

Order Code	1+	5+	10+
282-868			
864-250			

**Spectrum Analyser
HM5012**

HAMEG



- Continuous frequency range from 150kHz to 1050MHz
- Amplitude range from -100 dBm to +13dBm (7dBµV to 120 dBµV) 80 dB on-screen
- Resolution bandwidths of 9kHz, 120 kHz, 400 kHz
- Intermodulation-free dynamic range 75 dB
- Save/recall



Frequency

Frequency range: 0.15MHz to 1050MHz
 Frequency resolution displayed: 10kHz (51/2 digit in readout)
 Centre frequency range: 0.15MHz to 1050 MHz
 Accuracy: ±100kHz
 Stability (Drift): <150kHz/hour
 Span: Zero span and 100kHz/div to 100mHz/div in steps of 1-2-5-10
 Accuracy: ±5%

Amplitude

Measurement range: -100dBm to +13dBm
 Displayed average noise level: -102dBm (120kHz RBW)
 Frequency response: Relative to 500 MHz, ATTN 10 dB±2 dB
 Input attenuator range: 0 to 40 dB, 10 dB steps
 Accuracy (reference level): ±1dB
 Maximum safe input level:
 Attenuator setting 20dB: +20 dBm (0.1W)
 Attenuator setting 0dBm: ±10 dBm
 DC: ±25V

Inputs/outputs

Input connector: BNC (F) impedance: 50 Ohm
 Probe power: 6V (near field probes)
 Output frequency range: 150kHz to 1050MHz
 Output power level: -50dBm bis to 1dBm
 Output flatness (150kHz to 1GHz) ±1.0dB

Spurious outputs

Harmonic spurs: <20dBc
 Non-harmonic spurs: <20dBc

Power requirements

Voltage: 115/230V
 Frequency: 50-60Hz
 Power consumption: approx. 43VA
 Protective system: Safety class I (IEC 1010-1)
 Dimensions (W x H x D): 285 x 125 x 380mm
 Weight: approx 6kg

T543A

Mfrs. List No.	Order Code	1+	3+	5+
HM5012	354-9975			

Waveform Amplifier

WA301 30V pK-pK Waveform Amplifier



The WA301 is a wideband amplifier designed to increase the output of waveform generators. Most function generator have a maximum open-circuit voltage of 20V pk-pk; the WA301 enables this to be boosted to 30V. In most cases the WA301 would be used as a slave to a function generator with the gain set to x10. Alternatively the variable gain can be used to provide and adjustable output from a fixed level source.

- 30V pK-pK maximum output
- DC to 1MHz bandwidth
- Variable gain 0dB to +20dB
- 50Ω and 600Ω output
- -20dB output attenuator
- Fully protected output

Bandwidth	-3dB at 1MHz
Flatness	-dB at 100kHz
Rise/Fall Time	<0.5µs
Distortion	<0.1% at 1kHz
Gain	Vennier adjustment between x1 and x10
Input impedance	10KΩ
Output	
Output impedance	50Ω and 600Ω (separate BNC sockets)
Output 0dB	30V Pk-Pk from 50Ω (15V into 50Ω), 30V Pk-Pk. From 600Ω (15V into 600Ω)
Output -20dB	3V Pk-Pk from 50Ω (1.5 into 50Ω), 3V Pk-Pk from 600Ω (1.600Ω)
DC offset	<5mV
General	
Power	230V or 115Vac nominal 50/60Hz by internal adjustment
Operating Temperature	+5°C to +40°C, 20% -80% RH
Weight	1.1kg
Safety	Complies with EN61010-1
EMC	Complies with EN55081-1, EN55082-1

T478

Mfrs. List No.	Order Code	1+	5+	10+
WA301	493-260			

Function Generator

TG200 Series

2MHz External/Internal Sweep



A range of three high quality instruments which can generate a variety of precision waveforms over a wide range of frequencies and feature variable d.c. offset. Variable symmetry and sweep input

- 0.002Hz to 2MHz frequency range in 7 decades
- 20V pk-pk output from 50Ω or 600Ω, plus TTL/CMOS output
- 1000:1 frequency change by vernier or external voltage to sweep input
- Variable symmetry at constant frequency
- Variable dc offset with zero detent
- Sturdy ABS case with multiposition hand/stand
- TG215 has all the features of the TG210 plus LCD digital display of frequency
- Digital display of amplitude and offset
- TG230 has all the features of the TG215 plus precision lin/log sweep
- Sweep linearity better than 1%
- Internal/external AM up to 100%

TG200 Series

Waveforms	Sine, Square, Triangle
Vernier range	1000:1 on each range
Vernier accuracy	Typically ±5% of full scale
Sweep input	0 to 3V for 1000:1 sweep Zin = 10KΩ
Sine distortion	<0.5% on 200, 2K and 20K ranges <1% on the 2, 20, 200K ranges >greater than 99% to 200kHz
Triangle linearity	Rise and fall times <100ns
Square Wave	Mark space ratio 1:1 ±1% to 100kHz
Symmetry control	Variable 1:9 to 9:1 on top decade range
D.C. offset	±10V (0db) or ±1V (-20db attenuator)
Auxillary output	0 to +5V for driving CMOS and TTL loads
Meter accuracy (TG215/230)	
Frequency	±1 digit on 2K to 2M ranges <1% of full scale on 1 to 200 ranges
Amplitude accuracy	Typically 5% of full scale
d.c. offset accuracy	Typically 2% of full scale
Resolution	0.05% max.
Amplitude Modulation (TG230)	
Depth	Variable 0 to 100%
Frequency	400Hz (internal) DC to 100kHz (external)

T431

Mfrs. List No.	Order Code	1+	5+	10+
TG210	184-378			
TG215	184-380			
TG230	184-391			
Standard Calibration Charge		S 		

continued

Please call our sales office