

KEYSIGHT TECHNOLOGIES (AGILENT HP)

3588A

The Keysight Technologies (formerly Agilent / HP) 3588A is a high-performance spectrum analyzer covering the 10 Hz to 150 MHz frequency range. It features an integrated fully-synthesized tracking generator, offering comprehensive frequency-domain and simple scalar network measurements with outstanding frequency resolution and amplitude accuracy.

SPECIFICATIONS

General

Interfaces	GPIB (HP-IB), Parallel Printer Port, External Keyboard Port (DIN)
Display	9-inch monochrome raster CRT
Instrument Type	Swept / FFT Signal Analyzer

Physical

Power Supply	90 - 132 V AC (47 - 440 Hz) or 198 - 264 V AC (47 - 66 Hz), 350 VA max
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	426 mm × 222 mm × 553 mm mm
Weight	26.0 kg

Frequency Specifications

Frequency Range	10 Hz to 150 MHz
Frequency Span Range (Swept)	10 Hz to 150 MHz
Frequency Span Range (Narrowband Zoom)	1.22 Hz to 40 kHz
Resolution Bandwidth (Swept)	1.1 Hz to 17 kHz
Resolution Bandwidth (Narrowband Zoom)	150 mHz to 311 Hz
Internal Reference Frequency	10 MHz
High Stability Reference Aging Rate (Option 1D5)	< 5 x 10 ⁻¹⁰ per day
Frequency Resolution	0.003 Hz
Maximum Resolution	150 mHz (0.15 Hz)
Sweep Time Range	100 ms to 100,000 s

Amplitude Specifications

Amplitude Measurement Range	-137 dBm to +20 dBm (50 Ω)
Spurious-Free Dynamic Range	> 80 dB
Input Attenuator Range	0 to 50 dB in 10 dB steps
Maximum Safe Input Level (50 Ω)	+20 dBm

Spectral Purity and Distortions

Phase Noise	<-112 dBc/Hz at 10 kHz offset
Second Harmonic Distortion	<-80 dBc for a -15 dBm input
Third-Order Intermodulation Distortion	<-80 dBc for two -15 dBm tones
Residual Responses	<-120 dBm (with 50 Ω input termination)

Tracking Generator Specifications

Tracking Generator Frequency Range	10 Hz to 150 MHz
Tracking Generator Output Level Range	-50 dBm to +15 dBm
Tracking Generator Output Level Resolution	0.1 dB
Tracking Generator Source Impedance	50 Ω
Tracking Generator Level Flatness	± 1.0 dB
Vector/Scalar Capability	Simple scalar network measurements

Input and Output Ports

RF Input Connector	Type-N female
RF Input Impedance	50 Ω or 75 Ω
External Reference Input Connector	BNC female
External Reference Output Connector	BNC female
External Trigger Input Connector	BNC female
Tracking Generator Output Connector	BNC female

Measurement Functions and Interface

Programmability	HP Instrument BASIC (IBASIC) optional (Option 1C2)
Disk Storage	3.5-inch floppy drive (LIF / MS-DOS formats)
Screen Dump Formats	HP-GL, PCX, Raster
Trace Display Modes	A, B, A&B, A/B, B-A, Front/Back, Max Hold, Min Hold
Markers	Marker, Delta Marker, Noise Marker, Band Power Marker
Noise Measurement Units	dBm/Hz, dBV/rHz
ADC Resolution	16-bit
Noise Marker Mode	Standard, calculates power density
Band Power Measurement	Integrated band power calculation
Signal Identification	Built-in frequency counter
Trigger Modes	Free Run, External, GPIB
Display Scale Units	dBm, dBV, Vrms
Sweep Averaging	1 to 32,767 sweeps

Power Requirements

AC Input Voltage	115 V AC (90 - 132 V) or 230 V AC (198 - 264 V)
AC Line Frequency	47 to 440 Hz (115 V) / 47 to 66 Hz (230 V)
Power Consumption	450 VA maximum

Physical and Environmental

Storage Temperature	-40 °C to +75 °C
Operating Humidity	Up to 95% relative humidity (non-condensing) at 40 °C
Warm-up Time	20 minutes
Height	222 mm
Width	426 mm
Depth	553 mm

Compliance and Options

High Stability Frequency Reference Option	Option 1D5
75-ohm Input/Output Impedance Option	Option 1D7
Rackmount Kit Option	Option 1CN

Options

Option 1C2	Instrument BASIC (IBASIC) capability
Option 1D6	Time-Gated Spectrum Analysis

Rear Panel Connections

Parallel Printer Port	25-pin D-sub female, Centronics compatible
Keyboard Connector	5-pin DIN female, supports AT-style keyboard

RF Input

Input Coupling	DC coupled
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Tracking Generator

Tracking Generator Harmonic Distortion	<-30 dBc
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Inputs & Outputs

Probe Power Output	+15 Vdc and -12.6 Vdc (150 mA max)
External Reference Input Frequency	1, 2, 5, or 10 MHz (± 100 ppm)
External Reference Input Level	-5 dBm to +15 dBm
External Reference Input Impedance	50 Ω
External Trigger Input Level	TTL compatible (negative-going edge)
External Trigger Input Impedance	10 k Ω
External Reference Output Frequency	10 MHz
External Reference Output Level	> 0 dBm into 50 Ω
External Monitor Output	15-pin D-sub RGB, 60 Hz vertical refresh, 24 kHz horizontal refresh

Storage

Disk Drive Media Compatibility	3.5-inch double-sided, double-density (720 KB) or high-density (1.44 MB) flexible disks
Disk Drive File Formats	LIF, MS-DOS
Instrument State Storage	10 non-volatile registers

Connectivity

HP-IB Capability Codes	SH1, AH1, T6, TE0, L4, LE0, SR1, RL1, PP0, DC1, DT1, C0, E2
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Display

Trace Display Points	401 horizontal points
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Environmental

Operating Altitude Limit	Up to 4,572 m (15,000 ft)
Storage Altitude Limit	Up to 15,240 m (50,000 ft)

TECHNOLOGY

Swept-tuned & FFT (Narrowband Zoom)

APPLICATIONS

RF Spectrum Analysis, Scalar Network Analysis

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.