BSY

ACK

BLACK BOX

ME191A
Parallel Line
Driver-R

ACK

Centronics Male Connector

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ME191A

SPECIFICATIONS:

<u>Parallel Interface:</u> Centronics Male connector with terminal block.

<u>Range:</u> 2000 ft. (609.6m)

<u>Transmission:</u> Half-Duplex over a single shielded or unshielded twisted-pair
(19-26 AWG).

<u>Line Interface:</u> Terminal block

<u>Data Rate:</u> 5 Kilobytes per second on parallel interface (40 Kbps on serial line)

<u>Interface Signals:</u> Data bits 0-7 ground, Busy, or Acknowledge
(externally switch-selectable)

<u>Power:</u> Interface -powered, no AC power or batteries needed.

INTRODUCTION:

The Parallel Line Driver allows a PC and a parallel output device (printer, sharing switch, etc.) to communicate at distances to 2000 feet (609.6m) over a single unconditioned twisted pair. Supporting parallel data rates to 5 kilobytes per second (serial rates to 40 Kbps), the Parallel Line Driver derives all necessary operating power from the parallel interface--no AC power or batteries are required.

The Parallel Line Driver always works in pairs: A transmitter unit is plugged into the PC's parallel port, and a receiver unit is plugged into the output's device's parallel port. The connection between them is serial, and functions at speeds high enough to allow real-time parallel communication between the two parallel devices.

The Parallel Line Driver has two unique features that allow it to operate in a wide variety of parallel applications: First, the Line Driver transmitter is able to send DC power down the line to the receiver in order to compensate for low power parallel printer interfaces. Second, the Parallel Line Driver can be configured for either BUSY or ACKNOWLEDGE flow-control methods.

The Line Driver receiver is available with Centronics parallel interface. The Line Driver transmitter is available with a DB25 parallel interface. Line-connection options are a terminal block.

CONFIGURATION:

The Parallel Line Driver is designed to be easy to use. There are no internal jumpers or DIP switches to set. The only configuration necessary for operation is proper setting of the external BUSY/ACKNOWLEDGE switch on the PC board, as well as the location of the terminal block.

Setting the Busy/Acknowledge Switch:
There are three things to keep in mind when you set the BUSY/ACKNOWLEDGE switch:
1. The switch must be set the same way on both transmitter and receiver.
2. Set the switch to Acknowledge on both the transmitter and receiver. This should achieve good results in most applications.
3. If you experience loss of information or other problems with both switches set to Acknowledge, set both switches to Busy.

INSTALLATION:

Once you have configured the Parallel Line Driver transmitter and receiver, you must connect the system. This section will tell you how to connect the transmitter and receiver via twisted-pair wire and how to connect the two devices to your system hardware.

Connecting the Line Side with Terminal-Block:
Terminal block are used to connect a single pair of bare wires to the Parallel Line Driver. The following instructions will tell you how to open the case, connect the bare wires, and fasten the strain-relief collar in place.
1. Open the unit by gently inserting a screwdriver between the DB25 connector and the lip of the plastic case. You don't have to worry about breaking the plastic, but be careful not to bend the D-sub connector. After you have opened the unit's case, you will find the terminal block mounted at the rear of the PC board. The terminals are labeled "S" for signal and "G" for ground.
2. Strip the outer insulation from the twisted pairs about one inch from the end.
3. Strip back the insulation on each of the 2 wires about 1/4 inch.
4. Insert the two-wire data line to the center (signal) and shield (ground) terminal posts, then tighten the screws.

NOTE:
Make sure the twisted pair cable between the transmitter and receiver is wired straight through.

5. 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.

6. Insert the strain-relief assembly and the wire into the slot in the bottom half of the modem case. Set it into the recess in the case.
7. Bend the top half of the case as necessary to place it over the strain-relief assembly. Do not snap the case together yet.
8. Insert one captive screw through a saddle washer and then insert the entire piece through the hole in the DB25 end of the case. Snap that side of the case closed. Repeat the process for the other side. This completes the installation.

Connecting to Parallel Hardware:

After connecting the twisted-pair line to the Parallel Line Driver transmitter and receiver, you are ready to connect the units to your parallel hardware. The following steps explain this process:

1. Plug the DB25 male connector on the Parallel Line Driver transmitter directly into the parallel port of the sending device (which is normally a PC, terminal, host or similar DTE).

NOTE:
If you cannot plug the transmitter and receiver directly into the
parallel port, use a straight-through DB25 parallel cable of the
shortest possible length. We recommend 6 feet (1.8m) or less.

2. The Parallel Line Driver receiver is available with a 36-pin Centronics male connector, designed for direct connection to the Centronics port of a parallel printer.

Operating the Parallel Line Driver:

Once the transmitter and receiver have been connected to each other and to their corresponding parallel input and output devices, you are ready to operate the units. Make sure that the BUSY/ACK switches on both units are set the same way. Otherwise, the units should function transparently, just like a cable. There is no ON/OFF switch.

If your Parallel Line Drivers are not operating properly, double-check all of your connections and try again. If you still experience problems, change the Busy/Acknowledge setting on both units and try again. If you still do not obtain satisfactory results, call Black Box Technical Support.