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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.

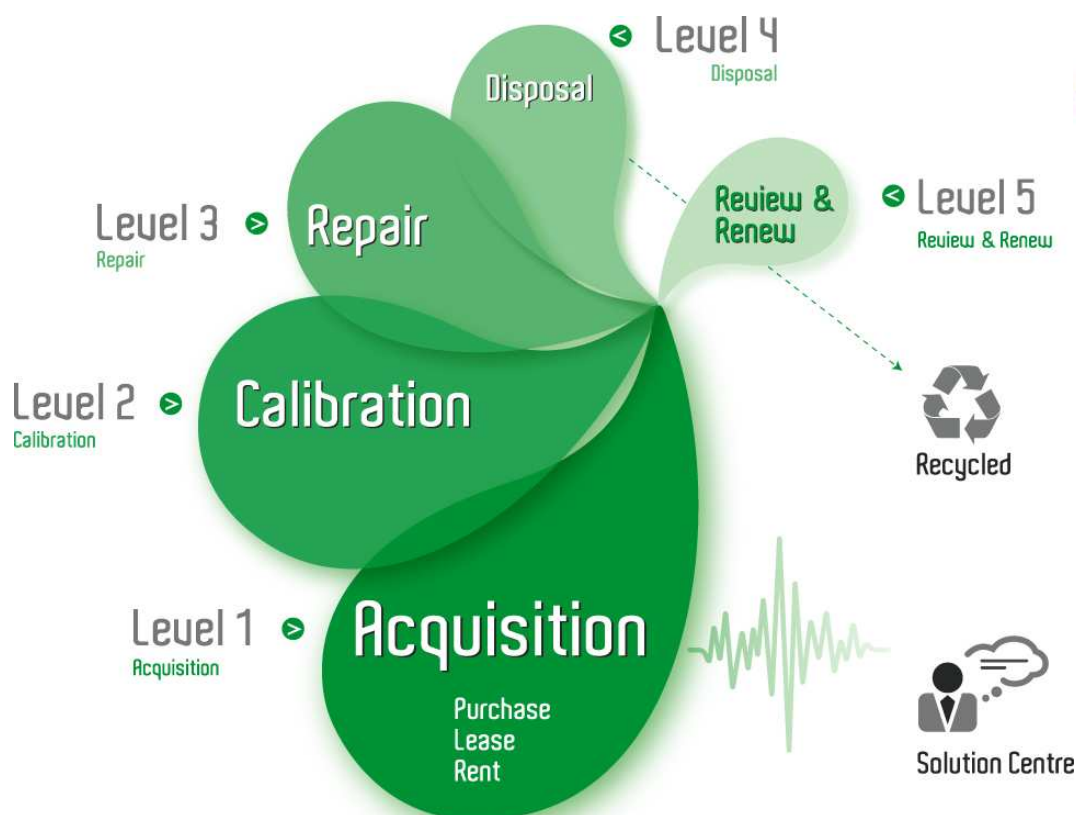
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TMG Corporate Website

TMG Products Website



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Product Lifecycle Management System

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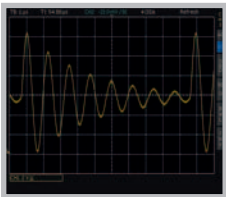
25 / 50 MHz Arbitrary Function Generator HMF2525 / HMF2550

1st Quarter
2009

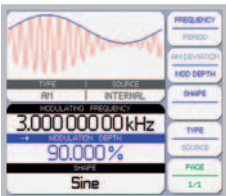


HMF2550

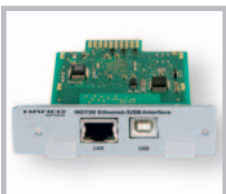
Generation of complex
waveforms with 256kpts
in 14 Bit



All parameters at a glance
on the 3.5" TFT and
interactive softkeys



Ethernet/USB-interface
H0730 for industrial use
[Option]



- ✓ Frequency range 10µHz...25MHz/50MHz
- ✓ Output voltage 5mV_{pp}...10V_{pp} (into 50Ω) DC Offset ± 5mV...5V
- ✓ Arbitrary waveform generator: 250MSa/s, 14Bit, 256kPts
- ✓ Sine, Square, Pulse, Triangle, Ramp, Arbitrary waveforms incl. standard curves (white, pink noise etc.)
- ✓ Total harmonic distortion 0.04% (f<100kHz)
- ✓ Burst, Sweep, Gating, external Trigger
- ✓ Rise time <8ns, in pulse mode 8ns...500ns variable-edge-time
- ✓ Pulse mode: Frequency range 100µHz...12.5MHz/25MHz, pulse width 10ns...999s, resolution 5ns
- ✓ Modulation modes AM, FM, PM, PWM, FSK (int. and ext.)
- ✓ 10MHz Timebase: ± 1ppm TCXO, rear I/O BNC connector
- ✓ Front USB connector: save & recall of set-ups and waveforms
- ✓ 3.5" TFT: crisp representation of the waveform and all parameters
- ✓ USB/RS-232 Dual-Interface, optional Ethernet/USB or IEEE-488

25MHz Arbitrary Function Generator HMF2525 50MHz Arbitrary Function Generator HMF2550

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

Frequency	
HMF2525:	10µHz...25MHz
HMF2550:	10µHz...50MHz
Temperature stability:	1ppm (18°C...28°C)
Aging [after 1 year]:	± 1ppm [25°C]
Amplitude	
Output voltage:	5mV _{pp} ...10V _{pp} (into 50Ω)
Resolution:	1mV
Setting accuracy:	± [1% of control + 1mV _{ss}] at 1kHz
Frequency response:	f < 10MHz: < ± 0.1dB 10MHz ≤ f < 25MHz: < ± 0.2dB 25MHz ≤ f < 50MHz: < ± 0.4dB
DC offset:	
Voltage range (AC + DC)	± 5mV...5V (into 50Ω)
Accuracy	± 2% of offset ± 0.5% of signal level ± 2mV
Units:	V _{pp} , V _{rms} , dBm
Waveform Sine Wave	
Total harmonic distortion (1V _{pp}):	
f < 100kHz:	< -70dBc
100kHz ≤ f < 10MHz	< -55dBc
10MHz ≤ f < 25MHz	< -40dBc
f ≥ 25 MHz	< -37dBc
Spurious: [Non-harmonics 1V _{pp}]	
f < 1MHz:	-70dBc
1MHz < f < 50MHz	-70dBc + 6dBc/Oktave
Total Harmonic Distortion (f ≤ 100kHz):	0.04% typ.
Phase noise:	[10MHz, 10kHz Offset, 1V _{pp}] < -115dBc/Hz typ.
Waveform Rectangle	
Rise / fall time:	< 8ns
Overshoot:	< 3% typ.
Symmetry (50% duty):	1% + 5ns
Jitter [RMS]:	< 1ns typ.
Waveform Pulse	
Frequency range:	
HMF2525	100µHz...12.5MHz
HMF2550	100µHz...25MHz
Amplitude:	5mV...+5V respectively -5mV...-5V (into 50Ω)
Rise / fall time:	< 8ns, variable up to 500ns
Pulse width:	10ns...999s
Resolution:	5ns
Jitter [RMS]:	< 500ps typ.
Overshoot:	< 3% typ.
Waveform Rampe, Triangle	
Frequency range:	
HMF2525	10µHz...5MHz
HMF2550	10µHz...10MHz
Symmetry:	0...100%
Linearity:	
f < 250kHz	< 0,1% typ.
f ≥ 250 kHz	< 2% typ.
Waveform Arbitrary	
Frequency range:	
HMF2525	10µHz...12.5MHz
HMF2550	10µHz...25MHz
Sample rate:	250MSa/s
Amplitude resolution:	14Bit
Bandwidth [- 3dB]:	> 50MHz
Signal length:	Up to 256kPts
Non-volatile memory:	
HMF2525	512kPts
HMF2550	1MPts
Predefined waveforms:	Exponential rise/fall, Sin(x)/x, Cardiac, white/pink noise
Inputs and Outputs	
Signal output:	BNC socket (frontside), short-circuit-proof, ext. voltage ± 15V max.
Impedance	50Ω
Gate / Trigger input:	BNC socket (frontside)
Impedance	5kΩ 100pF

Level	TTL (protected up to ± 30V)
Edge	Positive / negative (selectable)
Pulse width	Min. 100ns
Trigger output:	BNC socket (frontside)
Impedance	50Ω
Edge	Positive TTL level impulse
Frequency	10MHz max.
Modulation input:	BNC socket (rear side)
Impedance	10kΩ
Max. input voltage	± 5V for full scale
Bandwidth [- 3dB]	DC...50kHz (sample with 250kSa/s)
Reference input:	BNC socket (rear side)
Impedance	1kΩ
Frequency	10MHz ± 100kHz
Input voltage	TTL
Reference output:	BNC socket (rear side)
Impedance	50Ω
Frequency	10MHz
Output voltage	1,65V _{pp} (into 50Ω)
Ramp output:	BNC socket (rear side)
Impedance	200Ω
Output voltage	0...5V, synchronous with sweep
Sweep	
Signals:	All
Type:	linear / log.
Direction:	up / down
Sweep time:	1ms...500s
Burst	
Signals:	All
Typ:	Triggered, 1...50.000 cycles, endless or Gate controlled
Start / stop phase:	-360°...+360°
Trigger source:	Manual, internal or external via Trigger source or interface
Internal Trigger period:	1µs...500s
Modulation	
Waveform modulation:	AM, FM, PM, PWM, FSK
Waveform carrier:	All (without pulse)
Internal modulation (ripple):	Sine, Rectangle, Triangle, Ramp, Arbitrary with up to 4096Pts.
Internal modulation frequency:	10µHz...50kHz
Ext. modulation bandwidth [-3dB]:	DC...50kHz (sampled with 250kSa/s)
Amplitude modulation:	
Modulation depth	0...100%
Frequency modulation:	
Frequency deviation	Max. 10MHz
Phase modulation:	
Phase deviation	-180°...+180°
Pulse width modulation:	
Deviation	0...100% of the pulse width
Miscellaneous	
Display:	3,5" color TFT QVGA 65k colors
Interface:	Dual-Interface USB / RS-232 (H0720)
Save / Recall memory:	10 complete set-ups
Protection class:	Safety class I [EN61010-1]
Power supply:	105/253V, 50/60Hz, CAT II
Power consumption:	approx. 30Watt
Operating temperature:	+5°C...+40°C
Storage temperature:	-20°C...+70°C
Max. rel. humidity:	5%...80% (non condensing)
Dimensions (W x H x D):	285 x 75 x 365mm
Weight:	3,4kg

Accessories supplied: Line cord, Operating manual, CD

Optional accessories:

H0730	Dual-Interface Ethernet/USB
H0740	Interface IEEE-488 (GPIB), galvanically isolated
HZ42	2RU 19" Rackmount Kit
HZ33	Test cable BNC plug - BNC plug 0,5m
HZ34	Test cable BNC plug - BNC plug 1m
HZ20	Adapter plug BNC plug - 4mm safety sockets
HZ10S	5 x silicone test lead (measurement connection in black)
HZ10R	5 x silicone test lead (measurement connection in red)
HZ24	Attenuators 3/6/10 and 20 dB

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