

# 'Mini Wave' Digital Signal Generator



## LB3753-001 Digital Signal Generator (High Power, 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, UP (increase button), DOWN (decrease button), WAVE (waveform select button) and a knob for adjusting OUTPUT voltage from 0 to 5V.RMS (effective). Output sockets are 4mm safety type and current is limited to a maximum of 1 amp.

### 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. (Set frequency to 0.0 Hz)
- 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

Length: 170mm	Width: 125mm	Height: 80mm	Weight: 970g
---------------	--------------	--------------	--------------



## Instructions For Using The Instrument:

- Turn on power switch at the rear of the instrument. When ON, the red LED digits will be on. Use the knob to alter the output voltage up to 5V.AC. RMS max (15V p/p max)
- 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 UP or DOWN buttons to set the desired value on this digit and note that if held depressed, the digits continue to automatically increment or decrement.
- Then press the DIGIT button again to select the next digit..Use the UP and Down buttons to change the value of the selected digit. Repeat until desired frequency has been entered.
- To return to normal mode press the DIGIT button until you have passed beyond the right hand digit. The display will return to normal brightness and the waveform indication will be on.

## 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

## Specifications:

<b>Input:</b>	220/240V.AC. 50/60 Hz. Approx. 0.2 amp.
<b>Frequency:</b>	0.1 Hz. to 9,999.9 Hz x 0.1Hz 10,000 Hz to 99,999 Hz x 1Hz
<b>Display:</b>	Large red LED 5 digit display.
<b>Accuracy &amp; Stability:</b>	Crystal accuracy .... Error: up to approx 0.01%
<b>Waveforms:</b>	Sine, Triangular, Sawtooth and Square wave.
<b>Voltage output:</b>	Adjustable from 0 to 15V peak to peak (0 to 5V.RMS)
<b>Current output:</b>	Automatic limit, 1 Amp max. into any load or short circuit.

## 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 a triple function instrument that includes a Signal Generator, +/- 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 overload protection.
--	---

Designed and manufactured in Australia

### INDUSTRIAL EQUIPMENT & CONTROL PTY.LTD.

61-65 McClure St. Thornbury. 3071 Melbourne. Australia  
 Tel: 61 (0)3 9497 2555 Fax: 61 (0)3 9497 2166 www.iecpl.com.au