available from Patton.) Operating power is drawn from both V.35 interfaces, or provided via an AC adapter.



The **Model 1206** synchronous X.21 modem eliminator is AC powered, and comes equipped with two DB-15 female connectors. Data rates from 32 to 144 kbps are supported, as well as internal, external or receive recover clocking. Maximum distance between the connected hosts is 300 feet (91.4 m).

FEATURES & BENEFITS

- ✔ **Model 1205**—V.35 sync data rates from 32 to 144 kbps
- ✔ **Model 1206**—X.21 sync data rates to 144 kbps
- ✔ Data, clocking & control signals
- ✔ Internal, external or receive recover clocking
- ✔ AC powered

Our V.35 & X.21 Modem Eliminators are rack mountable

Now you can integrate 16 V.35 or X.21 synchronous modem eliminators into a standard 19-in. rack mount installation that's only 3.5 in. high. Or if you need just a handful of modem eliminators, make your installation ultra compact using our convenient 2, 4, or 8-slot desktop ClusterBoxes™.

SPECIFICATIONS

Data Rates: 32, 48, 56, 64, 72, 112, 128 and 144 kbps
Clocking: Internal or external
Interface: Model 1205—CCITT V.35/EIA RS-530; Model 1206—CCITT X.21
Connectors: Model 1205—Dual DB-25 female; Model 1206—Dual DB-15 female
Distance: 300 ft (91.4 m) (DTE to DTE)
Power: External wallmount transformer, 120 or 230 VAC
RTS/CTS Delay: Strap selectable, 0, 7, 53 mS (±15%)
Dimensions: 3 x 2 x 0.75 in.

ORDERING INFORMATION

1205F-F: Two female DB-25 connectors
1205/34F: Two female M/34 connectors
1205RC: Rack card, two female UD-26
1205-26M/35M: Cable, UD-26 male to M/34 male
1205-26M/35F: Cable, UD-26 male to M/34 female
1206F-F: Two female DB-15 connectors120 V
1206RC: Rack card, two female UD-26 connectors
1206-26M/15M: Cable, UD-26 male to DB-15 male
1206-26M/15F: Cable, UD-26 male to DB-15 female

Note: More models are available, including 230-V power options and additional cable assemblies, call for details.

Anti-Streaming Device

Model 3001

Miniature device fixes streaming lockups.

This handy device operates in point-to-point or multi-point environments. Supporting any data rate or format, it prevents malfunctioning (streaming) terminal equipment from locking-up the system.

FEATURES & BENEFITS

- ✔ Operates in point-to-point or multi-point environments
- ✔ Prevents malfunctioning (streaming) terminal equipment from locking-up the system
- ✔ Any data rate or format
- ✔ User selectable timeout periods of 12.5, 25, 50 or 400 seconds

I'm Dave, Patton's Manager of US Technical Support. If you do not find what you need at ***www.patton.com*** *or in this catalog, or if you have technical questions or comments, please call me at* ***+1 301.975.1007****. You can also send e-mail to* ***puckett@patton.com****.*

NEED Help?

ORDERING INFORMATION

3001: Anti-Streaming Device

Miniature, Async/Sync RS-232, Fiber Optic Modems

Models 1110A & 1140A

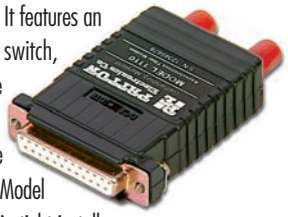
Have the noise and transient immunity of fiber optics in a miniature, self-powered package!

The Patton Model 1110A and 1140A miniature RS-232 fiber optic modems pack all the advantages of fiber into compact self-powered packages. When it comes to data communication integrity, optical fiber has several advantages over twisted pair copper:

- Copper wire requires shielding against RFI/EMI noise in many environments, whereas fiber is immune to RFI/EMI.
- In building-to-building applications, copper wire requires DC isolation to avoid ground looping. Fiber, since it does not have DC continuity, is not subject to ground looping.
- If a copper link passes through a field of energy created by a lightning strike, this transient energy will be conducted to the hardware at either end. But a fiber link will not pick up this harmful radiated energy–it is immune to transients.

The Models 1110A and 1140A fiber modems have all of these advantages. Neither modem uses AC power or batteries to operate because they draw their power from the data and control signals on the RS-232 interface. Carrier may be internally switch selected for "Continuously On" or "Controlled by RTS".

The **Model 1110A** communicates in full or half-duplex over two fibers while supporting data rates to 19.2 kbps and distances up to 5 miles (8 km). It features an external DCE/DTE switch, which eliminates the need for RS-232 crossover cables. The miniature size of the Model 1110A allows it to fit in tight installation spaces.



The **Model 1140A** brings all the advantages of fiber to your network, plus 100% compliant V.52 and V.54 diagnostics. Besides communication integrity, the supports distances to 4 miles (6.4 km) and data rates to 38.4 kbps over two fibers. The 1140A operates async or sync—full or half duplex. While in synchronous mode, the fiber modem supports three clocking methods: internal, external, and receive recover.

Streamline your fiber cabling with Patton's rackmount cards!

If several fiber links are running into the same location, use the 1140ARC rack card. The Model 1140ARC sits in Patton's 16 slot rack chassis, as well as Patton's 2, 4, and 8 slot ClusterBoxes™. Mid-plane architecture and "hot swapping" capability allows different function/interface modules to be plugged in while the system is running.

Uses Patton's Self-Powered Fiber Technology.
Patented: U.S. Patent 4,151,540

Model 1104 Miniature Async RS-485 Fiber Optic Modem Also Available!

ORDERING INFORMATION

1110AM-ST: Mini Async Fiber Modem: Male DB-25 & ST Fiber

1110AF-ST: Mini Async Fiber Modem: Female DB-25 & ST Fiber

1110ARC-ST: Async Fiber Modem Rack Card: Female UD-26 & ST Fiber

1110A-26M/25M: UD-26 to DB-25 Male Cable

1110A-26M/25F: UD-26 to DB-5 Female Cable

1140AM-ST: Mini Async Fiber Modem : Male DB-25 & ST Fiber

1140AF-ST: Mini Async Fiber Modem: Female DB-25 & ST Fiber

1140ARC-ST: Async Fiber Modem Rack Card: Female UD-26 & ST Fiber

1140A-26M/25M: UD-26 to DB-25 Male Cable

1140A-26M/25F: UD-26 to DB-25 Female Cable

1104F-ST: Mini Async RS-485 Fiber Modem; Female DB-25; 100–200 VAC

1104M-ST: Mini Async RS-485 Fiber Modem; Male DB-25; 100–200 VAC

1104TB-ST: Mini Async RS-485 Fiber Modem; Terminal Block; 100–200 VAC

Note: More models are available, call for details.

FEATURES & BENEFITS

Models 1110A & 1140

- ✔ 1110: Async., RS-232 operation/ 1140: Async/Sync RS-232
- ✔ Full or half duplex
- ✔ 1110: Data rates up to 19.2 kbps; 1140: Up to 38.4 kbps
- ✔ 1110: Range up to 5 miles (8 km); 1140: Up to 4 miles (6.4 km)
- ✔ Continuous or controlled carrier
- ✔ External DCE/DTE switch
- ✔ Very thin case (0.75 in./1.9 cm) for closely spaced computer ports
- ✔ EMI/RFI and transient immunity
- ✔ No AC power required
- ✔ ST connector options
- ✔ 1140: V.52 and V.54 loopback test modes
- ✔ 1140: Internal, external or received loopback clocking in sync mode

Model 1104

- ✔ Async. or sync. RS-232 operation
- ✔ Dual fiber optic interface
- ✔ Data rates to 38.4 kbps
- ✔ Range up to 4 miles (6.4 km)
- ✔ No AC power required
- ✔ Continuous or controlled carrier
- ✔ ST connector options

SPECIFICATIONS

Model 1110A & 1140A

Transmission Line: Dual multi-mode optical cable

Transmission Mode: 1110: Async., full or half duplex; **1140:** Sync or async, full or half duplex

Range: 1110: 5 miles (8 km); **1140:** 4 miles (6.4 km) over continuous fiber (with attenuation 2.5 dB/km). Over continuous fiber (with attenuation 2.5 dB/km)

Receiver Sensitivity:—42 dBm

Coupled Output Power: -18 to -24 dBm (depending on fiber specs)

Optic Wavelength: 850 nm

Indicators: One LED indicates transmission of data

Interface: EIA RS-232/CCITT, V.24 male or female connectors

Data Rates: 1110: 0–19.2 kbps; **1140:** 0–38.4 kbps

Power: Derived from EIA data and controls

Dimensions:
1110: 2.66 x 2.10 x 0.73 in. (6.8 x 5.3 x 1.9 cm)
1140: 3.55 x 2.1 x 0.73 in. (6.8 x 5.3 x 1.9 cm)

Model 1140A

RS-485 Serial Interface: One DB-25 Male, DB-25 Female, or Terminal Block

Serial Transmission: RS-485 Asynchronous, 0 to 115.2 kbps

Fiber Interface: ST style fiber connectors (TX and RX)

Transmission Line: Dual multi-mode optical cable, optimized to work with 62.5/125 micron fiber–850nm wavelength

Range: Up to 1.25 miles (2.01 km) Power Budget: 12dB with 62.5/125 micron fiber

Power Supply Options: External Universal Power Supply (100–240 VAC)

Temperature: 32 to 122°F (0 to 50°C)

Altitude: 0–15,000 ft (0–4,572 km)

Humidity: Up to 95% non-condensing

Dimensions: 3.0L x 1.8W x 0.8H in. (7.6L X 4.4W X 1.9H cm)

Weight: 2 oz. (57 g)

Note: Country specific power cords are ordered separately.

RS-232 Bluetooth Wireless Modem 2-Packs

Model 1013

The Model 1013 provides hassle-free wireless RS-232 connections with line rates up to 380 kbps at distances up to 3,900 feet (1,188 meters)!

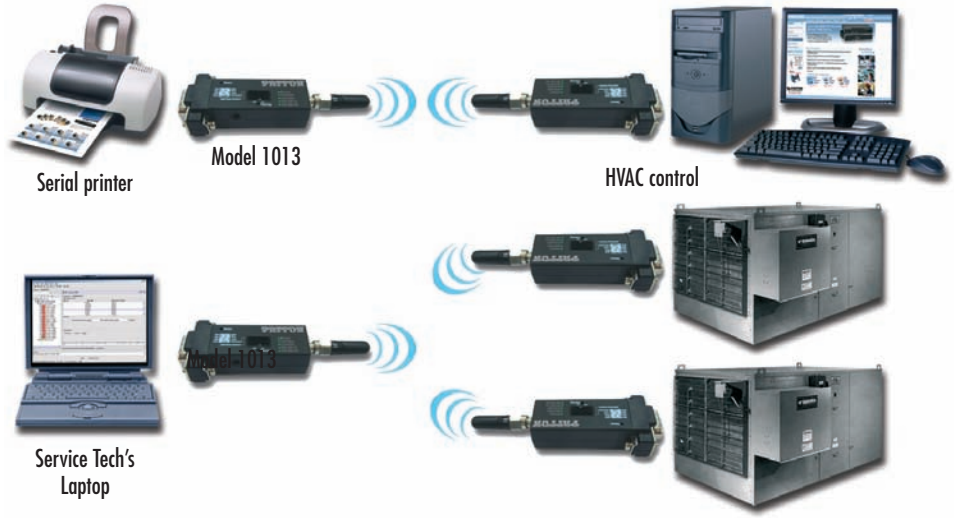
Patton's newest short range modem, the Model 1013, is a wireless serial short range modem that connects RS-232 devices using Bluetooth V.1.1 technology. The Model 1013 eliminates the hassle and expense of running a dedicated cable connection between RS-232 devices thus giving installers, maintenance workers, and others the ability to remotely monitor and control RS-232 devices.

The Patton Model 1013 supports point-to-point and point-to-multipoint connections. Users can configure the Model 1013 through a user-friendly Windows utility application, standard AT commands, or by DIP switch and push buttons. The 1013 includes a plug-and-play auto-pairing button that will automatically link two Model 1013s for a dedicated point-to-point connection.

Serial connections are provided by an RS-232C DB-9 connector. Bluetooth transmits over the built-in stub antenna at distances up to 328 feet (100 meters). For greater distances, Patton offers optional dipole and patch antennas that can increase the wireless RS-232 range up to 3,280 feet (1,188 meters)!

Patton's wireless RS-232 short range modems effectively eliminate the expense and hassle of cables!

Application diagram



Bluetooth enables wireless RS-232 connections, making installations and service calls more efficient by eliminating the time, hassle, and expense of cable runs.

Antenna Distance Chart	
Default Antenna to Default Antenna	328 feet (100 meters)
Default Antenna to Dipole Antenna	492 feet (150 meters)
Dipole Antenna to Dipole Antenna	656 feet (200 meters)
Patch Antenna to Dipole Antenna	1,312 feet (400 meters)
Patch Antenna to Patch Antenna	3,937 feet (1,200 meters)

FEATURES & BENEFITS

- ✔ RS-232 Serial Cable Replacement—Wireless RS-232 connections can be made over 3,900 feet (1,188 meters) at line rates up to 380 kbps
- ✔ Auto-Pairing Feature—Unique feature that enables plug-and-play installations
- ✔ Windows Utility Configurable—Clear and concise tool for fine tuning your wireless RS-232 connections
- ✔ Bluetooth Protocols Supported—RFCOMM, L2CAP, SDP
- ✔ Interface Powered—No external power supply required for operation

10-BT-PAT

10-BT-DAT

10-BT-UPA

10-BT-DPA

ORDERING INFORMATION

1013: Wireless RS-232 Short Range Modem
1013-2PK: Wireless RS-232 Short Range Modem Extender Kit

Accessories

10-BT-SAT: Bluetooth Stub Replacement Antenna
10-BT-DAT: Bluetooth Dipole Antenna
10-BT-PAT: Bluetooth Patch Antenna
10-BT-UPA: Bluetooth USB to Power Adapter Cable
10-BT-DPA: Bluetooth DC to Power Adapter Cable
10-BT-CBL-1: Bluetooth 1M Antenna Extension Cable

SPECIFICATIONS

Bluetooth v1.1 Specifications:
Power Class: Class 1
RF Range: Standard stub antenna up to 328 feet (100m)
Bluetooth Protocol: RFCOMM, L2CAP, SDP
Frequency: 2.4–2.4738 GHz
Baud Rate: Up to 380 kbps

Serial Specifications
Serial Interface: EIA RS-232C
Connector Type: DB-9 Female
Baud Rate: 1,200 bps to 230.4 kbps
Hardware flow control: ON/OFF

General Product Specifications
Operating Temperature: -4 to 158°F (-20 to 70° C)
Dimensions: 2.5L x 1.20W x 0.63H inch (63L x 30W x 16H mm)
Weight: 0.1 lbs (0.06 kg)