

IPC EDUCATIONAL TRAINERS



FUNCTION GENERATOR Model: - IPC-FG-219

- **Description:-**

The unit is versatile and compact Function Generator capable of generating high quality sine triangle and square waveforms of high stability and accuracy.

The sine and triangle waveforms can be amplitude and frequency modulated by applying external voltages at the VCA (Voltage-Controlled Amplitude) and the VCF (Voltage-Controlled Frequency) inputs. With these two inputs, the unit can easily produce amplitude modulated, frequency sweep, ASK (Amplitude-Shift Keying), or FSK (Frequency-Shift Keying) signal.

Output frequency is adjustable from 0.5Hz to 500 KHz in 6 ranges. The DC offset of all waveforms can be adjusted between + and -10Volts by a front panel adjustment.

- **Specification:-**

Frequency Range	.....0.5Hz to 500 KHz (6 Ranges)
Wave Forms	.....Sine, Triangle & Square
Amplitude	.....Not over 20Vpp open circuit, Not over 10Vpp into 50 ohm.
Attenuation	.....1/100
Frequency Accuracy	.....±5% of full scale
DC Offset	.....Variable +10 to -10V open circuit, +5 to -5V into to ohm.
Sine Wave Distortion	.....1% typical at 1 KHz.
Square Wave	.....Rise time 500ms typical.
VCF	.....Liner frequency sweep for control Voltage from -2 to +2, input impedance 10K ohm.
VCA	.....Linear amplitude modulation approx. 10 to 1 variations for sine and triangle wave output, impedance 10K ohm.

Note: - we reserve the right to change the shape & design of the trainer without prior notice.
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- **Front Panel Control:-**

Power	This is the main power switch. It is a ON / OFF Toggle Switch.
DC off set	.....	This adjustment knob can be used to add a DC voltage to the output signal.
Amplitude	.....	This adjustment sets the signal level of the output. Turning the control clockwise will increase the output waveform.
Sine ,Square, Triangle	.....	This Control knob is used to select the output waveform.
1/100	.....	When this push button switch is depressed, the output signal level is attenuated by 20dB.
Range Hz	.....	This rotary switch is used to select the frequency range produced. The actual output is the product of the setting dial of the (g) “Frequency”. for example, “FREQUENCY” sets Dial 7 and “RANGE Hz” sets in1K the actual output is 7K (7 x 1K).
Frequency	.....	This knob is used to adjust the Output frequency.
VCA	.....	Voltage-Control-Amplitude.
VCF	.....	Voltage-Control-Frequency.
O/P	.....	The output signal for all waveforms.

- **Operation Instruction:-**

- Select the desired waveform using the waveform knob.
- Selecting the desired frequency with the (f) “Range Hz” and (g) “Frequency”. The actual output frequency will be:

$$F \text{ (Hz)} = \text{Dial Indication (FREQUENCY)} \times \text{“Range Hz” setting.}$$
- If the output signal level is too small, it may be adjusted with the (C) Amplitude.
- Any required DC offset voltage can be set with the “DC SET” Knob.

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