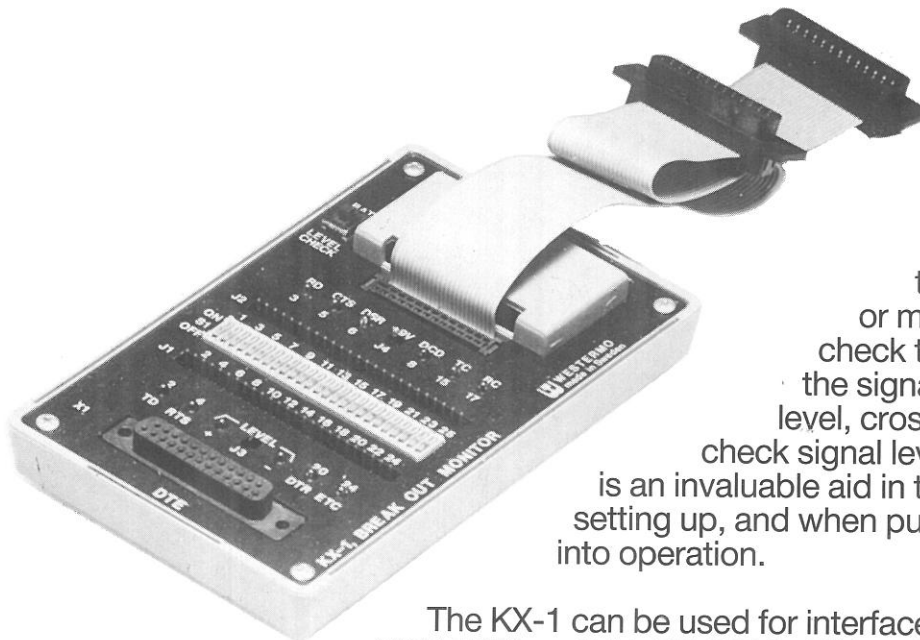


KX-1 COM DETECTIVE



With the KX-1 COM DETECTIVE you have access to the full interface of the computer, terminal or modem. It is possible to check the condition, interrupt the signals, set signals at fixed level, cross-patch, measure and check signal levels. In short, the KX-1 is an invaluable aid in trouble-shooting when setting up, and when putting terminal systems into operation.

The KX-1 can be used for interfaces according to CCITT V.24/V.28 and EIA RS-232C. All 25 pins are accessible. The state of the most important signals can be monitored on 10 LED's. It is also possible to check the level of just any signal by means of two further LED's. All signals can be interrupted via the DIP switches.

The KX-1 is housed in a rugged plastic case with a faceplate of anodized aluminium. Four jumper wires for cross-patching (three are single pressed, and one double pressed) and battery are included. On the back of the box there is a table listing all signals and pins in the interface according to CCITT and EIA recommendations. The KX-1 comes complete with carrying case.

SPECIFICATION

Interface:	CCITT V.24/V.28 and EIA RS-232C
No. of LED's:	12
Switches:	25 DIP switches plus one three-position switch for battery and signal level check.
Dimensions:	146 x 95 x 25 mm
Weight:	250 gr. approx.
Battery:	9V, Type 6F22

DESCRIPTION

The KX-1 has three main functions:

- **Monitoring signal conditions.** Indication via the LED's.
- **Measuring on test points.** All signals on each side of the interface are accessible.
- **Cross-patching of signals within the interface.** For operation, fault-finding and experimentation.

Switches

The three-position switch on the KX-1 has the following functions:

- **BATT position:** Check of battery condition. With a fresh battery the LED "Level+" should light. If not, replace battery. (accessible from back).
- **Centre position:** Normal position.
- **LEVEL CHECK position:** For measurement of signal level: see further under "Interface monitoring" below.

For each and every one of the 25 pins in the interface there is an on/off switch, each marked with the respective pin number. With ON the signal passes through the KX-1. With OFF the signal path is broken.

INSTRUCTIONS FOR USE

The three-position switch should be in the centre position both when in use and when not in use. The interface will function even if the switch is in the other positions, but there will be unnecessary drain on the battery.

Interface monitoring

Connect the KX-1 between the DTE (usually a terminal or a computer) and the DCE (usually a modem). See that any cross-connections are removed and all switches in the ON position.

With data traffic, LED's 2 (TD) and 3 (RD) should flicker, and some of the other control signal check LED's should light or blink.

Signals which do not pass over an LED can be checked by connecting a jumper wire from that pin to pin J3 (LEVEL). The LED's marked + and - show the signal state. They also indicate whether a signal exceeds +3V (LED "+" lights up), or if it less than -3V (LED "-" lights up). With precision measurement, set the three-position switch to "LEVEL CHECK". One of the two LEDs are always lighted and the latest signal condition always remains indicated.

Cross-patching

Most of the connections between a terminal (DTE) and a modem (DCE) are pin-to-pin compatible i.e. pin 2 to pin 2, pin 3 to pin 3 etc.

It can sometimes be necessary to change a connection in a cable by breaking up and cross-connecting leads. This can easily be done with the KX-1 without the need of a soldering iron. If a computer is connected directly to a terminal (two DTE's to one another) it is necessary, for example to cross-connect pins 2 and 3. This is easily done by breaking up the two signals by switching to OFF pins 2(TD) and 3(RD) and connecting two jumper wires, one from pin 2 on the DTE side to pin 3 on the DCE side, and one from pin 3 on the DTE side to pin 2 on the DCE side.

Forcing a signal high

It is sometimes necessary to force a signal high. If, for example, the signal DTR is missing from the terminal, but required by the modem, it can easily be forced high via the KX-1. Just connect a wire from J4 (+9V) to that pin which needs to be set high.

Loopback

The KX-1 is ideal for carrying out digital loopback tests. If, for example, there is a fault in a communication line, but it is not known whether the fault is in the line, the terminal or the modem, then it can be convenient to carry out a loopback test on the modem. Connect the KX-1 to the 25 pin connection on the modem. Do not connect the terminal. Carry out the signal loopback on the DCE side by connecting Receive Data to Transmit Data (pin 2 to pin 3), connect Data Set Ready to Data Terminal Ready (pin 6 to pin 20), and with the double pressed jumper wire connect together Request To Send, Clear To Send and Data Carrier Detect - (pins 4, 5 and 8). Send data to the modem from the other end of the communication line. Via the KX-1 the data is reconnected to the transmitting unit where the check for fault can be carried out. At the same time, the signal status can be checked via the LED's.

The terminal can be checked in the same way. Connect the KX-1, retaining the same connections. The data from the terminal is now returned to the terminal. If the terminal is a VDU for example, then it can be checked on the screen that the data received is the same as that sent.



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