ME732A-M/F or with(Surge Protection)

CS MINI DRIVER

DTE
DCE

BLACK BOX

DCE ||||| DTE

1 2 3 4 5 6

RJ-11 JACK

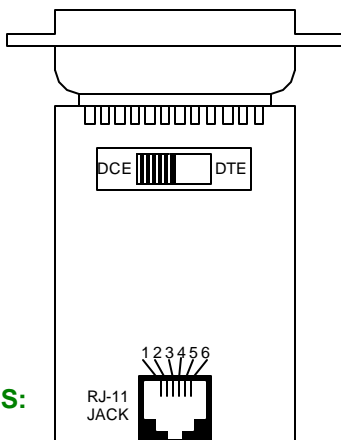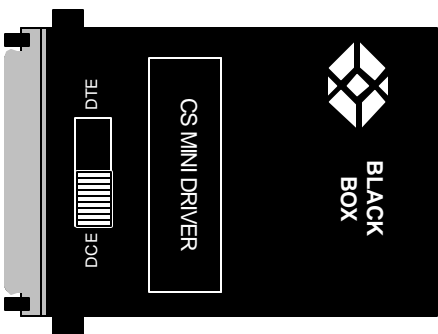## SPECIFICATIONS:

Protocol: Asynchronous

Speed: Up to 19,200 bps (no strapping)

Distance: See table below.

Surge Protection (SP models only): 600W power dissipation at 1 ms and response time of 1.0 picoseconds.

Control Signals: **DCE Mode;** CTS (pin 5) turns ON immediately after terminal raises RTS (pin 4); DSR (pin 6) turns on when powered-up; DCD (pin 8) turns ON after detecting the receive signal from the line.
DTE Mode; RTS (pin 4) turns ON immediately after modem raises CTS (pin 5); DTR (pin 20) turns ON after recognizing the receive signal from the line.

Operation: 4-wire unconditioned line (2 twisted-pair wires), full-duplex.

Transmit Level: 0 dBm

Connectors: (1) DB25 male or female (depending on model chosen).

Line Connection: RJ-11 modular jack

Power: No power required; uses ultra-low power (+5VDC) from EIA data and control signals ---- Pins 3,5,6,8, and 9 in DCE mode; Pins 2,4,9 and 20 in DTE mode.

Distance Table in miles (km)

Speed (bps)	Wire Gauge		
	19 AWG	24 AWG	26 AWG
19,200	6.2 (10 km)	3.7 (6 km)	1.2 (1.9 km)
9600	7.5 (12.1 km)	4.9 (7.9 km)	2.5 (4 km)
4800	8.7 (14 km)	5.6 (9 km)	3.7 (6 km)
2400	11.8 (19 km)	8 (12.9 km)	4.9 (7.9 km)
1200	17 (27.4 km)	11.8 (19 km)	8 (12.9 km)

DESCRIPTION:

The CS Mini Driver-A let's you put 17 miles (27.4 km) between your RS-232 UNIX systems. The Driver uses unconditioned twisted-pair cabling, supports speeds of up to 19.2 Kbps, and requires no AC power or batteries.

A carrier sense feature automatically detects the presence of a carrier on the line, making the Driver ideal for UNIX environments where the host must see a carrier before it sends a log-on screen to a terminal. The carrier sense feature also plays an important role in troubleshooting, where the presence or absence of a carrier indicates positive or negative line integrity.

Small and sturdy, the Driver comes housed in an ABS plastic case. It includes a male or female DB25 connector and RJ-11 modular jack. The "SP" models incorporate Silicon Avalanche Diodes which give you 600 watts per wire of protection against harmful transient surges.

CONFIGURATION:

Easy to use, the Driver has no internal jumpers or configuration switches to set. The only thing you must do is set the external DCE/DTE switch.
The figure to the left, show the location of the DCE/DTE switch on the PC board, as well as the location of the RJ-11 modular jack.
SETTING THE DTE/DCE SWITCH:
The Driver includes an external DCE/DTE switch. If a modem or multiplexor is connected to the Driver (or if the connected device is wired like a modem or mux), set the switch to DTE. On this setting, the Driver will act like a DTE and transmit data on Pin2.
If a PC, terminal, or host computer is connected to the Driver (or if the connected device is wired like a PC, terminal, or host computer), se the switch to DCE. On this setting, the Driver will act like a DCE and transmit data on Pin 3.

INSTALLATION:

Once you configure the DTE/DCE switch, you're ready to connect the Driver to your network. The Driver supports data-only communication between two RS-232 devices at distances up to 17 miles (27.4 km) and speeds up to 19.2 Kbps. There are two essential requirements for installation:
1. These units work in pairs. You must have one Driver at each end of a two-twisted-pair interface.
2. To function properly, the Driver needs two twisted-pairs of metallic wire, between 19 and 26 AWG (higher-number gauges may limit distance; see the distance table for specific distance and AWG recommendations). Do not use standard dial-up telephone circuits or leased circuits that run through signal-equalization equipment.

TWISTED-PAIR CONNECTION USING RJ-11:
The RJ-11 connector on the Driver's twisted-pair interface are prewired for a standard AT&T wiring environment.

RJ-11	SIGNAL
1	GND
2	RCV-
3	XMT+
4	XMT-
5	RCV+
6	GND

When you connect two CS Mini Driver-A units, you must use a crossover cable. The diagram below shows how you should construct a crossover cable for an environment
where both Drivers use a 4-wire RJ-11 connector.

SIGNAL	PIN	PIN	SIGNAL
GND	1	6	GND
RCV-	2	4	XMT-
XMT+	3	5	RCV+
XMT-	4	2	RCV-
RCV+	5	3	XMT+
GND	6	1	GND