

TM 500 / 5000

MODULAR TEST INSTRUMENTS

- 0.1 Hz to 550 MHz frequency range with a reference frequency of 50 kHz
- 4.5 mV to 5.5 V amplitude range
- Amplitude flatness from ± 1.5 to $\pm 4\%$ of 50 kHz reference
- Synthesized frequency accuracy
- Excellent VSWR
- 20 stored front-panel settings capability with non-volatile memory
- Self-test on power-up
- Easy integration into GPIB systems
- Companion to CG 5011 Programmable Calibration Generator

The SG 5030 is the only choice for anyone who needs leveled output amplitude to calibrate analog or digital scopes with bandwidth to 550 MHz — under either local or programmable control. That's because no other programmable leveled sine wave generator is built specifically to fill scope calibration requirements. The SG 5030's leveled output is variable from 0.1 Hz to 550 MHz with a reference frequency of 50 kHz. Crystal-controlled frequency accuracy eliminates drift so there's no second-guessing results.

Accurately calibrated output voltage is provided from 4.5 mV to 5.5 V peak-to-peak into 50 Ω . Absolute amplitude accuracy is $\pm 1.5\%$ from 0.1 Hz to 50 kHz, with flatness from ± 1.5 to $\pm 4\%$ over the remainder of the frequency range to 550 MHz.

A remote leveling head is standard and plugs directly into the oscilloscope to ensure that the output signal is level at all times. All other signal generators are spec'd at the front-panel BNC connector, not at the end of the cable going to the instrument under test.

SG 5030 Programmable Leveled Sine Wave Generator for Scope Calibration

Easy test setup — either locally or over the GPIB

The SG 5030's front panel is simple to operate, providing complete status and error information through a bright, 8-digit display. To simplify manual use and reduce bus traffic in ATE applications, you can store up to 20 front-panel settings in non-volatile memory.

Frequency and amplitude along with front-panel store/recall settings are all fully programmable. Automating test procedures makes scope calibration some four times faster than manual test methods allow — and virtually eliminates the risk of operator error.

Configure the SG 5030 with a CG 5011 Programmable Calibration Generator

As three-wide TM 5000 Series modules, they conveniently fill a six-slot TM 5006A mainframe to form a complete, cost-effective benchtop or rackmount calibration system.

Finally, count on TEGAM to offer more support of your purchase, including comprehensive manuals, applications assistance, updates and a worldwide service network.



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AND MEASUREMENT TECHNOLOGY.

SG 5030 Specifications

Frequency

Range/Resolution

0.1 Hz - 4.9999 kHz	0.1 Hz step
5 kHz - 49.999 kHz	1 Hz step
50 kHz - 550 MHz	10 Hz steps

Accuracy With Internal Timebase (within 1 year of adjustment)

	ppm of Setting + Hz
0.1 Hz - 4.9999 kHz	±(3 + 0.06)
5 kHz - 49.999 kHz	±(3 + 0.3)
50 kHz - 550 MHz	±(3 + 3)

Accuracy With External Timebase (10 MHz)

0.1 Hz - 4.9999 kHz	±(ext. t.b. error + 0.06 Hz)
5 kHz - 49.999 kHz	±(ext. t.b. error + 0.3 Hz)
50 kHz - 550 MHz	±(ext. t.b. error + 3 Hz)

Amplitude

Range/Resolution

4.5 mV - 55 mV	0.02 mV/step
55.2 mV - 550 mV	0.2 mV/step
552 mV - 5.5 V	2 mV/step

-42.95 dBm - +18.75 dBm	0.05 dBm/step
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Accuracy (within 1 year of adjustment)

0.1 Hz - 50 kHz	±1.5% of setting
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Flatness (within 1 year of adjustment)

	% of 50 kHz Ref. Freq.
50 kHz - 100 MHz	±1.5%
100 MHz - 250 MHz	±3%
250 MHz - 550 MHz	±4%

Output

Leveling Settling Time	Less than 20 ms
Source Resistance	50 Ω, ±1%
DC Offset	±20 mV
VSWR	Less than 1.2:1 up to 550 MHz

Harmonic Distortion

0.1 Hz - 49.999 kHz	All Harmonics and Spurs less than -50 dBc
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50 kHz - 550 MHz	2nd Harmonic less than -30 dBc All others less than -35 dBc Nonharmonics less than -40 dBc Phase noise less than -85 dBc/Hz at 10 kHz offset
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Internal Timebase Output

Frequency	10 MHz
Accuracy	±3 ppm
Amplitude	400 mV p-p into 50 Ω
Impedance	50 Ω

External Timebase Input

Frequency	-10 MHz, ±1.5 ppm
Amplitude	10dBm to +10dBm (70 to 700 mV rms)
Impedance	50 Ω ac, 500 Ω dc

Environmental

Temperature	
Operating	0°C to 40°C
Non-operating	-40°C to +71°C
Humidity	
Operating	95% ±5% RH, +10°C to +30°C 75% ±5% RH, +30°C to +40°C RH not controlled below +10°C

General

Weight	6.5 lb. (2.4 kg)
Height	5" (12.7 cm)
Width	8" (20.32 cm)
Length	11" (27.94 cm)

Ordering Information

SG 5030	Prgm. Leveled Sine Wave Generator
Includes: Operators Manual (070-7705-01), Instrument Interfacing Guide (070-7704-00), Reference Guide (070-7706-00), Leveling Head (015-2350-01).	
TM 5003	3 Wide Power Module Mainframe, GPIB
TM 5003/RI	TM 5003 w/Rear Interface
TM 5006A	6 Wide Power Module Mainframe, GPIB
TM 5006A/R	TM 5006A w/Rack Mount
TM 5006A/RI	TM 5006A w/Rear Interface
TM 5006A/R/RI	TM 5006A w/Rack Mt & Rear Interface
TM 5006A/EMC	TM 5006A w/EMC Shielding

Mainframe Power Plug Options

Standard	120V North American
UE220	220V Universal Euro & Switzerland
UK240	240V United Kingdom
A240	240V Australian
NA240	240V North American
S220	220V Switzerland

Warranty

One year on materials and workmanship.

Calibration Documentation

Contact TEGAM for OPTION Z540 NIST Traceable Compliance Certificate and Test Data.

Calibration & Technical Services

For warranty and remedial repair, calibration services and spare parts, or for additional information on TEGAM sales and service offices around the world, contact us at 440-466-6100 (ph) or 440-466-6110 (fx).



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