

Synthesized Function Generator



TEGAM, Inc. has introduced the Model 3102

Synthesized Function/ARB Generator, which enables engineers and service technicians to define and output a wide range of electrical waveforms for circuit design, verification, and troubleshooting applications. The Model 3102's ability to produce sine, damped sine, square, and triangle waves, voltage ramps, noise, and arbitrary waveforms of virtually any shape makes it one of the most versatile wave generating tools available.

The Model 3102's offers dual channels that can be programmed independently. Its frequency range is 1 \times 956 Hz to 31 MHz with 0.01 \times 956 Hz resolution for sine and square waves, 1 \times 956 Hz to 2MHz with 0.01 \times 956 Hz resolution for ramp and triangle waves, and 1 \times 956Hz to 10 MHz with 64-bit resolution for noise. Waveform amplitude is adjustable from 50 mV to 10 V, peak-to-peak, into a 50 ohm load. Outputs can be floated at up to 40 V above ground for compatibility with circuits not referenced directly to ground. Each channel includes a front-panel TTL-level trigger output that can be used to synchronize external circuits or instruments to the start of waveforms. A dc offset adjustment is also provided.

MS Windows[®] based software included with the Model 3102 enables arbitrary waveforms to be designed on a PC, and downloaded to the instrument rapidly, without tedious programming. A built-in RS-232 interface enables the instrument to communicate with a personal computer at up to 19,200 baud. A GPIB interface is optional.

Arbitrary waveforms can be defined in "Point" or in "Vector" modes. In Point mode, up to 16,384 amplitude values can be stored in wave RAM to define a waveform. IN vector mode, a series of data x (position) and y (value) pairs are supplied, and points between adjacent x, y pairs are connected with a straight line. Maximum resolution of arbitrary waveforms is 12 bits for amplitude (x axis), and 16,384 bits over time (y axis). Many modulation options are also available; frequency, amplitude, and phase modulation can be applied to standard or arbitrary waveforms through the use of internal modulation generators. Amplitude modulation is also possible through an external source. Burst mode enables up to 65,000 wave cycles of a standard or arbitrary waveform to be output, and to be initiated by an external trigger signal.

The Model 3102 Function/ARB Generator features an uncluttered pushbutton user interface with numeric keypad. A two-line alphanumeric, LCD display shows waveform parameters. The rear panel includes connectors for sweep, triggering,

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external time base, oscillator, and modulation, facilitating a wide range of operating and control configurations.

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