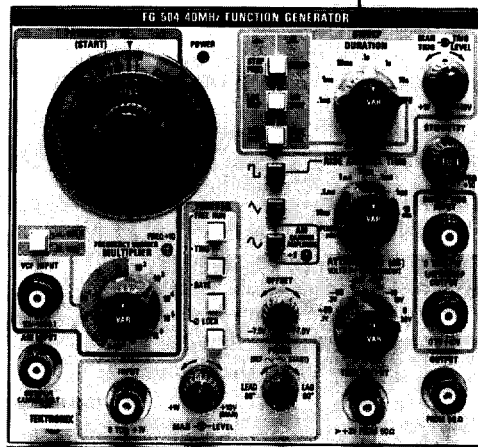


SIGNAL SOURCES



FG 504 Function Generator

- 0.001 Hz to 40 MHz
- Three Basic Waveforms, Plus a Wide Range of Shaping With Variable Rise/Fall Times and Symmetry Controls
- Logarithmic or Linear Sweep
- Up to 30 V P-P Output
- Built-In Attenuator
- AM and FM
- Phase-Lock Mode
- External and Manual Trigger or Gate



FG 504

The FG 504 provides the three basic waveforms of sine, square and triangle plus a wide range of shaping with variable rise/fall times and symmetry controls. Pulses and ramps are easily generated.

The output of the FG 504 can be phase locked, gated, or triggered by a reference signal. This lets you convert from one waveform to another, such as pulses to sine waves, as well as adjusting phase relationships. Post-attenuator offset enables use of the full ± 7.5 V offset range with small signals. The FG 504 output can be swept, or amplitude or frequency modulated by external signals. In addition, the FG 504 can supply internally generated linear- or logarithmic-swept frequencies of up to a 1000:1 range with convenient control of start and stop frequencies.

The FG 504 also provides trigger output, external voltage-control input, and sweep output.

CHARACTERISTICS

Frequency Range – 0.001 Hz to 40 MHz, to 4 MHz with variable symmetry.

Symmetry Range – 7% to 93% variable.

Dial Accuracy – $\leq 3\%$ to 4 MHz, $\leq 6\%$ to 40 MHz.

Custom Frequency Change – Includes cap. for 20 Hz to 20 kHz.

Frequency Stability – $\leq 0.05\%$ for 10 min., $\leq 0.1\%$ for 1 hour, $\leq 0.5\%$ for 24 hours, constant temperature.

Amplitude – 30 V p-p into open circuit, 15 V p-p into 50 Ω .

Attenuator in 10 dB Steps – 0 to -50 dB.

VAR Control – Variable control provides up to -20 dB additional attenuation.

Offset – ± 7.5 V into open circuit, ± 3.75 V into 50 Ω .

Amplitude Flatness – Sinewave and Triangle – ± 0.5 dB to 40 kHz, ± 2 dB to 40 MHz. Square – ± 0.5 dB to 20 MHz, ± 2 dB to 40 MHz.

Sinewave Distortion – $\leq 0.5\%$, 20 Hz to 40 kHz.

Square-Wave Response – ≤ 6 ns rise/fall fixed, 10 ns to 100 ms variable; $\leq 5\%$ p-p + 30 mV aberrations.

Triangle Linearity – $\geq 99\%$, 10 Hz to 400 kHz; $\geq 98\%$, 400 kHz to 4 MHz. $\geq 90\%$, 4 MHz to 40 MHz.

Trigger Output – +2 from 50 Ω .

External Trigger Input – Impedance ≥ 10 k Ω ; Sensitivity ≤ 1 V p-p; Trigger level; -1 to +10 V.

Phase Lock – 100 Hz to 40 MHz $\pm 80^\circ$ phase range.

Internal Sweep – Logarithmic or Linear. Separate Start/Stop Dials.

Duration – 0.1 ms to 100 s, in six decades.

Ramp Output – 0 V to 10 V from 1 k Ω .

Amplitude Modulation – 100% with ≈ 5 V p-p, DC to 100 kHz; $< 5\%$ distortion to 4 MHz at 70% modulation $< 10\%$ to 40 MHz at 65% modulation.

Output Hold Mode – 0.001 to 400 Hz.

VCF – Up to 1000:1 Frequency change with 10 V external signal. Stew rate ≥ 0.3 V/ms.

Environmental – Operating: 0 to 40°C (Forced air required for 40 to 50°C). Non-operating: -40 to +75°C.

ORDERING INFORMATION

FG 504 40 MHz Function Generator
Includes: Instruction manual (070-2655-00) **\$3,695**

FG 503 Function Generator

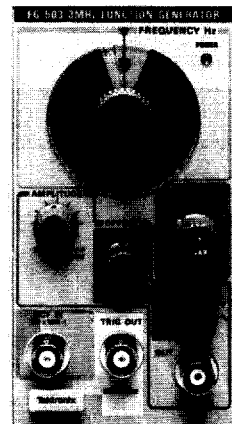
- 1.0 Hz to 3 MHz
- Three Waveforms
- Up to 20 V p-p Output
- Up to ± 7.5 V Offset
- VCF

ORDERING INFORMATION

FG 503 3-MHz Function Generator
Includes: Instruction manual (070-1727-01) **\$790**

FG 503

The FG 503 Function Generator provides high-quality low-distortion sine, square, and triangle waveforms. Six decade frequency multiplier steps, a custom position for user-determined frequency multiplication, a dial calibrated from 1.0 to 30 (uncalibrated from 0.1 to 1.0), and a frequency vernier control working together to select



frequencies in overlapping ranges from 1 Hz to 3 MHz. The output frequency can be swept over a 1000:1 ratio by an external voltage. Output amplitude and offset controls are provided. A trigger output is available for controlling external devices or equipment. Amplitude up to 10 V peak-to-peak can be developed across a 50 Ω load (20 V peak-to-peak open circuit). Selectable offset up to 3.75 V dc across 50 Ω (7.5 V dc open circuit) is also featured.

CHARACTERISTICS

Frequency Range – 1 Hz to 3 MHz (0.01 Hz to 5 MHz usable).

Symmetry – 50% fixed.

Dial Accuracy – $\pm 5\%$ of F.S 1 Hz to 3 MHz.

Custom Frequency Range – With user installed cap.

Frequency Stability – $\leq 0.05\%$ to 10 mins. $\leq 0.1\%$ for 1 hour, $\leq 0.5\%$ for 24 hours, constant temperature.

Amplitude – 20 V p-p into open circuit, 10 V p-p into 50 Ω .

Offset – ± 7.5 V into open circuit, ± 3.75 V into 50 Ω .

Amplitude Flatness – Within ± 2 dB referenced at 10 kHz.

Sinewave Distortion – $\leq 0.5\%$ to 30 kHz, $\leq 1\%$ to 300 kHz, $\leq 2.5\%$ to 3 MHz.

Square Wave Response – ≤ 60 ns rise/fall; $\leq 3\%$ p-p aberrations. (50 Ω load).

Triangle Linearity – Typically $\geq 99\%$, 1 to 100 kHz; $\geq 95\%$, 100 kHz to 3 MHz.

Trigger Output – +2.5 to 600 Ω load.

VCF – Up to 1000:1 frequency change with 10 V external signal. Stew rate ≥ 0.3 V/ms.