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**

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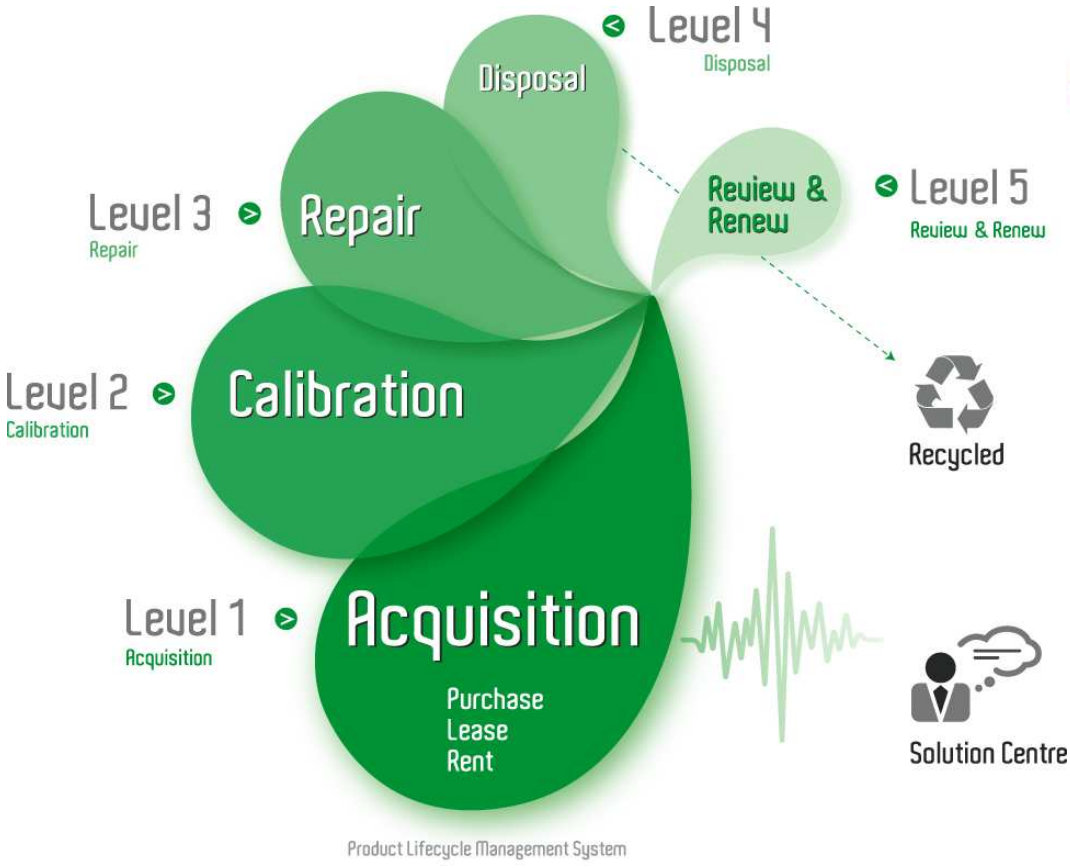

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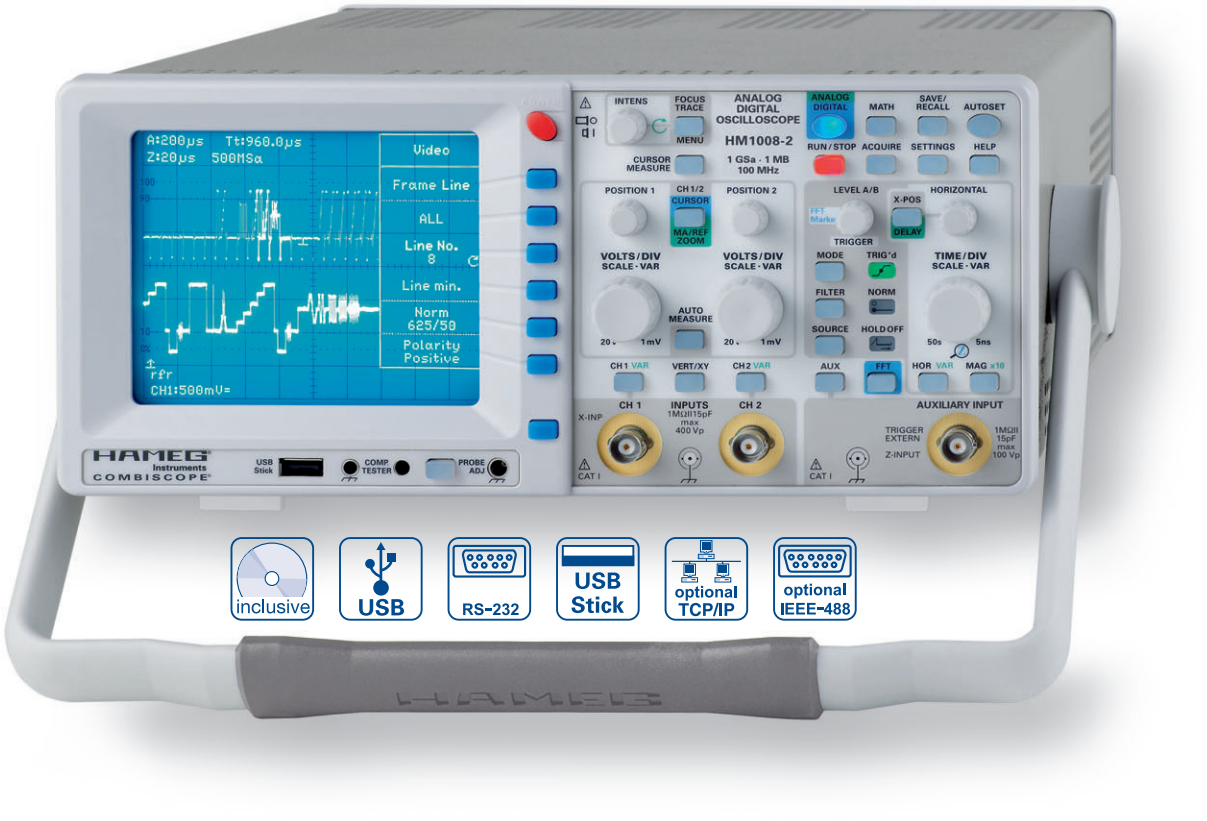
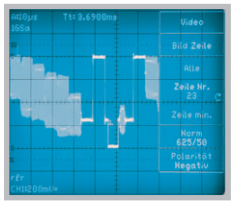
HAMEG Instruments

100 MHz CombiScope® with FFT
HM1008-2

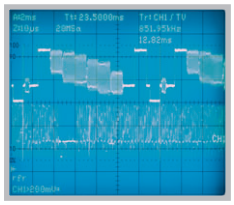
HM1008-2



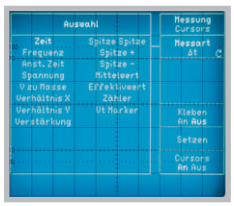
Either PAL or NTSC:
Line triggering
with line counter



Digital Mode:
TV field and zoomed
display of one selected line



Cursor measurement
choices in digital mode



1 GSa/s Real Time Sampling, 10 GSa/s Random Sampling

1 MPts Memory per Channel, Memory Zoom up to 40,000:1

FFT for spectral analysis

2 Channels

Deflection coefficients: 1 mV/cm – 20 V/cm,
Time Base: 50 s/cm – 5 ns/cm

8-Bit Low Noise Flash A/D Converters

Acquisition modes: Single, Refresh, Average, Envelope,
Roll, Peak-Detect

Front USB-Stick Connector for Screenshots

USB/RS-232, optional: IEEE-488, Ethernet/USB

Signal display: Yt, XY and FFT;
Interpolation: Sinx/x, Pulse, Dot Join (linear)

100 MHz CombiScope® HM1008-2

Valid at 23 °C after a 30 minute warm-up period

Vertical Deflection

Channels:	
Analog:	2
Digital:	2
Operating Modes:	
Analog:	CH 1 or CH 2 separate, DUAL (CH 1 and CH 2 alternate or chopped), Addition
Digital:	Analog Signal Channels CH 1 or CH 2 separate, DUAL (CH 1 and CH 2), Addition
X in XY-Mode:	CH 1
Invert:	CH 1, CH 2
Bandwidth (-3 dB):	2 x 0 – 100 MHz
Rise time:	‹ 3.5 ns
Bandwith limiting (selectable)**:**	about 20 MHz (5 mV/cm – 20 V/cm)
Deflection Coefficients(CH 1, 2):	14 calibrated steps
1 mV – 2 mV/cm (10 MHz)	± 5 % (0 – 10 MHz (-3 dB))
5 mV – 20 V/cm	± 3 % (1-2-5 sequence)
variable (uncalibrated):	› 2.5 : 1 to › 50 V/cm
Inputs CH 1, 2:	
Input Impedance:	1 MΩ II 15 pF
Coupling:	DC, AC, GND (ground)
Max. Input Voltage:	400 V (DC + peak AC)
Y Delay Line (analog):	70 ns
Measuring Circuits:	Measuring Category I
Analog mode only:	
Auxiliary input:	AUX: 100 V (DC + peak AC)
Function (selectable):	Extern Trigger, Z (unblank)
Coupling:	AC, DC
Max. input voltage:	100 V (DC +peak AC)

Triggering

Analog and Digital Mode	
Automatic (Peak to Peak):	
Min. signal height:	5 mm
Frequency range:	10 Hz – 200 MHz
Level control range:	from Peak- to Peak+
Normal (without peak):	
Min. signal height:	5 mm
Frequency range:	0 – 200 MHz
Level control range:	-10 cm to +10 cm
Operating modes:	Slope/Video
Slope:	positive, negative, both
Sources:	CH 1, CH 2, alt. CH 1/2 (≥ 8 mm, analog mode only), Line, Ext.
Coupling:	**AC:** 10 Hz–200 MHz **DC:** 0–200 MHz **HF:** 30 kHz–200 MHz **LF:** 0–5 kHz Noise Rej. switchable
Video:	pos./neg. Sync. Impulse
Standards:	525 Line/60 Hz Systems 625 Line/50 Hz Systems
Field:	even/odd/both
Line:	all/line number selectable
Source:	CH 1, CH 2, Ext.
Indicator for trigger action:	LED
External Trigger via:	AUX (0.3 V_{pp}, 150 MHz)
Coupling:	AC, DC
Max. input voltage:	100 V (DC +peak AC)
Digital mode	
Pre/Post Trigger:	-100 % to +400 % related to complete memory
Analog mode	
2nd Trigger	
Min. signal height:	5 mm
Frequency range:	0 – 200 MHz
Coupling:	DC
Level control range:	-10 cm to +10 cm

Horizontal Deflection

Analog mode	
Operating modes:	A, ALT (alternating A/B), B
Time base A:	0.5 s/cm – 50 ns/cm (1-2-5 sequence)
Time base B:	20 ms/cm – 50 ns/cm (1-2-5 sequence)
Accuracy A and B:	± 3 %
X Magnification x10:	to 5 ns/cm
Accuracy:	± 5 %
Variable time base A/B:	cont. 1:2.5
Hold Off time:	var. 1:10 (LED-Indication)
Bandwidth X-Amplifier:	0 - 3 MHz (-3 dB)
X Y phase shift ‹ 3°:	‹ 220 kHz
Digital mode	
Time base range (1-2-5 sequence)	
Refresh Mode:	20 ms/cm – 5 ns/cm
with Peak Detect:	20 ms/cm – 2 ms/cm (min. Pulse Width 10 ns)
Roll Mode:	50 s/cm – 50 ms/cm
Accuracy time base	
Time base:	50 ppm
Display:	± 1 %
MEMORY ZOOM:	max. 40,000:1
Bandwidth X-Amplifier:	0 – 100 MHz (-3 dB)
X Y phase shift ‹ 3°:	‹ 100 MHz

Digital Storage

Sampling rate (real time):	Analog channels: 2x 500 MSa/s, 1 GSa/s interleaved
Sampling rate (random sampling):	10 GSa/s
Bandwidth:	2 x 0 – 100 MHz (random)
Memory:	1 M-Samples per channel
Operating modes:	Refresh, Average, Envelope/ Roll (Free Run/Triggered), Peak-Detect
Resolution (vertical):	8 Bit (25 Pts/cm)
Resolution (horizontal):	
Yt:	11 Bit (200 Pts/cm)
XY:	8 Bit (25 Pts /cm)
Interpolation:	Sinx/x, Dot Join (linear), Pulse
Delay:	1 Million x 1/Sampling Rate to 4 Million x 1/Sampling Rate
Display refresh rate:	max.170/s at 1 MPts
Display:	Dots (acquired points only), Vectors (partly interpolated), optimal (complete memory weighting and vectors)
Reference Memories:	9 with 2 kPts each (for recorded signals)
Display:	2 signals of 9 (free selectable)

FFT Mode

Display X:	Frequency Range
Disaplay Y:	True rms value of spectrum
Scaling:	Linear or logarithmic
Level display:	dBV, V
Window:	Square, Hanning, Hamming, Blackmann
Control:	Center frequency, Span
Marker:	Frequency, Amplitude
Zoom (frequency axis):	up to x20

Operation/Measuring/Interfaces

Operation:	Menu (multilingual), Autoset, help functions (multilingual)
Save/Recall (instrument parameter settings):	9
Signal display:	max. 4 traces
analog:	CH 1, 2 (Time Base A) in combination with CH 1, 2 (Time Base B)
digital:	CH1, 2 and ZOOM or Reference or Mathematics)
USB Memory-Stick:	
Save/Recall external:	
Instrument settings and Signals:	CH 1, 2, ZOOM, Reference and Mathematics
Screen-shot:	as Bitmap
Signal display data (2k per channel):	Binary (orig. ADC-Data), Text (ASCII-Format), CSV (Spread Sheet)
Frequency counter:	
6 digit resolution:	›1 MHz – 250 MHz
5 digit resolution:	0.5 Hz – 1 MHz
Accuracy:	50 ppm
Auto Measurements:	
Analog mode:	Frequency, Period, V_{dc}, V_{pp}, V_{p+}, V_{p-}
also in digital mode:	V_{rms}, V_{avg}
Cursor Measurements:	
Analog mode:	Δt, 1/Δt (f), t_r, ΔV, V to GND, ratio X, ratio Y
plus in digital mode:	V_{pp}, V_p+, V_p-, V_{avg}, V_{rms}, pulse count
Resolution Readout/Cursor:	1000 x 2000 Pts, Signals: 250 x 2000
Interfaces (plug-in):	USB/RS-232 (HO720)
Optional:	IEEE-488, Ethernet/USB

Mathematic functions	
Number of Formula Sets:	5 with 5 formulas each
Sources:	CH 1, CH 2, Math 1-Math 5
Targets:	5 math. memories, Math 1-5
Functions:	ADD, SUB, 1/X, ABS, MUL, DIV, SQ, POS, NEG, INV
Display:	max. 2 math. memories (Math 1–5)

Display	
CRT:	D14-375GH
Display area (with graticule):	8 cm x 10 cm
Acceleration voltage:	approx. 14 kV

General Information	
Component tester	
Test voltage:	approx. 7 V_{rms} (open circuit), approx. 50 Hz
Test current:	max. 7 mA_{rms} (short circuit)
Reference Potential :	Ground (safety earth)
Probe ADJ Output:	1 kHz/1 MHz square wave signal 0.2 V_{pp} (tr ‹ 4 ns)
Trace rotation:	electronic
Line voltage:	105 – 253 V, 50/60 Hz ±10 %, CAT II
Power consumption:	47 Watt at 230 V, 50 Hz
Protective system:	Safety class I (EN61010-1)
Weight:	5.6 kg
Cabinet (W x H x D):	285 x 125 x 380 mm
Ambient temperature:	0 °C ...+40 °C

Accessories supplied: Line cord, Operating manual, 2 Probes 10:1 with attenuation ID (HZ200), Windows Software for control and data transfer
Optional accessories:
HO730 Dual-Interface Ethernet/USB
HO740 Interface IEEE-488 (GPIB)
HZ70 Opto-Interface (with optical fiber cable)

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