



'MINI WAVE' SIGNAL GENERATOR - digital

using **'DIGITAL SYNTHESIS'**

HIGH POWER

Cat: LB3753-101 220/240V.AC. 50/60Hz. 0.1 Hz – 99.9 kHz. 1 amp

DESCRIPTION:

The general purpose **IEC Digital Signal Generator** is a very easy to use, compact, microprocessor driven, super-accurate, and super-stable instrument for the Physics and Electronics laboratory. The interface is a large 5 digit red LED display. This excellent unit is a broad range, high current instrument and the selectable waveforms are: **sine, triangular, sawtooth and square** in shape. It provides high currents up to 1 amp directly to loads at up to 15V peak to peak which makes the use of amplifiers unnecessary.

NOTE: 15V p/p is equivalent to 5V RMS (AC effective volts).

This instrument can directly feed a loud speaker, solenoid, vibrator or other electro-mechanical device requiring heavy current. Experiments on low frequency oscillations and waves can be devised using the mechanics of a large loud speaker as the driver.

THE IEC 'QUICK SET' system is used and the simple controls are:

Digit SELECT button, increase (UP button), decrease (DOWN button), WAVEFORM select button and knob for OUTPUT from 0 to 5V.RMS (effective). Output sockets are 4mm safety type and current is limited to a maximum of 1 amp.

LB3753-001 digital signal generator (high power, 1 amp)



Physical size: very compact 170x125x80mm LxWxH Weight: 0.97 kg.

**INSTRUCTIONS FOR USING THE INSTRUMENT:**

- Turn on power switch at the rear of the instrument. When ON, the red LED digits will be alight. NOTE: All zeros to the left of a value are blanked.
- To set frequency of say 500.0 Hz, proceed as follows:
- Press the DIGIT button. All digits illuminate and the left digit will be much brighter than the others. This is the active digit. The waveform indication will turn off.
- Press the DIGIT button once to brighten the 4th digit from the right.
- Press the UP or DOWN buttons to set '5' on this digit, then press the DIGIT button to select and the DOWN button to reduce each digit to zero (if necessary) until you see 500.0 Hz. The output will be delivering this frequency.
- Press the DIGIT button until all digits have been passed. The display will return to normal brightness and the waveform indication will be on.

CONTINUE

- To alter this frequency to 728.3 Hz, press the DIGIT button until the '5' is bright. Press the UP button to set value '7'.
- Press the DIGIT button again to step one digit to the right. Press the UP or DOWN button to set value '2'.
- Press DIGIT button to step one more digit to the right. Press the UP button to set value '8'.
- Finally, press the DIGIT button to step to the extreme right digit. Press the UP or DOWN buttons to set value '3'. The output will be 728.3 Hz.
- Press the DIGIT button one more time to pass from the display and all the digits will return to normal brightness and the waveform indication will be on.
- Use the knob to alter the output voltage up to 5V.AC. RMS max (15V p/p max).

ADJUSTING THE DIGITS: "quick-set" system

- With any digit, if the value is increased beyond 9, the digit will change to zero and the digit to the left will increase by 1... as expected.
- If any digit is reduced below zero, the digit will change to 9 and, if there is a digit to the left, it will be reduced by 1... as expected. When selections are finished, all zeros to the left of the first value are blanked as the waveform indication appears.

OUTPUT RESOLUTION:

At 0.0 Hz: The output can be used as a well protected DC power supply, adjustable from zero to 7.5V.DC. at 1 amp output.

From 0.1 Hz to 10 kHz: Any frequency from 0.1 Hz up to 9999.9 Hz can be directly set on the display with a resolution of 0.1 Hz.

From 10 kHz to 100 kHz: If the extreme left digit is increased beyond 9, the decimal point disappears and the digits all shift to the right to provide a 5 digit display without decimal. The maximum frequency is 99999 Hz and the resolution is 1 Hz.

**SPECIFICATIONS:**

Input:	220/240V.AC. 50/60 Hz. Approx. 0.2 amp.
Frequency:	Very wide range: 0.1 Hz. to 99999 Hz.
Fast adjustment:	Button selects digit, then change digit UP and DN (0-9).
Display:	Large red LED, 5 digit display.
Accuracy & Stability:	Crystal accuracy Error: up to approx 0.01%
Waveforms:	Sine, Triangular, Sawtooth and Square wave.
Voltage output:	Adjustable from 0 to 15V peak to peak (0 to 5V.RMS)
Current output:	Automatic limit, 1 Amp max. into any load or short circuit.

A FEW USES:

- Signal source for any Electronics Kit and for many experiments.
- A regulated DC power supply, 0-7.5V.DC. at 1 amp.
- For a signal source for the IEC Kundt's Apparatus tone generator.
- For demonstrating features of an Oscilloscope.
- For running vibrators (Melde's apparatus etc.) and loud speakers.
- For speed of sound experiments in air and solids.
- For determining resonance in inductive and capacitive circuits.
- For the study of reactance in AC circuits..... and so on

NOTES:

- 1) Output voltage is controlled continuously from zero to 15 volt peak to peak. The output current is limited to 1 amp max. to prevent damage if the output is short circuited. If the load demands larger current, the current limiting feature will cause waveform distortion as the current rises beyond 1 amp. When connecting the output to very low impedance loads (less than 20 ohms), be sure that the output voltage is set so as not to exceed 1 amp load current.
- 2) The output voltage can be controlled smoothly from zero to 15V peak to peak on the output but since the output is automatically current limited, a short circuit on the output will draw 1 amp but will not damage the instrument.
- 3) IEC produces also a triple function instrument that includes a +/- regulated DC power supply and a very useful audio amplifier with speaker all in the one compact housing. This instrument is named the 'TRI-MODE'. Cat: LB3758-001

Mains Input: 220/240 V.AC. 50/60 Hz.. 0.2A max.

Protection: Electronic output and overload protection.

Designed and manufactured in Australia