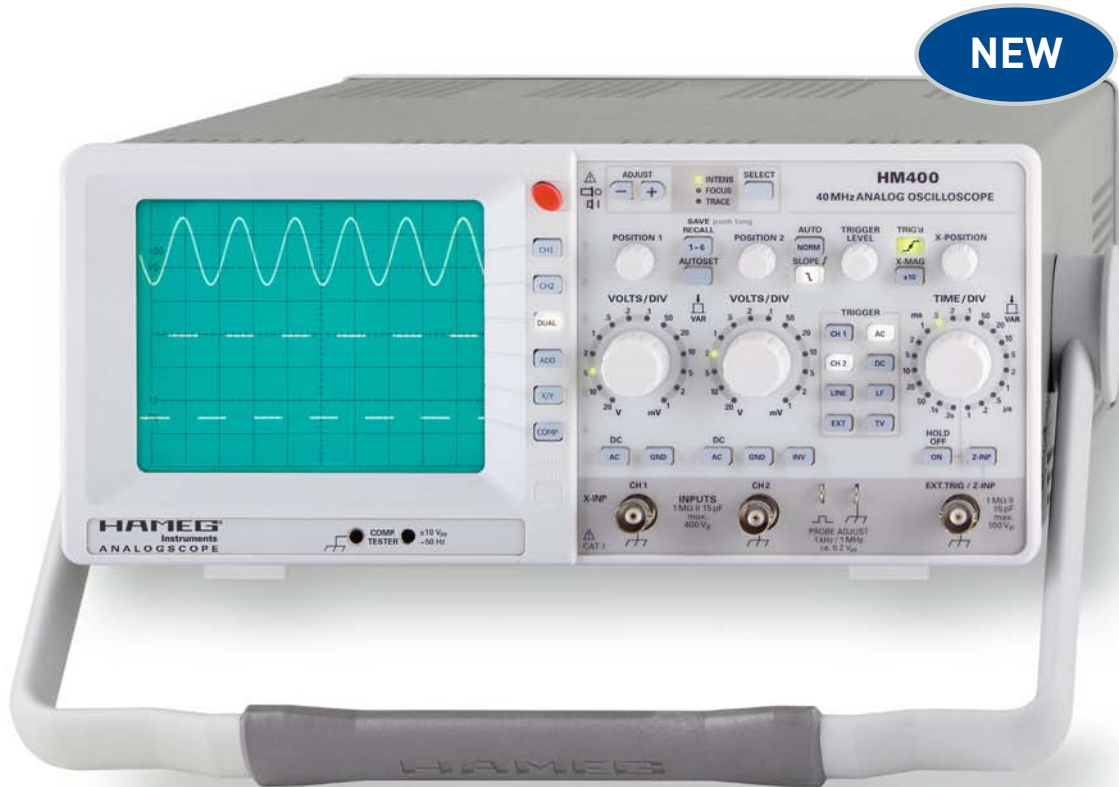


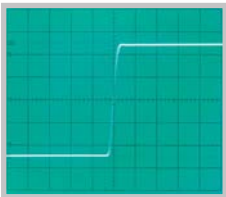
## 40 MHz Analog Oscilloscope HM400

**NEW**

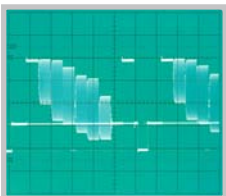


HM400

No signal distortion  
resulting from overshoot



Line triggered composite  
video signal



Characteristic of a Z-Diode  
with component test mode



- ✓ Reference-Class in sensitivity and input voltage range
- ✓ 2 Channels with deflection coefficients 1 mV/div....20 V/div., variable up to 50 V/div.
- ✓ Time Base 0.2 s/div....100 ns/div., with X magnification to 10 ns/div.
- ✓ Low noise measuring amplifiers with high pulse fidelity and minimum overshoot
- ✓ Peak to peak trigger for stable triggering 0...50 MHz at 0.5 div. signal level (up to 80 MHz at 1 div.)
- ✓ Autoset, Save/Recall Memories for 6 instrument settings
- ✓ Yt- and XY-Mode with Z-Input for intensity modulation
- ✓ Component characterisation with component tester (two terminal network measurement) for use within service etc.
- ✓ Low power consumption, no fan

## 40 MHz Analog Oscilloscope HM400

All data valid at 23 °C after 30 minute warm-up

### Vertical Deflection

<b>Operating Modes:</b>	Channel 1 or 2 only Channels 1 and 2 (alternate or chopped) Sum or Difference of CH 1 and CH 2
<b>Invert:</b>	CH 2
<b>XY Mode:</b>	CH 1 (X) and CH 2 (Y)
<b>Bandwidth [-3 dB]:</b>	
DC, 5mV/div....20V/div.:	0...40MHz
AC, 5mV/div....20V/div.:	2Hz...40MHz
DC, 1mV/div....2mV/div.:	0...10MHz
AC, 1mV/div....2mV/div.:	2Hz...10MHz
<b>Rise Time [calculated]:</b>	<35 ns (1 mV/div....2 mV/div.) <8,75 ns (5 mV/div....20 V/div.)
<b>Deflection Coefficient:</b>	1-2-5 Sequence ± 5% (1 mV/div....2 mV/div.) ± 3% (5 mV/div....20 V/div.) Variable (uncalibrated): > 2.5:1 to > 50 V/div.
<b>Input Impedance:</b>	1 MΩ    15 pF
<b>Input Coupling:</b>	DC, AC, GND (ground)
<b>Max. Input Voltage:</b>	400 V (DC + peak AC)

### Triggering

<b>Automatic (Peak to Peak):</b>	5 Hz...50 MHz (≥ 0.5 div.), 50 MHz...80 MHz (≥ 1 div.)
<b>Normal with Level Control:</b>	0...50 MHz (≥ 0.5 div.), 50 MHz...80 MHz (≥ 1 div.)
<b>Slope:</b>	Rising or falling
<b>Sources:</b>	Channel 1 or 2, Line and External
<b>Coupling:</b>	AC (5 Hz...80 MHz), DC (0...80 MHz), LF (0...1.5 kHz)
<b>Trigger Indicator:</b>	LED
<b>External Trigger:</b>	
<b>Input Impedance:</b>	1 MΩ    15 pF
<b>External Trigger Signal:</b>	0,3 V <sub>pp</sub> ≤ 5 V, DC (0...50 MHz), AC (20 Hz...50 MHz)
<b>Max. input voltage:</b>	100 V (DC + Peak AC)
<b>Active TV sync. separator:</b>	Field and Line, +/-

### Horizontal Deflection

<b>Time Base:</b>	0.2 s/div....100 ns/div. (1-2-5 Sequence)
<b>Accuracy:</b>	± 3 % Variable (uncalibrated): > 2.5:1 to > 1.25 s/div.
<b>X Magnification x 10:</b>	up to 10 ns/div.
<b>Accuracy:</b>	± 5 %
<b>Hold-Off Time:</b>	variable to approx. 10 : 1
<b>XY</b>	
<b>Bandwidth X amplifier:</b>	0...2.5 MHz (-3 dB)
<b>XY Phase shift &lt; 3°:</b>	< 120 kHz

### Operation / Readout / Control

<b>Manual:</b>	via controls and buttons
<b>Autoset:</b>	automatic signal related parameter settings
<b>Save and Recall:</b>	6 instrument parameter settings

### Component Tester

<b>Test Voltage:</b>	approx. 7 V <sub>rms</sub> (open circuit)
<b>Test Current:</b>	max. 7 mA <sub>rms</sub> (short-circuit)
<b>Test Frequency:</b>	approx. 50 Hz
<b>Test Connection:</b>	2 banana jacks 4 mm Ø One test circuit lead is grounded via protective earth (PE)

### Miscellaneous

<b>CRT:</b>	D14-363GY, 8 x 10 div. with internal graticule
<b>Acceleration Voltage:</b>	approx. 2 kV
<b>Trace Rotation:</b>	adjustable on front panel
<b>Z-Input (Intens. modulation):</b>	max. + 5 V (TTL), 10 kHz
<b>Probe ADJ Output:</b>	1 kHz / 1 MHz Square Wave Signal ca. 0.2 V <sub>pp</sub> (tr < 5 ns) for probe adjustment
<b>Power Supply (Mains):</b>	105/253 V, 50/60 Hz ± 10 %, CAT II
<b>Power Consumption:</b>	approx. 30 Watt at 230 V/50 Hz
<b>Safety class:</b>	Safety class I (EN61010-1)
<b>Operating temperature:</b>	+5°C...+40°C
<b>Storage temperature:</b>	-20°C...+70°C
<b>Max. rel. humidity:</b>	5%...80% (non condensing)
<b>Dimensions (W x H x D):</b>	285 x 125 x 380 mm
<b>Weight:</b>	approx. 4.8 kg

**Accessories supplied:** Line Cord, Operators Manual, 2 Probes 1:1/10:1 (HZ154) with LF/HF adjustment