

## INSTRUCTIONAL GUIDE

## Features

- Full range from 0.1Hz to 100kHz
- Precision LCD display
- Power amplifier for speakers / transducers
- Single frequency control without range switching
- Sine, square or triangular waveforms
- High impedance output for CRO
- External plug-top power supply
- Compact size



## Introduction

The P6-8080 is a unique instrument which uses modern digital electronics to synthesise an analogue waveform. Since the signal is generated by a micro-processor which also controls the output amplitude, wave profile and the displays there is perfect correlation between the displayed parameters and the signal available at output sockets. The system also allows the full frequency range to be covered with one control and no range switches.

**The instrument requires a 24V external d.c power supply**

**As provided. Do not use with any other supply.**

## Instructions

Connect the instrument to its power supply using the low voltage connector on the right hand end panel and switch on by pressing the "1" of the ON/OFF switch on the same panel. The LCD display should "light up" to pale blue with the frequency (1kHz initially) and amplitude settings displayed.

Connect an oscilloscope probe to the black and blue sockets on the end panel or an external loudspeaker or vibration transducer etc. to the black and red sockets.

Adjust the amplitude control to a low setting. This control is a standard 270° potentiometer. Minimum setting (0V pk to pk) is fully anti-clockwise (7 o'clock) and maximum (24V pk to pk) is fully clockwise (5 o'clock).

Select the waveform profile required using the front panel switch.

Press the left-hand “UP” fast change button to increase the frequency and the “DOWN” button to decrease. These controls are time sensitive and the rate of frequency change will increase if the button is held in. The main frequency control is a step actuator and can rotate any number of revolutions in either direction. It is used to make small frequency adjustments with one step giving one increment of the frequency. Note that the frequency resolution changes across the full range. A single step on the frequency control gives 1Hz change between 1kHz and 2kHz. At other values the resolution is different -see the specification on the back page.

### C.R.O.

The CRO sockets are for monitoring by Cathode Ray Oscilloscope or for use as a signal source for electronic circuits. Only a high impedance load should be connected (>600Ω).

### EXTERNAL LOUDSPEAKER

An external speaker or vibration transducer may be connected to the red and black sockets. For best results use an external speaker of impedance 8Ω or greater. Vibration transducers can be used less than 8Ω impedance

But at full power the wave “shape” can be affected. When using low impedance transducers or loudspeakers at high powers for prolonged periods allow adequate ventilation around the case to dissipate any heat generated. This is best ensured by **not** having the case flat with its back on the bench.

### SPECIFICATION

Supply voltage (PUS): 100-230V a.c. 50/60Hz  
Supply voltage (instrument): 24V d.c. regulated at 0.75A  
Output waveform: Square, Sine or Triangular  
Output impedance: 8Ω or greater for loudspeaker  
Output power: 2W into 8Ω  
Output impedance: 600Ω or greater for C.R.O. connections  
Output frequency: 0.1Hz to 100kHz  
Output amplitude: 24V max pk to pk

Frequency resolution:	
Range	Resolution
0.1 to 2Hz	0.001Hz
2 to 5Hz	0.002Hz
5 to 10Hz	0.005Hz
10 to 20Hz	0.01Hz
20 to 50Hz	0.02Hz
50 to 100Hz	0.05Hz
100 to 200Hz	0.1Hz
200 to 500Hz	0.2Hz
500 to 1000Hz	0.5Hz
1kHz to 2kHz	1Hz
2kHz to 5kHz	2Hz
5kHz to 10kHz	5Hz
10kHz to 20kHz	10Hz
20kHz to 100kHz	50Hz