![tmg Green is life logo]

Green is life
tmg

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Test & Measurement

⊘ sales

⊘ rentals

⊘ calibration

⊘ repair

⊘ disposal

Complimentary Reference Material

This PDF has been made available as a complimentary service for you to assist in evaluating this model for your testing requirements.

TMG offers a wide range of test equipment solutions, from renting short to long term, buying refurbished and purchasing new. Financing options, such as Financial Rental, and Leasing are also available on application.

TMG will assist if you are unsure whether this model will suit your requirements.

Call TMG if you need to organise repair and/or calibrate your unit.

If you click on the "Click-to-Call" logo below, you can all us for FREE!

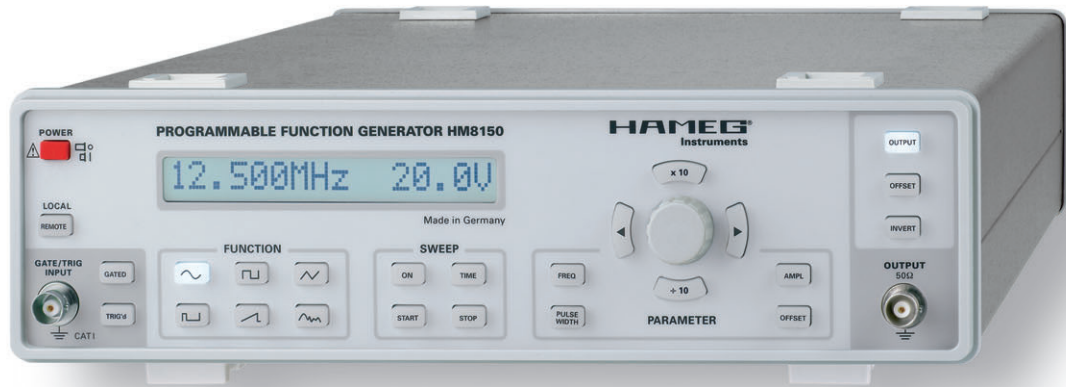**TMG Corporate Website**   **TMG Products Website**
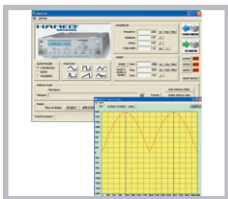
Click-to-Call
TMG Now

⊘ Level 4
Disposal
Disposal

Level 3 ⊘
Repair
Repair

Review & Renew

⊘ Level 5
Review & Renew

Level 2 ⊘
Calibration
Calibration

Recycled

Level 1 ⊘
Acquisition
Acquisition
Purchase
Lease
Rent

Solution Centre

Product Lifecycle Management System

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Form 080/01

NATA   CERTIFIED MANAGEMENT SYSTEM   AIDN

12.5 MHz Arbitrary Function Generator
HM8150

HM8150

RS-232 optional IEEE-488 optional USB inclusive
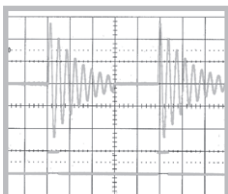
Gated sine wave,
PC-Software included

Amplitude-modulated
sine wave
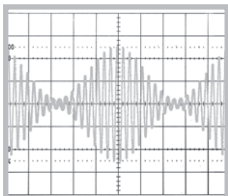
Triggered arbitrary signal

Frequency range from 10 mHz to 12.5 MHz

Output voltage 20 mV$_{pp}$ to 20 V$_{pp}$ (open circuit)

Waveforms: Sine wave, square wave, triangle, pulse, sawtooth, arbitrary

Rise and fall time < 10 ns

Pulse width adjustment: 100 ns to 80 s

Arbitrary waveform generator 40 MSa/s

Burst, gating, external triggering, sweep

Software for remote control and for creation of Arbitrary waveforms

External amplitude modulation (bandwidth 20 kHz)

Intuitive operation with one touch of a button – quick change of signals

RS-232 Interface, optional: USB, IEEE-488

12.5 MHz Arbitrary Function Generator HM8150
Valid at 23 °C after a 30 minute warm-up period

Frequency

Range:	10 mHz to 12.5 MHz
Resolution:	5 digit, max. 10 mHz
Accuracy:	± (1 digit + 5 mHz)
Temperature coeffizient:	0.5 ppm/°C
Aging:	2 ppm/year

Waveforms
Sine wave

Frequency range:	10 mHz to 12.5 MHz
Amplitude:	20 mV$_{pp}$ – 20 V$_{pp}$ (open circuit)
Harmonic Distortion @ 1 V$_{pp}$:	
f ‹ 500 kHz:	-65 dBc
500 kHz ≤ f ‹ 5 MHz:	-50 dBc
5 MHz ≤ f ≤ 12.5 MHz:	-40 dBc
Total Harmonic Distortion @ 1 V$_{pp}$:	
f ‹ 100 kHz:	typ. 0.05%
Spurious (Non-Harmonic) @ 1 V$_{pp}$:	
f ‹ 500 kHz:	-65 dBc
500 kHz ≤ f ≤ 12.5 MHz:	-65 dBc + 6 dBc/octave

Square wave

Frequency range:	10 mHz to 12.5 MHz
Amplitude:	20 mV$_{pp}$ – 20 V$_{pp}$ (open circuit)
Rise / fall time:	‹ 10 ns
Overshoot:	‹ 5 % (U$_{out}$ ≤ 200 mV)
Symmetry:	50 % ± (5 % +10 ns)

Pulse

Frequency range:	10 mHz to 5 MHz
Amplitude:	10 mV...+10 V or -10 mV...-10 V
Rise / fall time:	‹ 10 ns
Pulse width:	100 ns to 80 s
Duty cycle:	max. 90 %

Sawtooth

Frequency range:	10 mHz to 25 kHz
Amplitude:	20 mV$_{pp}$ – 20 V$_{pp}$ (open circuit)
Linearity:	better than 1 %

Triangle

Frequency range:	10 mHz to 250 kHz
Amplitude:	20 mV$_{pp}$ – 20 V$_{pp}$ (open circuit)
Linearity:	better than 1 %

Arbitrary generator

Frequency range:	10 mHz to 250 kHz
Amplitude:	max. 20 V$_{pp}$ (open circuit)
Output rate:	40 MSa/s
Resolution:	X: 1024 (10 bit), Y: 1024 (10 bit)
	or X: 4096 (12 bit), Y: 4096 (12 bit)

Inputs

Gate/Trigger:	BNC connector
Impedance:	5 kΩ ‖ 100 pF
Max. input voltage:	± 30 V
Modulation Input:	BNC connector
Impedance:	10 kΩ
Max. input voltage:	± 30 V

Outputs

Signal output:	BNC connector, short circuit proof, ext. voltage up to ± 15 V
Impedance:	50 Ω
Output voltage:	
Range 1:	2.1 – 20 V$_{pp}$ (open circuit)
Range 2:	0.21 – 2.0 V$_{pp}$ (open circuit)
Range 3:	20 – 200 mV$_{pp}$ (open circuit)

Resolution:	
Range 1:	100 mV
Range 2:	10 mV
Range 3:	1 mV
Setting accuracy (1 kHz):	
Range 1:	± 2 %
Range 2:	± 3 %
Range 3:	± 4 %
	3 % additional for pulse and square wave
Frequency response:	‹ 100 kHz ± 0.2 dB
	0.1 – 12.5 MHz: ± 0.5 dB
Offset error:	Range 3: ± 50 mV
Display:	2½ digits (LCD)
Trigger output:	BNC connector
Level:	5 V / TTL
Impedance:	50 Ω
Sawtooth output:	BNC connector
Output voltage:	0 to 5 V, synchronous to sweep
Impedance:	1 kΩ

DC offset

Output voltage:	Range 1: -7.5...+7.5 V (open circuit)
	Range 2: 0.75...+0.75 V (open circuit)
	-Range 3: 75...+75 mV (open circuit)

Sweep (internal)
Setting of start and stop frequency

Internal sweep:	all waveforms
Sweep time:	linear, 20 ms to 100 s continuous or triggered (ext. signal, interface)

Amplitude Modulation:
Modulation via external signal

Modulations depth:	0 to 100 %
Bandwidth:	DC – 20 kHz (-3 dB)

Gate (asynchronuous)
Modulation on/off via external TTL signal

Delay time:	‹ 150 ns
Input singal:	TTL

Trigger Function (synchronuous)
Burst mode via ext. trigger input or interface

Frequency range:	‹ 500 kHz

Miscellaneous

Interface:	RS-232 (standard), IEEE-488 (optional) or USB (optional)
Display:	16 characters, LCD with backlight
Memory:	for the last device settings and for 1 arbitrary signal
Safety Class:	Safety Class I (EN61010-1)
Power supply:	115/230 V ± 10 %; 50/60 Hz
Power consumption:	approx. 20 Watt
Operating temperature:	+10 °C to +40 °C
Max. rel. humidity:	10 % to 90 % (without condensation)
Dimensions (W x H x D):	285 x 75 x 365 mm
Weight:	approx. 5 kg

Accessories supplied: Operator's Manual and power cable, Software
Optional accessories:
HZ33/HZ34 Test Cable 50 Ω (BNC-BNC)
HZ24 Attenuators 50 Ω 3/6/10 and 20 dB
HZ42 19" Rackmount kit 2RU
HZ20 Adapter plug
HO870 USB Interface
HO880 IEEE-488 (GPIB) Interface

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