



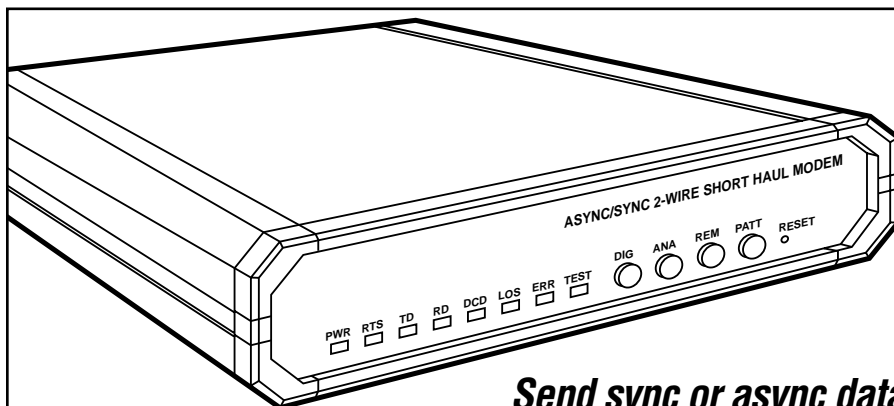
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Black Box Corporation.

BLACK BOX[®]

NETWORK SERVICES

Black Box Corporation • 1000 Park Drive • Lawrence, PA 15055-1018 • Tech Support: 724-746-5500 • www.blackbox.com • e-mail: info@blackbox.com

V.35 2-WIRE SHORT-HAUL MODEM



***Send sync or async data up to 3.4 miles (5.5 km)
over your existing 2-wire twisted-pair lines.***

Key Features

- ▶ ***For sending sync or async data.***
- ▶ ***2-wire, twisted-pair operation.***
- ▶ ***Transmit speeds up to 38.4 or 128 kbps.***
- ▶ ***Distances up to 3.4 miles (5.5 km).***
- ▶ ***Full-duplex operation using "echo cancellation."***
- ▶ ***Performs local analog loopbacks and local and remote digital loopbacks.***
- ▶ ***Generates bit error rate test patterns.***
- ▶ ***Isolation transformer guards versus AC or DC overvoltages.***

The BLACK BOX[®] V.35 2-Wire Short-Haul Modem provides a simple way to send your data at short distance over telco lines.

The modem operates full-duplex synchronously over a single 2-wire twisted pair, at selectable data rates from 600 bps up to 128 kbps, or asynchronously up to 38.4 kbps.

The short-haul modem incorporates interface circuits for the terminal or computer, an adaptive echo-canceller, an automatic adaptive equalizer, a modulator, and a demodulator. The adaptive equalizer provides noise immunity and high performance over low-quality lines.

The modem uses 2B1Q line coding and provides an operating range of up to 3.4 miles (5.5 km) over 26 AWG twisted-pair wire—no matter what data rate is used.

The modem also couples to the telephone line through an isolation transformer that protects against AC or DC overvoltages. The protection circuitry enables the unit to survive even if DC is connected to the line accidentally.

Full-duplex operation uses echo cancellation. You need only to set one modem to be a master and the other to be a slave.

Internal DIP-switch controls enable you to configure the V.35 2-Wire Short-Haul Modem to suit your application. To reconfigure the modem for a different type of operation, just reposition the switches.

The short-haul modem also features diagnostic capabilities, including local analog loopback and local and remote digital loopback. An operator at either end of the link can test both local and remote short-haul modems as well as the line itself. Control loopback with either the unit's front-panel pushbuttons or signals passed through the DTE (PC, data terminal) interface. Pressing the front-panel Pattern button causes the local short-haul modem to send the remote unit a continuous Bit Error Rate Test (BERT) pattern. By performing these end-to-end tests, you can ensure link integrity and quickly find out which components

of your short-haul modem system are operating properly and which aren't.

For monitoring and troubleshooting purposes, the short-haul modem has eight front-panel LEDs that inform you of the device's operational status and activity. At a glance, you can tell whether the local and remote units are in sync, when the RTS signal from the DTE is high, when the local unit is transmitting or receiving data, when the modem detects an error in the BERT pattern, and more.

For your transmission line, we highly recommend using twisted-pair cable capable of supporting high data rates, especially Category 3 grade or better. For DTE-side cable runs, use straight-through-pinned cable that's no more than 25 feet (7.6 m) long with an M/35 male connector for plugging into the V.35 2-Wire Short-Haul Modem.

NOTE: Must be used in pairs.

Specifications

Approvals: FCC Part 15 Subpart B Class A, DOC Class/MDC classe A; CE (ME376AE-R2 version)

Clocking: Internal, external, receive

Data Format: 7 or 8 data bits; 1 or 2 stop bits; even, odd, or no parity (user-selectable)

Speed (Maximum): 128 kbps synchronous, 38.4 kbps asynchronous

Diagnostics: V.54-compliant loopback tests: local analog loopback (switch- or signal-triggerable); local digital loopback (switch-triggerable); remote digital loopback (switch- or signal-triggerable)

Distance (Maximum): DTE side: 25 ft. (7.6 m);
Line side: 3.4 mi. (5.5 km) over 26 AWG wire

Operation: Line side: Full duplex with echo cancellation

Protocols: DTE side: Sync or async;
Line side: 2B1Q encoding

Standard: T1: ANSI T1.601.1988

Transmission Level: Up to 14 dBm

MTBF: 75,500 hours

User Controls: (5) front-mounted:
(4) pushbuttons: DIG (local digital loopback), ANA (local analog loopback), REM (remote digital loopback), PATT (test pattern);
(1) Recessed RESET switch;
(6) internal: (1) 7-position DIP switch for protocol, data format, signaling options;
(1) rotary switch for data rate;
(4) jumpers for clock source, loopback testing, ground connection

Interface: 2-wire telco, ITU-TSS (CCITT) V.35

Connectors: V.35: (1) M/34 F;
Line side: (1) RJ-45, (1) 3-screw terminal block

Indicators: (8) front-mounted LEDs: PWR (Power), RTS, TD, RD, DCD, LOS (Loss Of Signal), ERR (Error), TEST

Temperature Tolerance: 32 to 122°F (0 to 50°C)

Humidity Tolerance: Up to 90%, noncondensing

Power: ME376A-R2:
103.5–131.5 VAC, 47–63 Hz;
ME376AE-R2: 207–253 VAC, 47–63 Hz

Size: 1.8"H x 7.7"W x 9.7"D (4.6 x 19.6 x 24.6 cm); but the unit's pushbuttons protrude up to 0.1" (25 mm) from the front panel and the connectors protrude up to 0.8" (2 cm) from the rear panel

Weight: 3.1 lb. (1.4 kg)

Ordering Information

ITEM

CODE

V.35 2-Wire Short-Haul Modem

103.5–131.5-VACME376A-R2

207–253-VACME376AE-R2

NOTE: Must be used in pairs.

You may also need...

V.35 Interface Cable,

10-ft. (3-m) Male/MaleEYN450-0010-MM

GigaBase® 350 350-MHz CAT5e Bulk Cable, 4-Pair, PVC,
1100-ft. (335.3-m) Boxed Reel, Blue.....EYN851A-1100

Why Buy From Black Box? Exceptional Value. Exceptional Tech Support. Period.

Recognize any of these situations?

- You wait more than 30 minutes to get through to a vendor's tech support.
- The so-called "tech" can't help you or gives you the wrong answer.
- You don't have a purchase order number and the tech refuses to help you.
- It's 9 p. m. and you need help, but your vendor's tech support line is closed.

According to a survey by Data Communications magazine, 90% of network managers surveyed say that getting the technical support they need is extremely

important when choosing a vendor. But even though network managers pay anywhere from 10 to 20% of their overall purchase price for a basic service and support contract, the technical support and service they receive falls far short of their expectations—and certainly isn't worth what they paid.

At Black Box, we guarantee the best value and the best support. You can even consult our Technical Support Experts before you buy if you need help selecting just the right component for your application.

Don't waste time and money—call Black Box today.