ME794A

DB9 M/F CONNECTOR

ME794A

1 2 3 4 5 6 7 8

RJ-45

ME794A

BLACK BOX

MICRODRIVER

DESCRIPTION:

The DB9 Microdriver lets two asynchronous RS-232 devices with DB9 connectors communicate at distances up to 17 miles (27 km). Operating full-duplex over two unconditioned twisted-pair wires, the Microdriver supports data rate from 300 to 19,200 bps. The unit draws all power from the RS-232 interface and requires no AC power or batteries.

It's tiny size lets the Microdriver fit in very tight installation spaces. And you can make twisted-pair connections using the RJ-11 connector. For added flexibility, the Microdriver is compatible with the ME771A-773A and the ME731A-733A.

These units use the latest in bi-directional, clamping transient suppressors to guard itself and connected equipment from data line transients. Providing 600 watts per wire of transient protection, this unit is recommended for environments prone to lightning storms, static discharge, and other forms of EMR.

INSTALLATION:

The Microdriver is easy to install and requires no pre-configuration. This section tells you how to properly connect the Microdriver to the twisted-pair and RS-232 interfaces, and how to operate it.

The DB9 Microdriver operates full-duplex in point-to-point environments. It passes both data and X-ON/X-OFF (software) handshaking signals. There are two essential requirements for installing the Microdriver.

1. You must use Microdrivers in pairs. You must have one unit at each end of a two twisted-pair interface.
2. You must use two twisted pairs of metalllic wire. These pairs must be unconditioned dry, metallic wire, between 19 and 26 AWG (lower-number gauges allow greater distances). *Do not* use standard dial-up telephone circuits or leased circuits that run through signal equalization equipment.

The RJ-45 on the Microdriver is pre-wired for a standard AT&T wiring environment. To be sure you have the right wiring, use the *table* below.

When you connect two DB9 Microdrivers, you must use a cross-over cable. The *diagram* below shows how a cross-over cable should be constructed for an environment where both Microdrivers use a 8-wire RJ-45 connector.

SPECIFICATIONS:

Protocol: Asynchronous

Speed: 300 to 19.2 Kbps

Operation: 4-wire, Full-or Half-Duplex, point-to-point

Transmit Level: 0 dBm

Surge Protection: 600W power dissipation at 1 ms and response time of 1 picoseconds

Control Signals: 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: (1) DB9 male/female (depending on model); (1) RJ-45 female connector.

Power: No external power supply required; uses ultra-low power (+5VDC required, with current draw of 3 to 5 ma at +10VDC) from EIA data and control signals: Pins 3,4 and 7.

RJ-45 PIN #	SIGNAL
2	GND
3	RCV-
4	XMT+
5	XMT-
6	RCV+
7	GND (Connection to Ground is Optional)

TABLE

Pins 1 and 8 are no connection

Connection to ground is optional. If there is a shield around the telephone cable, it may be connected to "G" (GND) on the RJ-45 connector. Connect the shield only at the computer end to avoid ground loops. A ground wire is not necessary for proper operation of these units.

DIAGRAM

RJ-45 8 7 6 5 4 3 2 1

RJ-45 8 7 6 5 4 3 2 1

DATA RATE (BPS)	DISTANCE IN MILES (km)		
	19 AWG	24 AWG	26 AWG
19,200	6.2 (10)	3.7 (6)	1.2 (1.9)
9,600	7.5 (12.1)	4.9 (7.9)	2.5 (4)
4,800	8.7 (14)	5.6 (9)	3.7 (6)
2,400	11.8 (19)	8 (12.9)	4.9 (7.9)
1,200	17 (27.4)	11.8 (19)	8 (12.9)
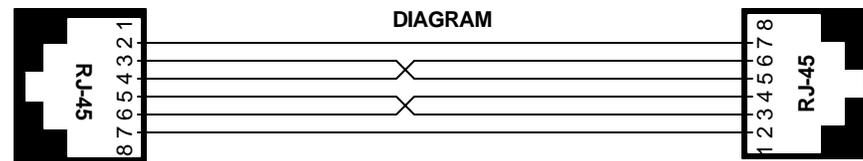
ME794A-M/F WITH SURGE PROTECTION