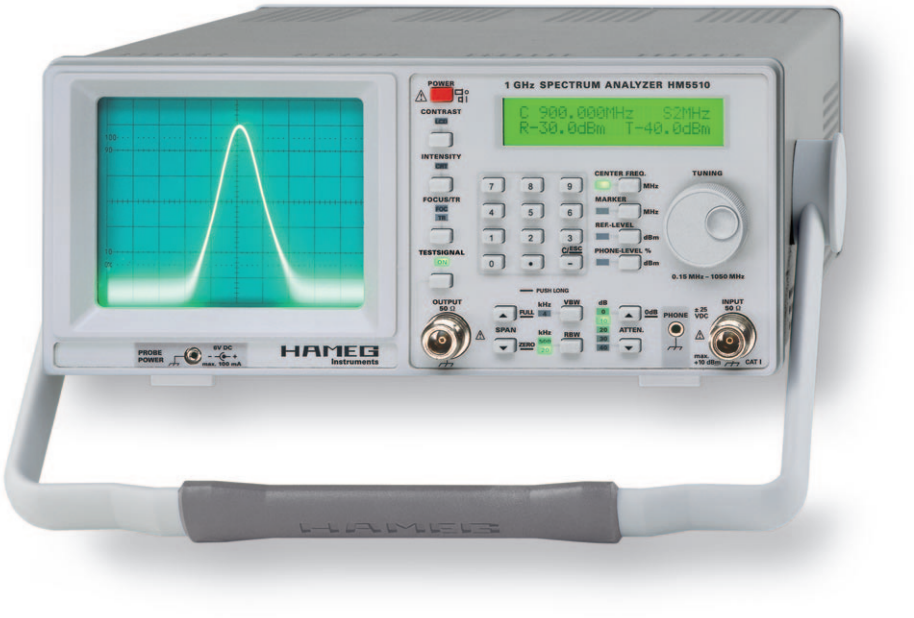
1 GHz Spectrum Analyzer
HM5510



Frequency range from 150 kHz to 1 GHz

Amplitude measurement range from – 100 dBm to + 10 dBm

Phase Synchronous, Direct Digital frequency Synthesis (DDS)

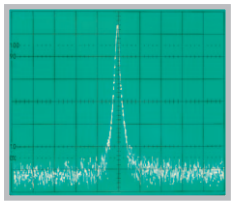
Resolution bandwidths (RBW): 20 kHz and 500 kHz

Keypad for frequency and amplitude setting

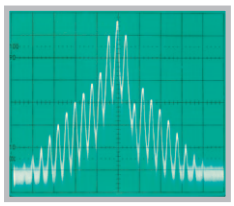
Analog signal processing and display

Test signal output

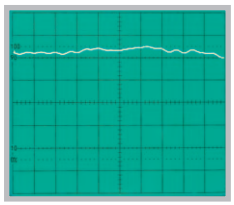
Unmodulated RF signal



Amplitude-modulated RF signal



Amplifier frequency response measured using a tracking generator



1 GHz Spectrum Analyzer HM5510

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

Frequency Characteristics	
Frequency Range:	0.15 MHz to 1.050 GHz
Stability:	±5 ppm
Ageing:	±1 ppm/year
Frequency Resolution:	1 kHz (6½-digit in readout)
Center Frequency Range:	0 to 1.050 GHz
LO Frequency Generation:	TCXO with DDS (Digital Frequency Synthesis)
Span Setting Range:	Zero-Span and 1 MHz – 1000 MHz (1-2-5 Sequence)
Marker:	
Frequency Resolution:	1 kHz, 6½-digit,
Amplitude Resolution:	0.5 dB, 3½-digit
Resolution Bandwidths (RBW) @ 3dB:	500 kHz and 20 kHz
Video filter (VBW):	4 kHz
Sweep Time:	20 ms

Amplitude Characteristics (Marker Related) 150 kHz – 1 GHz	
Measurement Range:	-100 dBm to +10 dBm
Scaling:	10 dB/div.
Display Range:	80 dB (10dB/div.)
Amplitude Frequency Response (at 10 dB Attn., Zero Span and RBW 500 kHz, Signal – 20 dBm):	± 3 dB
Display (CRT):	8 x 10 division
Amplitude Scale:	logarithmic
Display Units:	dBm
Parameter Display (LCD):	2 Lines x 20 Characters, Center Frequency, Span, Marker Frequency, Reference Level, Marker Level
Input Attenuator Range:	0 – 40 dB (10 dB increments)
Input Attenuator Accuracy rel. to 10 dB:	± 1 dB
Max. Input Level (continuous)	
10 - 40 dB attenuation:	+ 20 dBm (0.1 W)
0 dB attenuation:	+ 10 dBm
Max. DC Voltage:	± 25 V
Max. Reference Level:	-100 dBm to + 10 dBm
Reference Level Accuracy rel. to 500 MHz, 10 dB Attn., Zero Span and RBW 500 kHz:	± 2 dB
Min. Average Noise Level:	approx. -100 dBm (RBW 20 kHz)
Intermodulation Ratio (3rd Order):	typical › 75 dBc (2 Signals: 200 MHz, 203 MHz, -3 dB below Reference Level)
Harmonic Distortion Ratio (2nd harm.):	typical › 75 dBc (200 MHz, Reference Level)
Bandwidth Dependent Amplitude Error rel. to RBW 500 kHz and Zero Span:	± 1 dB

Inputs / Outputs	
Measurement Input:	N-socket
Input Impedance:	50 Ω
VSWR: (Attn. ≥ 10 dB)	typ. 1.5 : 1
Supply Voltage for Probes (HZ530):	6 V DC
Audio output (phone):	3.5 mm Ø jack
Test Signal output:	N-socket, output Impedance 50 Ω
Frequency:	10 MHz
Level	0 dBm (±3 dB)

Functions	
Keyboard Input:	Center Frequency, Reference
Rotary Encoder Input:	Center Frequency, Reference Level, Marker, Intensity (CRT), Contrast (LCD)

General information	
CRT:	D14-363GY, 8 x 10 cm with internal graticule
Acceleration Voltage:	approx. 2 kV
Trace Rotation:	adjustable on front panel
Ambient Temperature:	+10° C to +40° C
Power Supply:	105 – 253 V, 50/60 Hz ± 10 %, CAT II
Power Consumption:	approx. 31 W at 230 V/50 Hz
Safety class:	Safety class I (EN61010-1)
Dimensions (W x H x D):	285 x 125 x 380 mm, with adjustable, lockable tilt handle
Color:	techno-brown
Weight:	approx. 5.6 kg

Accessories supplied: Line Cord, Operators Manual, HZ21 Adapter Plug (N-plug with BNC socket)
Optional accessories:
HZ520 Antenna
HZ530 Near Field Probe Set for EMI Diagnosis

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