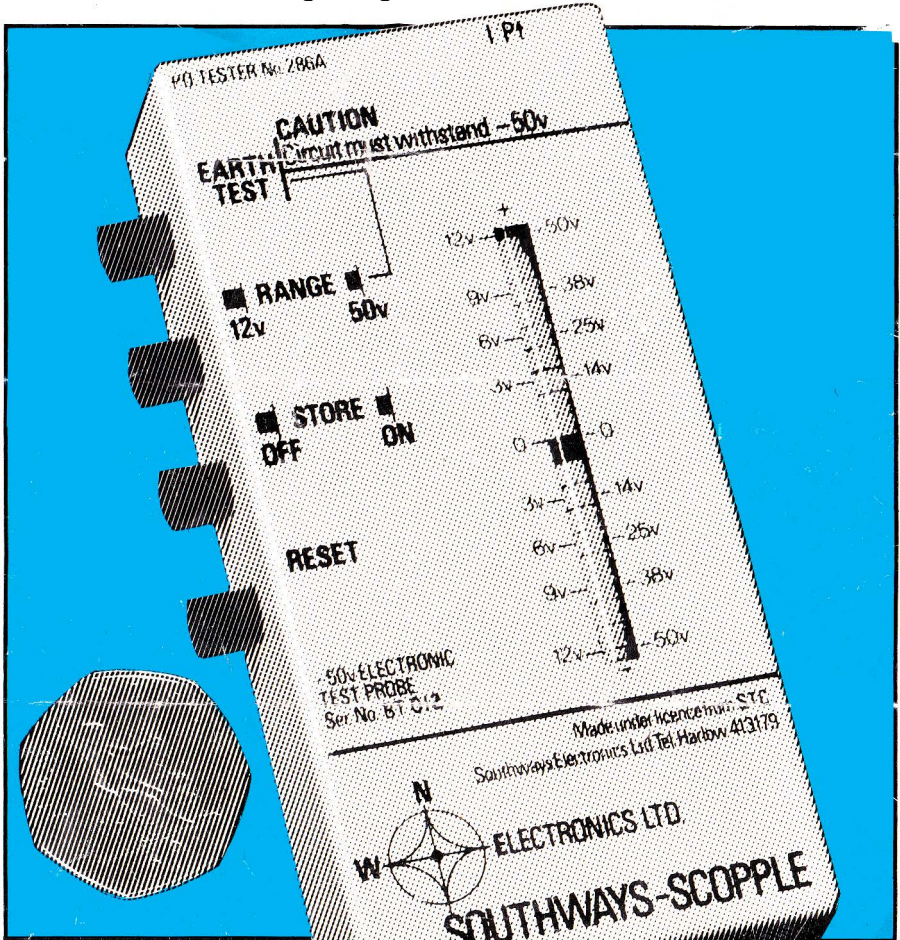


THE 'SCOPPLE' ELECTRONIC TEST PROBE

- * Low cost
- * Solid state
- * Hand held
- * Lightweight
- * Time saving
- * Rapid response
- * British Telecom Approved



SOUTHWAYS-SCOPPLE

THE 'SCOPPLE' ELECTRONIC TEST PROBE

INTRODUCTION

The SCOPPLE* electronic test probe is a product of Southways Electronics Ltd., manufactured under licence from Standard Telephones and Cables (STC). The unit was originally designed for STC installation staff to use when installing TXE4 telephone exchanges for British Telecom — part of the Post Office. It has now been adopted by British Telecom as PO Tester No 286A.

POWER SUPPLY

The SCOPPLE operates from the exchange power supply jacks on telecommunications equipment racks. These supplies can range from -44V dc to -66V dc and the SCOPPLE is designed to operate over this range. A plug-ended lead is provided for insertion into the power jacks.

FUSE

An internally mounted 20mm cartridge fuse is fitted, rated at 200 mA.

PROBES

A 4mm socket permits the insertion of alternative probes used by British Telecom with multi-test meters.

DISPLAY

This consists of a vertical array of 19 light emitting diodes (LEDs). The centre LED glows red for zero volts at the probe. The remainder glow green and indicate steps of $\pm 1.5V$ on the 12V range, or $\pm 6.25V$ on the 50V range.

Where a potential is between those indicated by two adjacent LEDs, both of them glow.

CONTROL KEYS

Legend	Colour	Type
Range	Black	Locking
Store	Red	Locking
Reset	Black	Non-locking
Earth-Test	Red	Non-locking

OPERATION

Insert the plug into the exchange power supply on the equipment rack. Fit a probe into the input socket. Apply probe to point of circuit under test.

Pulses as short as one millisecond in duration can be displayed. An enhancement mode is also incorporated, whereby it is possible to detect shorter pulses, down to one microsecond in duration.

The display on the device resembles the spot on an oscilloscope when the time base is switched off and is obtained from the vertical array of 19 L.E.D.'s. Hence, the potential of a point in the circuit to which the probe is connected, is displayed as a proportional deflection of the light spot. The deflection is upwards for a positive potential and downwards for a negative potential. There are two ranges for full-scale deflection, these being positive and negative 50 Volts and positive and negative 12 Volts, changes between the two scales being effected by operation of the RANGE key. Suitable protection has been incorporated in the design to prevent damage if the probe is inadvertently connected to high voltages, although this should not be done deliberately — and certainly not for an extended period of time.

* SCOPPLE is a trade mark of the **ITT** System.

Voltage measurements

Use the RANGE key to set the required voltage range as follows:

Locked: $\pm 50V$	Released: $\pm 12V$
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Set the STORE key according to the pulse width as follows:

Locked: 1 μ S min.	Released: 1mS min.
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Insert probe into input socket.

Take measurements as required.

With STORE key locked, press RESET between readings to restore display to zero.

N.B.

Pulses down to one millisecond in duration can be detected and displayed, on either the high or low ranges. If it is required to detect pulses of a shorter duration (down to one microsecond), press the STORE key. This facility can be switched on in either the 12V or 50V ranges. Before taking another reading in the STORE mode, press the RESET key to restore the display to zero.

Earth Test

This test operates only when the SCOPPLE is set to $\pm 12V$. Operating the EARTH TEST key applies a negative bias to the probe equal to the exchange supply voltage. The display indicates this voltage.

CAUTION: THE CIRCUIT UNDER TEST MUST BE ABLE TO WITHSTAND THIS VOLTAGE.

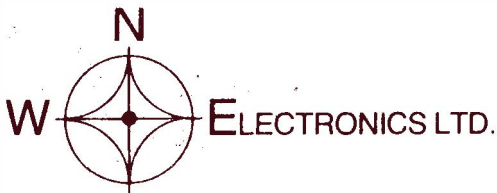
When the probe is applied to a point at which there is otherwise no detectable signal, the display differentiates between an open circuit and an earth connection, as follows:

Open circuit:	The negative display is retained.
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Full earth:	The display returns to zero.
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FURTHER DETAILS

Dimensions	length 5.75in, width 2.825 in, depth 1.0375 in.
Weight	10 oz (340gm).
Case	Die-cast metal. Stove enamel, light straw finish
Power Supply	Minimum -44V dc. Maximum -66V dc. Power supply lead length 6ft.0in. (182.9cm).
Power Consumption	Approx. 25 mA @ 50V.
Input Impedance	Greater than 500 kilohms.
Input	4mm socket



SOUTHWAYS

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