

T1 and E1 Extenders for Copper

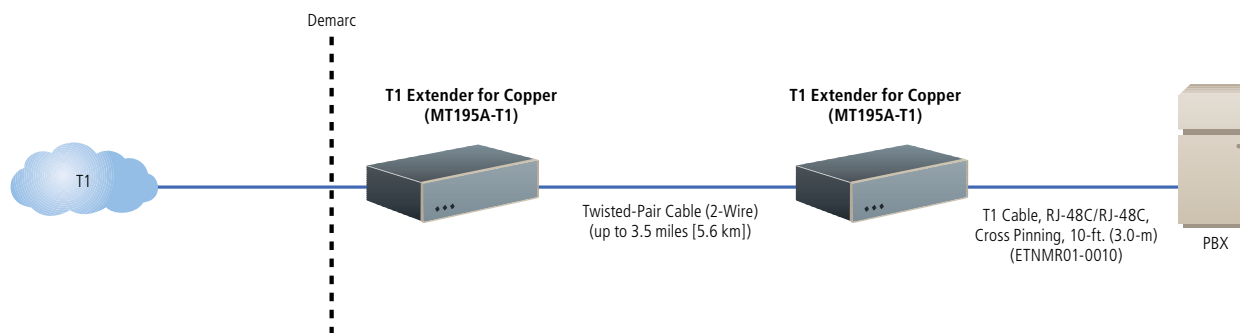
These extenders send
your data three times as far
over half the pairs.



FEATURES

- » Extend T1 lines to 3.5 miles (5.6 km) and E1 lines to 3 miles (4.8 km) over a single twisted pair.
- » Ideal for T1/E1 backhauls from a remote site, relocation, extension across a campus, and last-mile TDM delivery.
- » Plug-and-play.
- » Put one unit on each side of the dry copper pair, connect your T1 or E1 devices, and go.
- » Use only two polarity-insensitive pins so you can connect either wire to either pin.
- » Operate in Clear Channel mode to easily transport voice and data circuits (F-bit included.)
- » Check status via the front-panel LEDs.
- » Rackmount panels are also available.

Extend a T1 link up to 3.5 miles (5.6 km) over a single pair of copper wire.



OVERVIEW

Extend your T1 or E1 circuits beyond their typical reach and get more from your copper cabling. BLACK BOX® [T1 and E1 Extenders for Copper](#) extend T1s as far as 3.5 miles (5.6 km) and E1s to 3 miles (4.8 km) and require just a single pair of wires to operate.

Save by making the most of your copper.

With these extenders, you can increase connections from the demarc to equipment in your building, and save money by linking remote PBXs over existing dry copper. If you're a service provider, you can use the extenders to reach a larger subscriber base with less copper and at longer distances—without the need for repeaters!

Plug and play with no user settings required.

Plus, they're easy to set up and use, delivering TDM circuit extension with no configuration. Just take them out of the box, place them on opposite sides of the dry copper, and plug in your T1 or E1 line. The circuit is now ready for communications. Because the two active pins on the extenders' RJ-11 connector are polarity sensitive, you don't even have to worry about which wire is connected to the line interface.

Easy to troubleshoot and run loopbacks.

Intuitive LEDs alert you to any possible line or circuit problems. For instance, a solid green Link LED indicates a good end-to-end link, and a solid green Frame LED indicates valid framing on the link. For further troubleshooting, the [T1 and E1 Extenders for Copper](#) also feature a V.52 511/511E pattern generator that enables you to run Remote Digital Loopback (RDL) and Local Analog Loopback (LAL) line tests.

Save space and rackmount multiple units.

You can also stack and organize your extenders and other equipment in the optional 19" Universal Rackmount Panel. Each slot in the panel operates independently, and the rear side has slots for device power supplies.



MT195A-T1

Technically Speaking

The benefits of T1 and E1.

If you manage a heavy-traffic data network and you demand high bandwidth for high speeds, Black Box has what you need to send your data digitally over super-fast T1 or E1 communication lines.

Both T1 and E1 are foundations of global voice communication.

Developed more than 30 years ago and commercially available since 1983, T1 and E1 go virtually anywhere phone lines go, but faster.

T1 sends data up to 1.544 Mbps. E1 supports speeds to 2.048 Mbps. No matter where you need to connect—North, South, or Central America, Europe, or the Pacific Rim—T1 and E1 can get your data there—fast!

Both services provide flexibility for a multitude of applications.

Whether you need to drive a private, point-to-point line or a high-speed circuit; provide corporate access to the Internet or inbound access to your own web server; or support a voice/data/fax/video WAN that extends halfway around the world, T1 or E1 can make the connection.

Both offer cost-effective connections.

In recent years, competition among telco service providers has led to increasingly more affordable prices for T1 and E1 services. In fact, most companies seriously considering a shift to T1 or E1 find they can negotiate even better rates with just a little comparative cost analysis.

Typical applications:

- Trunking of V.90 and ISDN remote connection to a central location.
- Accessing public Frame Relay networks for voice, fax, and data.
- Merging voice and data traffic. A single T1 or E1 line can give you several additional voice and data lines at no additional cost.
- Making LAN connections. If you're linking LANs, a T1 or E1 line offers excellent performance.
- Sending bandwidth-intensive data such as CAD/CAM, MRI, CAT-scan images, and other graphics with large files.

TECH SPECS

Clocking — CO unit: Network clock;
CPE unit: Receive recover

Distance — MT195A-T1: 3.5 mi. (5.6 km);
MT195A-E1: 3 mi. (4.8 km)

Line Coding — 16-constellation TC-PAM

Line Tests Supported — V.52 511/511E pattern generator with Remote Digital Loopback (RDL) and Local Analog Loopback (LAL)

CE Approval — Yes

Speed (Maximum) — MT195A-T1: 1.544 Mbps;
MT196A-E1: Up to 2.048 Mbps

Connectors — Both: (1) RJ-11 using Pins 2 & 3;
MT195A-T1: (1) RJ-48C;
MT196A-E1: (1) RJ-48C (120-ohm), Dual BNC F (75-ohm)

Indicators — Power, Link, Frame

Power — External supply: 90–220 VAC, 50–60 Hz

Size — 4.7"H x 1.5"W x 5"D (11.9 x 3.8 x 12.7 cm)

What's included

MT195A-T1–MT196A-T1:

- ◆ CO unit
- ◆ CPE unit
- ◆ User's manual

Item	Code
T1 Extender for Copper 2-Pack	MT195A-T1
E1 Extender for Copper 2-Pack	MT196A-E1
You may also need...	
Universal Rackmount Panels 19"W (48.3 cm) 2-Unit, 1U	ME330-2
10-Unit, 4U	ME330-10