



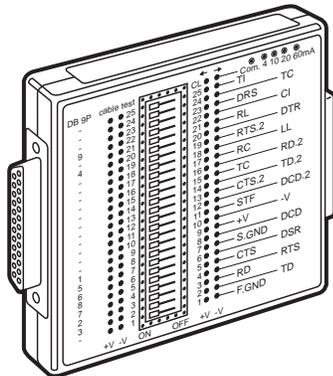
# BLACK BOX<sup>®</sup>

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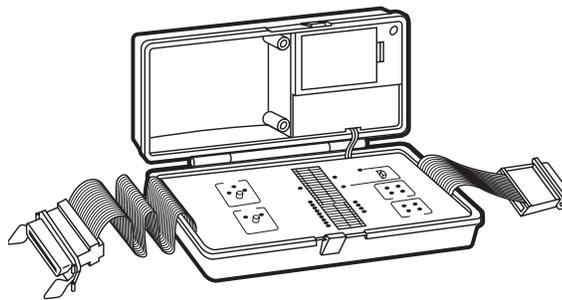
The World's Source for Connectivity<sup>SM</sup>

## SAM-232 Compact and SAM-36 Parallel

*Compact and convenient, these handy testers monitor and redirect circuits on your RS-232C or Centronics/parallel devices.*



SAM-232 Compact.



SAM-36 Parallel.

### Key Features

- ▶ *Our most compact breakout box (BOB).*
- ▶ *Line-powered so it won't fail when you need it.*
- ▶ *Break and re-direct any of 25 leads.*
- ▶ *Made with LEXAN, a strong, durable material.*
- ▶ *Switches are custom-made to be stronger and easier to read than rocker switches used on most BOBs.*
- ▶ *RS-232 model tests both 9- and 25-pole RS-232 circuits; adapter included.*
- ▶ *Centronics model tests 36-pole Centronics circuits.*

Our most compact industrial-strength breakout boxes are ready for you to use to test your RS-232C or Centronics circuits.

The handy **RS-232 model** includes both current loop and ground potential testings. It also has these features:

102 dual-state LEDs show positive voltage, negative voltage, or no voltage at all on each side of all 25 leads on a DB25 interface connection, or all 9 leads on a DB9 interface connection. And the box comes complete with two DB9 to DB25 adapters, so you're sure to be able to use it with your system.

Additional tests performed by the box include potential test and 4-level bidirectional current-loop test.

The box features six single one-to-one jumpers and two four-way jumpers.

The **Centronics model** is the universal tool for testing and troubleshooting the IBM parallel interface. It features inverters and pulse-trap and character-step circuits. For more information about these features, see the **Technically Speaking** section on the next page.

Both very compact units feature breakout switches, access sockets, and jumper cables. Their LEDs are easy to read and save you loads of time when isolating problems.

The switches on both models are custom-made to be stronger and easier to read than rocker switches used on most breakout boxes.

### Typical Applications

*Test your 25- or 9-pin RS-232C circuits with the portable SAM-232 Compact.*

*Test your 36-pin Centronics circuits with the portable SAM-36 Parallel.*

# Test and troubleshoot RS-232C or Centronics/parallel interfaces with the SAM-232 Compact or SAM-36 Parallel.

## Technically Speaking

### Switches and sockets

Each of the DB25 or Centronics/parallel interface lines has an individual switch for breaking the circuit and network reconfiguration. The switches are located in the center part of the main control panel. For the Centronics model, the return lines, Pins 19-30, are connected to the common breakout switch.

On both sides of the breakout switches are sockets allowing direct access to both interfaces. This enables cross-patching of lines via jumper cables. Access sockets also permit attaching signal simulation and signal inversion, as well as attaching unassigned monitors, pulse trap, and external monitoring instruments to any line.

### Jumper Cables/Patching

A set of jumper cables with high quality plugs is provided to allow cross-patching of interface lines. To facilitate multiple line connections, two sets of four plug jumper cables are supplied with the unit.

*The RS-232 model also offers the following features:*

### Ground potential difference (GPD) test circuit

The difference in ground potentials of the two interfaced devices can cause problems with signal interpretation. The circuit-testing feature makes use of the GPD monitor connected to the left side of switch #7.

### Power/test voltage sources

The basic functions of the SAM-232 Compact do not require battery power.

### Current loop test circuit

The current loop (CL) test circuit is accessed via 5 sockets situated in the horizontal row above breakout switch #25. The common socket at the beginning of the row forms a common input, while the right sockets marked 4, 10, 20, and 60 mA become the second input.

*The Centronics/parallel model also offers the following features:*

### Inverters

Two inverters are located at the right hand side of the tester. They allow a particular signal applied to the inverter input (IN) to appear inverted from High to Low or vice versa at its output (OUT).

### Pulse-trap circuit

The tester is equipped with the pulse trap for latching and indicating test pulses impossible to detect with line monitors. Two inputs are available: -IN for detecting High-to-Low transition and +IN for detecting Low-to-High transition. The Pulse Trap LED is activated with the first signal-state transition of the chosen polarity, after reset.

### Character-step circuit

This circuit allows you to manually release from the computer one character (byte) at a time and pass it to the printer and to the latch for static data observation.

## Specifications

### SAM-232 Compact:

Number of Breakout Switches — 25

Number of Probe Points — 50

Display — 102 LEDs

Temperature — Operating: 32 to 122° F (0 to 50° C);  
Storage: -13 to 158° F (-25 to 70° C)

Size — 3.4"H x 7.4"W x 0.7"D  
(8.5 x 18.8 x 2.3 cm)

Weight — 8.9 oz. (280 g)

### SAM-36 Parallel:

Number of Breakout Switches — 25

Number of Probe Points — 50

Number of Monitors — 16 +  
2 unassigned

In/Out Impedance — Input:  
47 kΩ, Output: TTL-compatible line

Temperature — Operating: 32 to 122° F (0 to 50° C);  
Storage: -13 to 158° F (-25 to 70° C)

Size — 1.57"H x 5.71"W x  
3.54"D (3.98 x 14.5 x 9 cm)

Weight — 8 oz. (250 g)

## For these and other components...

Call our expert Technical Support Staff for all your data-communications needs. They'll help you find the best equipment for your application.

## Ordering Information

This information will help you place your order quickly.

PRODUCT NAME	ORDER CODE
SAM-232 Compact .....	TS158A
SAM-36 Parallel .....	TS159A