



Table 1-2: Electrical Specifications

Characteristics	Performance Requirement	Supplemental Information
Frequency Range/Resolution 10.000 kHz to 49.999 kHz 50.00 kHz to 549.99999 MHz 550.00000 MHz to 1.499 GHz 1.500 GHz to 2.500 GHz		1 Hz steps 10 Hz steps 100 Hz steps 1000 Hz steps
Frequency Accuracy Using Internal Timebase (within one year of last adjustment) 10.000 kHz to 49.999 kHz 50.00 kHz to 2.500 GHz Frequency Accuracy Using External Timebase (10 MHz ±1.5 ppm) 10.000 kHz to 49.999 kHz 50.00 kHz to 2.500 GHz Input Amplitude Requirement  Input Resistance Lock Time	±(0.0003% of setting +0.3 Hz) ±(0.0003% of setting +3 Hz)	1 ppm/year  ±(external timebase error +0.3 Hz) ±(external timebase error +3 Hz) -10 dBm to +10 dBm (70 mV to 700 mV RMS) 50Ω AC, 500Ω DC Less than 3 seconds

With compliments

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Timebase Out Output Frequency Frequency Accuracy  Output Amplitude	10 MHz ±3 ppm (using internal timebase)	±X ppm (using external timebase) Where X ppm is external timebase accuracy 400 mV pk to pk into 50Ω
Amplitude Range/Resolution 4.50 mV to 55.00 mV pk to pk 55.2 mV to 550.0 mV pk to pk 0.552 to 5.500 V pk to pk -42.95 dBm to +18.75 dBm		0.02 mV pk to pk per step 0.2 mV pk to pk per step 2 mV pk to pk per step 0.05 dBm per step
Amplitude Accuracy (10 kHz to 50 kHz) ±1.5% ±3.0%	20-26° C 0-40° C	Accuracy guaranteed only when the Leveling Head and SG 5050 have been calibrated together (within 1 year of adjustment).
Amplitude Flatness 50.00 kHz to 250 MHz 250 MHz to 2.5 GHz	±1.5% (of 50 kHz ref. freq.) ±4% (of 50 kHz ref. freq.)	Voltage peak-to-peak into 50Ω (within 1 year of adjustment)
Output DC Offset		<±1% of amplitude (Vpp) 20°C to 30°C <±2% of amplitude (Vpp) 0°C to 40°C
Output VSWR	Less than 1.2:1 up to 550 MHz Less than 1.3:1 550 MHz to 2.5 GHz	
Spectral Purity 10 kHz to 49.999 kHz  50.00 kHz to 1.1 GHz at 5.5V Harmonics  1.1 GHz to 2.5 GHz at 3.33V  1.1 GHz to 2.5 GHz at 5.5V  Nonharmonics  Phase Noise	  Less than -30 dBc 2 <sup>nd</sup> harmonic typ Less than -35 dBc 3 <sup>rd</sup> harmonic typ Less than -40 dBc all others  Less than -30 dBc 2 <sup>nd</sup> harmonic Less than -35 dBc 3 <sup>rd</sup> harmonic Less than -40 dBc all others  Less than -25 dBc 2 <sup>nd</sup> harmonic typ Less than -30 dBc 3 <sup>rd</sup> harmonic typ  Less than -40 dBc  Less than -85 dBc/Hz at 10 kHz offset from 10 kHz to 800 MHz -70 dBc above 800 MHz	All harmonics and spurs less than -40 dBc
GPIB Setting Time  Output OFF to ON All other function changes		From trailing edge of GPIB EOI until sine wave output is stable <150 ms <80 ms

**Table 1-3: Environmental Specifications**

Characteristics	Description	Supplemental Information
ESD	Meets IEC 802-2 ESD Test. Meets 20kV maximum discharge applied to instrument case per TEGAM Product Design	
EMC	Within conducted emissions limit for FCC Regulations, Part 15, Subpart J, Class A and Class B. Exceeds radiated emissions limit for FCC Regulations Part 15, Subpart J, Class A at the selected OUTPUT signal frequency.	Tested with a TM 5006A, Option 15 Power Module

**Table 1-4: Mechanical Specifications**

Characteristics	Description
Maximum Overall Dimensions without leveling head	
Height	5.0 in. (12.7 cm)
Width	8.0 in. (20.32 cm)
Length	11 in. (27.94 cm)
Net Weight	
Standard Instrument including leveling head	6.5 lbs. (2.4 kg)

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