

# TESTEL 100E

## TELEPHONE EXCHANGE SIMULATOR



- Two port simulator
- Realistic 48 V line feed with Current and Polarity selection
- 8 digit display with 64 digit memory
- Tone and Pulse dialled digits displayed
- Can test a wide variety of telecommunication apparatus
- Can be used for BABT production testing
- Port-Port attenuation up to 30 dB

Testel 100E simulates a small exchange with two ports, the Master and Extension. It provides current to the unit under test and can be used to carry out a number of tests. When two telecom products are plugged into the two ports, a number can be dialled and a speech path is provided.

The Testel 100E has many applications including the testing of telecom products, sales demonstrations and training.

# FEATURES

## MASTER AND EXTENSION SOCKETS

Master socket: 48 V feed is supplied to simulate real conditions. Line polarity can be changed and current switched from High to Low representing a 1 km or 7.5 km line.

Dial tone can be provided when the device connected to the Master socket seizes the line and is stopped when the first dialled digit is detected. Level may be reduced using the Attenuator switch. Dial tone is particularly useful for checking auto-diallers that need dial tone to initiate signalling. By dialling 159 from the Master device, one can dial through to the Extension device to enable the testing of fax machines and modems.

## DIGIT DISPLAY

The number dialled from either the Master or Extension device is displayed on the eight digit display; up to 64 digits can be scrolled. Tone, Pulse or a mixed digit stream can be displayed. Tone digits are shown with a dot underneath.

## BAR GRAPH

This is useful for assessing tone levels during dialling, speech levels to line from an answering machine or data levels during modem transmission. Levels are displayed in dBm.

## ATTENUATION

A choice of 0, 10 or 30 dB may be switched into the signal path to the Master socket. This allows the attenuation of speech, dial tone or test signals.

## RINGING

Realistic ringing signal is a near sinusoid and is DC backed. It has a source impedance of 3 k $\Omega$ , which is typical to those found on the network.

Ringing levels can be adjusted to High, Low or User Preset levels. High 80 V level is a typical ringing voltage. Low level is typical when a number of telephones share a line. User Preset is a linear control at the rear of the unit. Cadence can be selected on the front panel, a choice of PSTN, PBX or Continuous is available.

## RECALL SIGNALS

Timed Break Recall (TBR) signals greater than 80 mS are detected and shown by an R on the display. Earth Recall signal is displayed as an E on the LCD. An LED indication is also provided.

## LINE LOOPED

An LED lights to indicate the line is seized and flashes when ringing is applied to the Master and Extension devices.

## PULSE DIAL TIMING MEASUREMENTS

Make, Break and Interdigit times are detected and displayed in milliseconds from the last digit dialled (or the last two digits for IDP).

## tone dial timing measurements

Tone On and Tone Off times are detected and displayed. The On time is measured from the last digit dialled and the Off time is based on the pause between the last two digits.

## PULSE DIAL TIMING ERROR

During Pulse dialling if the Make or Break times are outside the limits, an error message is flashed on the display.

# SPECIFICATION

## MASTER SOCKET

DC VOLTAGE	48 V $\pm$ 5%
FEED BRIDGE	2 x 200 $\Omega$ $\pm$ 10%
DC RESISTANCE	180 $\Omega$ $\pm$ 10% (= 1 km line) 1380 $\Omega$ $\pm$ 10% (= 7.5 km line)

## EXTENSION SOCKET

VOLTAGE	48 V $\pm$ 5%
SC CURRENT	40 mA $\pm$ 10%

## DIAL TONE

FREQUENCY	425 Hz
LEVEL	-6, -16 or -36 dBm

## RINGING

VOLTAGE (High)	80 V $\pm$ 10% rms (factory default)
VOLTAGE (Low)	40 V $\pm$ 10% rms (factory default)
USER LEVEL	Adjustable from 0 V to 95 V rms
FREQUENCY	25 Hz
TYPE	AC (near sinusoid), DC backed
CADENCE	PSTN, PBX or Continuous

## PULSE DIALLING

MAKE	25-41 mS
BREAK	50-82 mS
IDP	>200 mS
ON-HOOK	>300 mS
OFF-HOOK	>200 mS
TBR	80-110 mS

## tone dialling

tone TIME	>40 mS
ACCEPT FREQUENCY	$\pm$ 1.5%
REJECT FREQUENCY	$\pm$ 3.5%

## ATTENUATION

To and from Master Socket 0, 10 or 30 dB

## BAR GRAPH

REFERENCE	Top LED centred on -1 dBm $\pm$ 1 dB Ten LEDs each 3 dB $\pm$ 1 dB
ATTENUATION RANGE	0 to 30 dB

## TOLERANCE

unless otherwise specified	
FREQUENCY	$\pm$ 10%
TIMING	$\pm$ 10%
LEVEL	$\pm$ 3 dB

## POWER

MAINS	230 V, 50 Hz, 50 mA
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## DIMENSIONS

HEIGHT	155 mm
WIDTH	260 mm
DEPTH	260 mm
WEIGHT	2.35 kg

# TELE PRODUCTS

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