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Data Sheet
August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 8648A Synthesized RF Signal Generator, 100 kHz to 1000 MHz

HP Agilent 8648A Synthesized Signal Generator The HP/Agilent 8648A is an economical synthesized RF signal generator covering 100 kHz to 1000 MHz with 0.001 Hz settable resolution. OEM 8648A/B/C/D technical specifications detail AM/FM/phase modulation, optional high-stability timebase and modulation generator, SCPI HP-IB control, and 8656B/8657 code compatibility. Receiver and component testing to 1 GHz, semi-automated production stimulus, and general-purpose CW/modulated RF source applications in the VHF/UHF range. The HP/Agilent 8648A is an economical synthesized RF signal generator covering 100 kHz to 1000 MHz with 0.001 Hz settable resolution. OEM 8648A/B/C/D technical specifications detail AM/FM/phase modulation, optional high-stability timebase and modulation generator, SCPI HP-IB control, and 8656B/8657 code compatibility. Receiver and component testing to 1 GHz, semi-automated production stimulus, and general-purpose CW/modulated RF source applications in the VHF/UHF range. Optional 1E5 high-stability timebase and 1E2 modulation generator

MODEL **Agilent / Keysight 8648A**	CALIBRATION **Available on request**
CONDITION **Used**	STATUS **In stock**
RFQ / SKU **8648A**	LISTING **https://aumictechlabs.com/products/8648a-2/**

NIST-traceable cal · SAM registered · 30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 8648A is a synthesized RF signal generator delivering stable, accurate signal generation from 100 kHz to 1000 MHz. Built for manufacturing, research, and service environments, this instrument combines economic synthesis architecture with electronic attenuation to achieve superior level accuracy and measurement consistency.Technical Specifications Frequency Performance Range: 100 kHz to 1000 MHz Resolution: 0.001 Hz (display: 10 Hz) Carrier frequency accuracy: $\pm 3 \times 10^{-6}$ × carrier frequency, or $\pm 0.15 \times 10^{-6}$ with Option 1E5 Switching speed: <75 ms (below 1001 MHz); <100 ms (≥1001 MHz) Output Characteristics Power range: +10 dBm to −136 dBm Maximum leveled power: +13 dBm (≤100 MHz); +20 dBm (≤1000 MHz) Output impedance: 50 Ω nominal Level accuracy: ±1 dB typical (−127 dBm to maximum); ±3 dB below −127 dBm SWR: <1.5:1 (<2500 MHz); <2.5:1 (<249 kHz) Reverse power protection: 50 W into 50 Ω (≤2000 MHz) Spectral Purity Harmonics: <−30 dBc (output ≤+4 dBm) Subharmonics: <−60 dBc (<1001 MHz) Nonharmonics: <−55 dBc (<249 MHz); <−60 dBc (<1001 MHz) SSB phase noise @ 20 kHz offset: −120 dBc/Hz (500 MHz); −116 dBc/Hz (1000 MHz) Residual FM: <7 Hz (typical <4 Hz) for frequencies <1001 MHzKey Features Synthesized architecture with 0.001 Hz frequency resolution Electronic attenuator for precise level control across full dynamic range Fast frequency switching in <75 ms typical Low phase noise suitable for sensitive receiver testing AM modulation capability: 0% to 100% (internal rates at 400 Hz, 1 kHz, or 10 Hz–20 kHz with Option 1E2)Typical Applications RF component characterization and validation Receiver sensitivity and selectivity testing Manufacturing test and functional verification Service and maintenance of RF equipmentCompatibility & Integration Manufactured in ISO 9002 registered facilities. Nominally 50 Ω output matching supports direct connection to standard RF test setups.

8648A Characteristics / Specifications

PARAMETER	VALUE
Frequency Range	100 kHz to 1000 MHz
Frequency Resolution Settable	0.001 Hz
Frequency Display Resolution	10 Hz
Frequency Accuracy Typical	+/-3E-6 times carrier
Frequency Accuracy Option 1E5 Typical	+/-0.15E-6 times carrier
Output Range Class Family	+10 to -136 dBm class to 1000 MHz
Output Display Resolution	0.1 dB
Harmonics	less than -30 dBc (output <=+4 dBm)
AM Range	0 to 100% (output <=+4 dBm)
AM Resolution	0.1%
Internal Modulation Rates	400 Hz or 1 kHz
External Modulation Input	1 Vpk into 600 ohm nominal for full scale
Storage Registers	300
Storage Sequences	up to 10 sequences with 30 registers each
Power Requirements	90 to 264 V; 48 to 440 Hz; 170 VA max
Net Weight	8.5 kg (19 lb)
Dimensions	165 H x 330 W x 368 D mm
Operating Temperature	0 to 50 C
Output Impedance	nominally 50 ohms
Control Language	SCPI 1992.0 with 8656B/8657 compatibility
IEEE 488 Functions	SH1, AH1, T6, TE0, L4, LE0, SR1, RL1, PP0, DC1, DT0, C0, E2
Reverse Power Protection Class	50 W into 50 ohm class family note

8648A Specifications

PARAMETER	VALUE
HP Agilent 8648A Synthesized Signal Generator	Overview
Key Features	0.001 Hz frequency resolution
Optional 1EP pager signaling (8648A only)	SCPI plus 8656B/8657 code compatibility
Technical Specifications	Frequency Range: 100 kHz to 1000 MHz

General Specifications & Supplementary Characteristics

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Operating temperature	0 to 50 C
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IEEE 488 Functions	SH1, AH1, T6, TE0, L4, LE0, SR1, RL1, PP0, DC1, DT0, C0, E2
Reverse Power Protection Class	50 W into 50 ohm class family note Notes Specs from HP 8647A and 8648A/B/C/D Signal Generators technical specifications. 8648A starts at 100 kHz (not 9 kHz); Option 1EP is 8648A-only pager signaling.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

specifications detail AM/FM/phase modulation, optional high-stability timebase and modulation generator, SCPI HP-IB control, and 8656B/8657 code compatibility.

Applications
Receiver and component testing to 1 GHz, semi-automated production stimulus, and general-purpose CW/modulated RF source applications in the VHF/UHF range.

Key Features
0.001 Hz frequency resolution
Optional 1E5 high-stability timebase and 1E2 modulation generator
Optional 1EP pager signaling (8648A only)
SCPI plus 8656B/8657 code compatibility
300 storage registers in sequenced memory

Technical Specifications

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Notes

Specs from HP 8647A and 8648A/B/C/D Signal Generators technical specifications. 8648A starts at 100 kHz (not 9 kHz); Option 1EP is 8648A-only pager signaling.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: **sales@aumictech.com** · +1 (484) 841-9341

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