

## Global Function Generators

### A new standard in signal generation

- 2 MHz to 20 MHz
- Built-in 40 MHz Frequency Counter
- High Stability, Low THD
- Sine, Square, Triangle Waves; TTL and CMOS  $\pm$ Pulse,  $\pm$ Ramp
- RS-232 Interface Standard
- 3-Year Warranty

This new line of function generators meets your most demanding test and measurement

needs. Their tight microprocessor control gives you frequency stability of 0.1% and total harmonic distortion (THD) of less than 1%. Set your output, and you're sure it will be accurate for the duration of the test.

**Each Unit Includes:**

AC power cord and user's manual.

**NOTE:** For 230V power add-230 to the part number.



105-2120 ▲

### Specifications

Mfg#	105-2102	105-2105	105-2110	105-2120
Ranges:	(7) 0.1 Hz to 2 MHz	(8) 0.1 Hz to 5 MHz	(8) 0.1 Hz to 10 MHz	(8) 0.2 Hz to 20 MHz
Resolution:	4-digits		5-digits	
Stability:	0.1%			
Operating Modes:	Normal, VCG	Normal, Sweep, VCG		Normal, Sweep, VCG, AM, FM, Burst
Output Characteristics				
Level:	20 Vp-p, open circuit; 10 Vp-p into 50 $\Omega$			
Amplitude:	Variable, 20 dB range typical			
Linear/Log Sweep				
Width:	N/A	100:1, continuously variable		
Rate:	N/A	20 msec to 30 sec, continuously variable		
Sweep Output:	N/A	0 to 2V		
Frequency Counter:	5 Hz to 40 MHz range, <25 mV RMS sensitivity, $\pm$ 10 ppm $\pm$ 1 count			
Power Source:	110/230 VAC, 50/60 Hz			
Order #	MP23803E-2	MP23803E-5	MP23803E-10	MP23803E-20
Price:				

## Meterman Sweep/Function Generator

- 3 MHz Function Generator, FG2C
- 3 MHz Sweep/Function Generator, with Built-in Counter to 150 MHz, FG3C (4277E)

These two function generators by Wavetek provide a substantial array of output capabilities. They are extremely reliable for heavy day-to-day usage in electronic troubleshooting, production manufacturing test or as a breadboarding signal source.

The 4277E Sweep/function generator provides sine, square, triangle waves and TL and CMOS pulse outputs for 0.3 to 3 MHz. A built-in frequency counter with 6 digit display accurately shows frequency setting. Or use as stand-alone frequency counter for external signals from 5 to 150 MHz. Control the linear or logarithmic sweep of any of the selected signal outputs internally or with user provided external modulating signal. Produce TTL or CMOS pulses with the duty cycle function. Switchable 20 dB attenuator allows for low level signal output.

The FG2C functions generator supplies all the basic test waveforms for fast, easy push-button selection of square, triangle and sine waves plus TTL or CMOS pulse output with low impedance, low distortion output. Smooth, analog knob dials frequency between 0.3 Hz and 3 MHz. Vary the output from less than 20 mVp-p to 20 Vp-p open circuit (10 Vp-p max 50 $\Omega$  load). Duty cycle control allows for setting pulses positive or negative. The VCF input allows external control for generating sweep signals.

**Each Unit Includes:** AC Power cord, coaxial test cable (two cables for FG3C), spare fuse, and operator's manual.



FG3C ▶

### Specifications and Ordering Information

Mfg#	FG3C	FG2C
Frequency Ranges:	7 Ranges, 0.3 to 3 MHz	
Output Amplitude:	20 Vp-p open circuit, 10 Vp-p max 50 ohm load	
Sine Wave Distortion:	$\leq$ 1%, 0.3 to 200 kHz	
AM-Depth:	0-100%	N/A
AM-Mod. Frequency:	400 Hz (int), DC to 1 MHz ext	N/A
Carrier Bandwidth:	100 Hz to 3 MHz (-3dB)	N/A
FM-Deviation:	0 to $\pm$ 5%	N/A
FM-Mod. Frequency:	400 Hz (int), DC to 20 kHz ext	N/A
Display:	6 digit, 0.3" high LED	Dial Control
Power Supply:	115 VAC or 230 VAC, 60 or 50 Hz	
Size/Weight:	9.6" x 3.7" x 11.5"/4.8 lbs	9.6" x 3.7" x 11.5"/4.4 lbs
Order #	MP4277E	MPFG2C
Price:		

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Electronic Test Instruments

## Instek Function Generators

**Choose the frequency range from 0.3 Hz to 5 MHz that best meets your electronic needs**

### Five New Models Each Contain:

- Duty Cycle Control with Signal Conversion Capability
- Variable DC Offset Control
- Choice of Six Waveforms, Including Sine, Triangle, Square, Ramp, TTL, and CMOS Output

### All Four Models with LED Display Feature:

- 6-Digit Counter with INT/EXT Capability Built-In
- Up to 150 MHz High Resolution Counting

### Models 24421E-5 and 24421E-9 Also Offer:

- INT/EXT AM/FM Modulation
- LIN/LOG Sweep Mode
- GCV Output for Synchronization

**Each Unit Includes:** Connectors: GTL-101, BNC to Alligator Clips for Model 24421E-1, GTL-101 x 2 for all other models, operating manual, power cord, and two-year warranty.



▲ GFG-8215A



▼ GFG-8250A



### Specifications and Ordering Information

Mfg#	GFG-8215A	GFG-8216A	GFG-8219A	GFG-8250A	GFG-8255A
Frequency Range:		0.3 Hz to 3 MHz (7 range)		0.5 Hz to 5 MHz (7 range)	
Amplitude:			>10 Vp-p (into 50Ω load)		
DC Offset:			<-5V to >5V (into 50Ω load)		
Duty Control:			80%: 20%: 80% to 1 MHz continue variable		
Display:	Does not have display			6-digit LED	
Range Accuracy:	0.3, 3 position only			±5% + 1 Hz	
Amplitude Modulation					
Depth:			0 to 100%		
MOD Frequency:			400 Hz (INT), DC to 1MHz (EXT)		
Carrier BW:			100 Hz to 3 MHz (-3 dB)		
GCV Output Voltage:	N/A		Set between 0V-2V	N/A	Set between 0V-2V
Sweep Operation					
Sweep/Manual:	N/A	Switch selector	N/A	Switch selector	
Sweep/Rate:	N/A			100:1 ratio max and adj	
Sweep/Time:	N/A			0.5 sec to 30 sec adjustable	
Frequency Modulation					
Deviation:	N/A			0 to ±5%	
MOD Frequency:	N/A			400 Hz (INT), DC to 20 kHz (EXT)	
Frequency Counter					
Int/Ext:	N/A			Switch selector	
Range:	N/A	0.3 Hz to 3 MHz (5 Hz to 150 MHz EXT)		0.5 Hz to 5 MHz (5 Hz to 150 MHz EXT)	
Accuracy:			Time base accuracy ±1 count		
Time Base:			±10 ppm (23°C ±5°C) after 30 minutes warmup		
Sensitivity:			≤35 mV RMS (5 Hz to 100 MHz): ≤45 mV RMS (100 MHz to 150 MHz)		
General					
Power Source:			AC 115V/230V ±15%, 50/60Hz		
Dimensions:			9.6 x 3.7 x 11.5" HWD (243 x 93 x 292 mm)		
Weight, kg:	2.0	2.1	2.2	2.3	2.4
Order #	MP24421E-1	MP24421E-3	MP24421E-5	MP24421E-7	MP24421E-9
Price:					

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## **NEW** Instek Frequency Counters



**▲ GFC-8270**

- 0.01Hz ~ 2.7GHz Frequency Range
- Frequency, Period Measurement
- Microprocessor Controlled Intelligent Counter
- High Resolution at Both High and Low Frequency
- 10mVrms High Sensitivity
- 100nHz Resolution for 1Hz
- Self Diagnosis Routine
- Variable Trigger Level Control
- Display Hold Function



**▲ GFC-8131H**

- 0.01Hz ~ 1.3GHz Frequency Range
- Frequency and Period Measurement
- High Resolution at Both High and Low Frequency
- 10mV rms High Sensitivity
- 100nHz Resolution for 1Hz
- Variable Trigger Level Control
- Display Hold Function



**▲ GFC-8010H**

- 1Hz to 120MHz range
- Frequency and Period measurement
- 8 Digit Display (0.3" LED)
- Over-Flow Indicator
- 15mVrms High Sensitivity
- 5PPM High Stability time base
- Low Pass Filter Function

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### Specifications and Ordering Information

Mfg #	GFC-8270	GFC-8131H	GFC-8010H
Display	8 Digit with Hz, kHz, MHz, S, mS, S, nS and overflow		
Gate Time	Variable from 10 ms to 10 s, or 1 period of input whichever is greater		0.1S, 1S, 10 S switch selectable
Accuracy	( 1 Digit + Time base accuracy )		
Input			
Range (Ch A)	DC coupled 0.01 Hz ~ 120 MHz AC coupled 30 Hz ~ 120 MHz		10 Hz - 120 MHz
Sensitivity	10mV rms typical, 50 mV rms max		AC Coupling 1 MΩ/35 pF
Coupling	AC and DC Switchable		
Impedance	1 MΩ /40pF		
Range (Ch B)	50 MHz to 2.7 GHz	50 MHz to 1.3 GHz	
Sensitivity	50 mVrms (10mVrms typical)	40 mVrms (10 mVrms typical)	
POWER SOURCE	AC 100V/120V/ 220V/240V 10%, 50/60 Hz		
DIMENSIONS	230(W) x 95(H) x 280(D) mm,		
WEIGHT	Approx. 2.2 kg		Approx. 1.7 kg
Order #	MPGFC-8270H	MPGFC-8131H	MPGFC-8010H
Price			

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