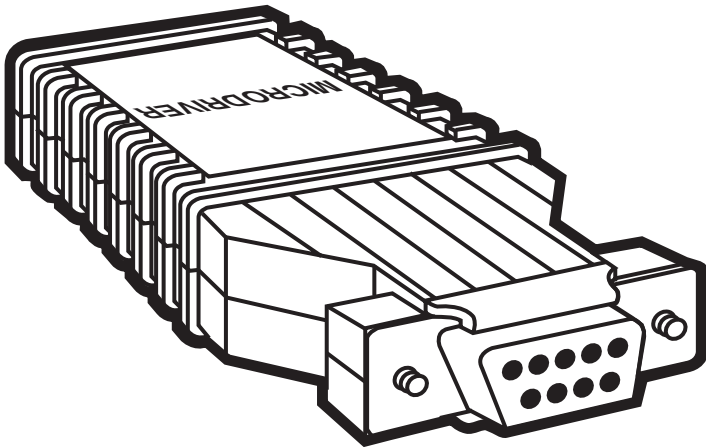




## Microdriver/RJ-11 Microdriver/Terminal Post



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INFORMATION**

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## TRADEMARKS USED IN THIS MANUAL

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# 1. Specifications

**Protocol** — Asynchronous

**Speed** — Up to 19.2 kbps

**Operation** — Full duplex, point-to-point

**Transmit Level** — 0 dBm

**Transmit Line** — 4-wire, unloaded/unconditioned line (2 twisted pairs)

**Transmission Range** —

<b>Data Rate (bps)</b>	<b>Distance in Miles</b>		
	<b>19 AWG</b>	<b>24 AWG</b>	<b>26 AWG</b>
19,2000	6.2	3.7	1.2
9600	7.5	4.9	2.5
4800	8.7	5.6	3.7
2400	11.8	8	4.9
1200	17	11.8	8

**Control Signal** — CTS (Pin 8) turns ON immediately after the terminal raises RTS (Pin 7). DSR (Pin 6) and DCD (Pin 1) turn ON immediately after the terminal raises DTR (Pin 4).

**Interface** — RS-232C/CCITT V.24

**Connectors** — Microdriver/RJ-11: (1) DB9 female or (1) DB9 male, (1) female RJ-11; Microdriver/Terminal Post: (1) DB9 female or (1) DB9 male, (1) 5-screw terminal block

**Power** — No external power supply required; derives power from the RS-232 interface (+6 VDC minimum on Pin 4 or 7 of the DB9 connector; current draw is 3 to 5 milliamps with 10 volts.)

**Size** — 1.2"H x 0.75"W x 2.5"D (3.05 x 1.91 x 6.35 cm)

**Weight** — 0.9 oz. (25.5 g)

## 2. Description

The Microdriver is a small, short-range, asynchronous, point-to-point, full-duplex line driver that plugs directly into your computer or terminal port. The Microdriver is designed to be used on the IBM® AT® and compatibles, NCR Tower®, Unisys™ 700 series, and other devices with DB9 connectors. You must have one Microdriver at each end of your cabling.

It operates asynchronously up to 17 miles (27.4 km) at 1200 bps and up to 6 miles (9.7 km) at 19,200 bps over 4-wire twisted-pair cabling.

The Microdrivers are very small in size due to the use of surface-mount technology.

Four models are available:

- The Microdriver/RJ-11 (ME790A-F) has a female RJ-11 connector to connect to the twisted-pair lines and a female DB9 connector to connect to your computer port.
- The Microdriver/RJ-11 (ME790A-M) has a female RJ-11 connector to connect to the twisted-pair lines and a male DB9 connector to connect to your computer port.
- The Microdriver/Terminal Post (ME791A-F) has a 5-screw terminal block to connect to the twisted-pair lines and a female DB9 connector to connect to your computer port.
- The Microdriver/Terminal Post (ME791A-M) has a 5-screw terminal block to connect to the twisted-pair lines and a male DB9 connector to connect to your computer port.

# 3. Installation

If you have a Microdriver/RJ-11 (ME790A-F or ME790A-M), follow the installation procedure in **Section 3.1**. If you have a Microdriver/Terminal Post (ME791A-F or ME791A-M), follow the installation procedure in **Section 3.2**.

## 3.1 Microdriver/RJ-11 Installation

The RJ-11 jack on the Microdrivers is prewired for a standard Telco wiring environment. To be sure you have the right wiring, use Table 1 as a guide.

**Table 1. RJ-11 Connector Pinning**

<b>RJ-11 Pin No.</b>	<b>Signal</b>
1	GND
2	RCV-
3	XMT+
4	XMT-
5	RCV+
6	GND (connection to Ground is optional)

Proper crossing of pairs between the two modems is shown in Table 2.

**Table 2. Pairing Between Microdrivers**

<b>Local Microdriver</b>			<b>Remote Microdriver</b>		
<b>Signal</b>	<b>Pin No.</b>	<b>Color*</b>	<b>Color*</b>	<b>Pin No.</b>	<b>Signal</b>
GND**	1	Blue	White	6	GND**
RCV-	2	Yellow	Red	4	XMT-
XMT+	3	Green	Black	5	RCV+
XMT-	4	Red	Yellow	2	RCV-
RCV+	5	Black	Green	3	XMT+
GND**	6	White	Blue	1	GND**

\*Standard color codes; some installations may be different.

\*\*Connection to ground is optional. If there is a shield around the telephone cable, it may be connected to "G" on the terminal block. Connect the shield only at the computer end to avoid ground loops. A ground wire is not necessary for proper operation of these units.

Follow these steps to install a Microdriver at each end of your line:

1. Plug the RJ-11 plug on the twisted-pair cable into the RJ-11 socket on the Microdriver.
2. Plug the unit directly into a mating RS-232C connector on your terminal or computer and tighten the two connector screws.
3. Repeat steps 1 and 2 for the Microdriver at the other end of the twisted-pair cable.
4. Installation is now complete. The Microdriver requires no power supply or batteries and will work automatically at any data rate up to 19,200 bps as long as there is a data or control voltage being applied (+6 VDC minimum on Pin 4 or 7 of the DB9 connector).

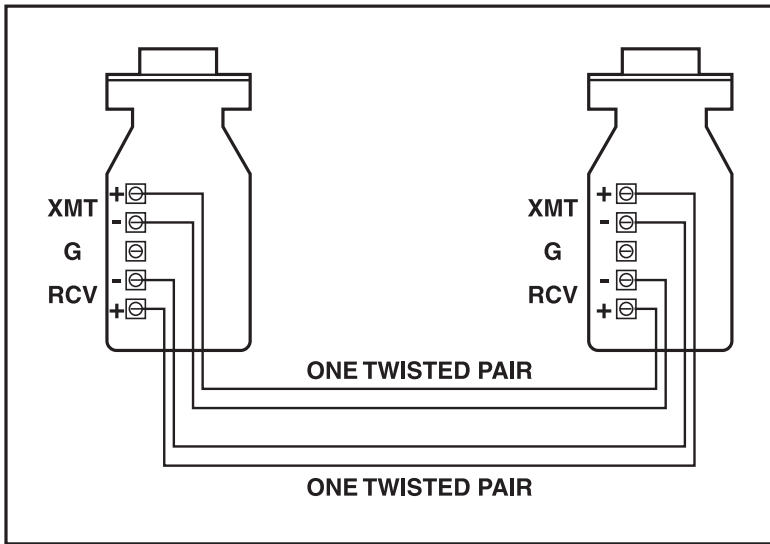
## 3.2 Microdriver/Terminal Post Installation Procedure

Proceed as follows to install the Microdriver/Terminal Post at each end of your line:

1. Use a small, flat-blade screwdriver to pry the top half of the Microdriver case from the bottom half.
2. Strip the outer insulation from the twisted pairs about one inch from the end.
3. Strip back the insulation on each of the 4 wires about one quarter-inch.
4. Insert each wire into the proper terminal post and tighten the screw. Be careful to observe the polarity (see Figure 1). Connect the wires as follows:

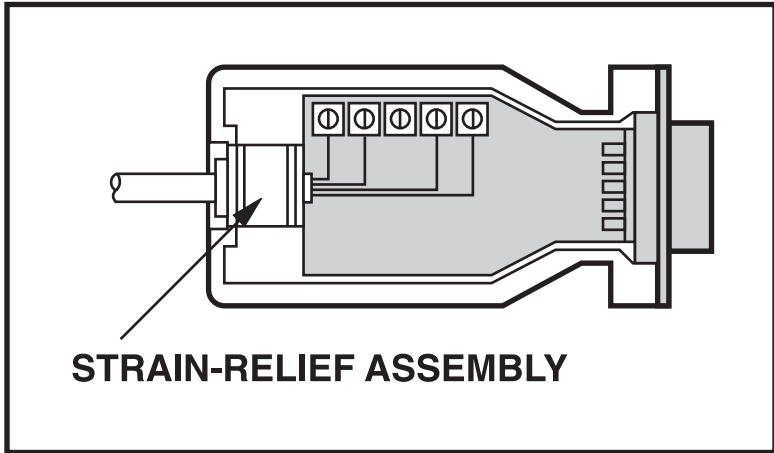
<u>Local Unit</u>		<u>Remote Unit</u>
XMT+	connects to	RCV+
XMT-	connects to	RCV-
RCV+	connects to	XMT+
RCV-	connects to	XMT-

5. If there is a shield around the telephone cable, it may be connected to "G" on the terminal block. (A ground wire is not necessary for proper operation of these units.) Connect the shield only at the computer end to avoid ground loops.



**Figure 1. Microdriver Connection.**

6. Place the two halves of the strain-relief assembly on either side of the telephone wire and press together very lightly. Slide the assembly so that it is about two inches from the terminal posts and press together firmly.
7. Insert the strain-relief assembly (with the wire going through it) into the slot in the bottom half of the Microdriver case and set it into the recess in the case. If the telephone wire is too thin to be held by the strain-relief assembly, use tape to increase its diameter. If the wire is too large, it may be necessary to drill out the strain-relief slightly. The completed assembly should appear as shown in Figure 2.
8. Bend the top half of the case as necessary to place it over the strain-relief assembly. Do not snap the case together.
9. Insert each screw through a saddle washer and then insert each screw with the washer on it, through the holes in the DB9 end of the case. Snap the case closed.
10. Plug the unit directly into a mating RS-232C connector on your terminal or computer and tighten the two connector screws.



**Figure 2. Microdriver and Strain-Relief Assembly.**

11. Repeat steps 1 through 10 for the Microdriver at the other end of the twisted-pair cable.
12. Installation is now complete. The Microdriver requires no external power supply or batteries and will work automatically at any data rate up to 19,200 bps as long as there is a data or control voltage being applied (+6 VDC minimum on Pin 4 or 7 of the DB9 connector).





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