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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.

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Product Lifecycle Management System

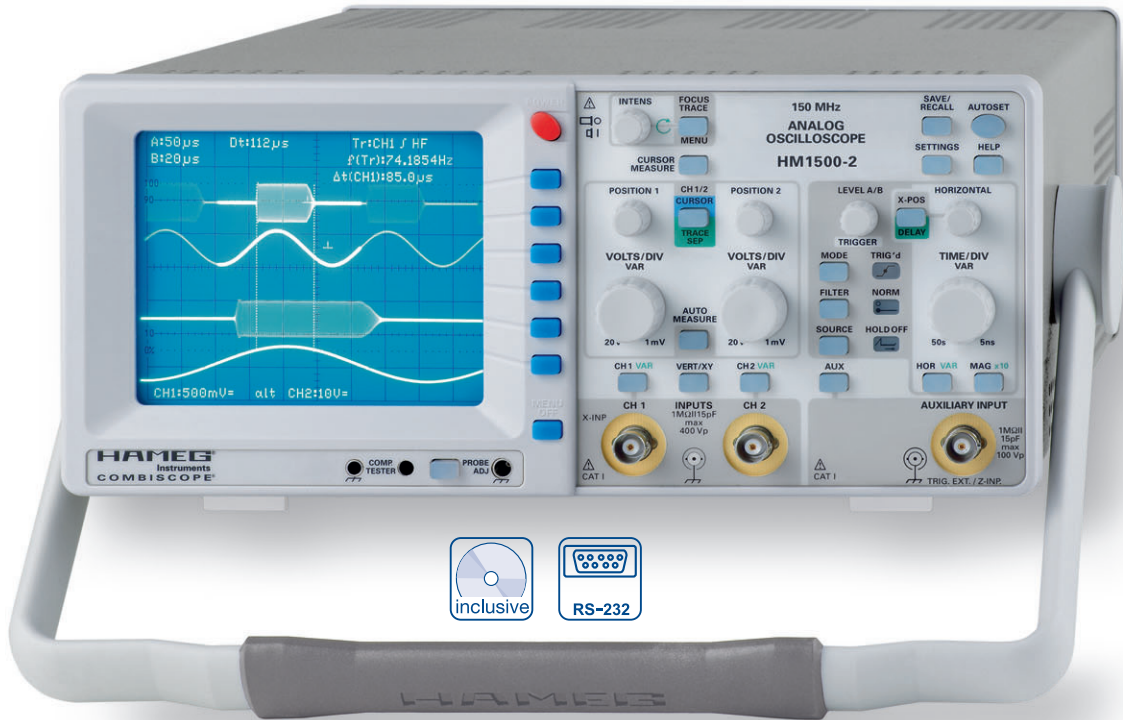
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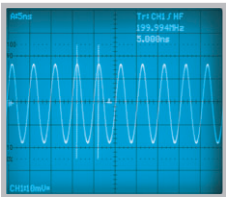


150 MHz Analog Oscilloscope HM1500-2

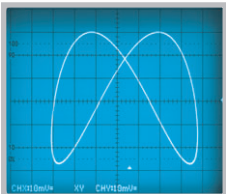
HM1500-2



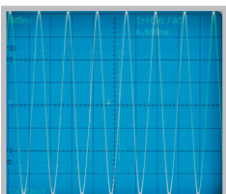
199.994 MHz Sine Wave
Signal, measured with
internal frequency counter



Lissajous Figure
(XY Mode)



Excellent dynamic range
characteristics demonstrated
with a 150 MHz signal



2 Channels with deflection coefficients of 1 mV/cm – 20 V/cm

2 Time Bases: 0.5 s/cm – 5 ns/cm and 20 ms – 5 ns/cm

Low Noise Measuring Amplifiers with high pulse fidelity

Videotrigger: Odd and even frames, Line Selection
(525/60 and 625/50 standard)

200 MHz 6-Digit Frequency Counter,
Cursor and Automatic Measurement

14 kV high writing speed CRT, Readout, Autoset, Delay Line,
no Fan

Save/Recall Memories for Instrument Settings

Help Function, Multilingual Menu

RS-232 Interface (for parameter queries and control only)

150 MHz Analog Oszilloscope HM1500-2

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

Vertical Deflection

Channels:	2
Operating Modes:	CH 1 or CH 2 separate, DUAL (CH 1 and CH 2 alternate or chopped), Addition
XY-Mode:	CH 1
Invert:	CH 1, CH 2
Bandwidth (-3dB):	2 x 0 – 150 MHz
Rise time:	< 2.3 ns
Bandwidth limiting [selectable]:	about 20 MHz (5 mV/cm – 20 V/cm)
Deflection Coefficients(CH 1,2):	14 calibrated steps
1 mV – 2 mV/cm:	± 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 15 pF
Coupling:	DC, AC, GND (ground)
Max. Input Voltage:	400 V [DC + peak AC]
Y Delay Line:	70 ns
Measuring Circuits:	Measuring Category I
Auxiliary input:	
Function [selectable]:	Extern Trigger, Z (unblank)
Coupling:	AC, DC
Max. input voltage:	100 V [DC + peak AC]

Triggering

Automatic (Peak to Peak):	
Min. signal height:	5 mm
Frequency range:	10 Hz – 250 MHz
Level control range:	from Peak- to Peak+
Normal (without peak)	
Min. signal height:	5 mm
Frequency range:	0 – 250 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), Line, Ext.
Coupling:	AC: 10 Hz – 250 MHz DC: 0 – 250 MHz HF: 30 kHz – 250 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:	Auxiliary Input (0.3 V _{pp} , 150 MHz)
Coupling:	AC, DC
Max. input voltage:	100 V [DC + peak AC]
2nd Trigger	
Min. signal height:	5 mm
Frequency range:	0 – 250 MHz
Coupling:	DC
Level control range:	-10 cm to +10 cm

Horizontal Deflection

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 X x10:	± 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]
XY phase shift < 3°:	< 220 kHz

Operation/Measuring/Interfaces

Operation:	Autoset, Menu and help functions (multilingual)
Save/Recall (instrument parameter settings):	9
Signal display:	max. 4 traces CH 1, 2 (Time Base A) in combination with CH 1, 2 (Time Base B)
Frequency counter:	
6 digit resolution:	>1 MHz – 250 MHz
5 digit resolution:	0.5 Hz – 1 MHz
Accuracy:	50 ppm
Auto Measurements:	Frequency, Period, V _{dc} , V _{pp} , V _{p+} , V _{p-}
Cursor Measurements:	Δt, 1/Δt (f), t _r , ΔV, V to GND, ratio X, ratio Y
Resolution Readout/Cursor:	1000 x 2000 Pts
Interfaces (plug-in):	RS-232 (HO710),
Optional:	Dual-Interface USB/RS232, IEEE-488 (GBIP) Dual-Interface Ethernet/USB

Display

CRT:	D14-375GH
Display area (with graticule):	8 cm x 10 cm
Acceleration voltage:	ca. 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:	37 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

Optional accessories:

H0720 Dual-Interface RS-232/USB
H0730 Dual-Interface Ethernet/USB
H0740 Interface IEEE-488 (GPIB)
HZ70 Opto-Interface [with optical fiber cable]

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