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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 8656A Synthesized Signal Generator, 0.1 to 990 MHz

HP Agilent Keysight 8656A Synthesized Signal Generator 100 kHz to 990 MHz The HP/Agilent 8656A is a synthesized signal generator covering 100 kHz to 990 MHz (10 kHz under-range) with leveled output from plus 13 to minus 127 dBm. OEM 8656A operating/service specifications list 100 Hz or 250 Hz resolution by band, AM and FM, and HP-IB programming of frequency, amplitude, and modulation. General-purpose RF receiver testing to 990 MHz, mixed AM/FM production tests, and HP-IB automated source benches. Synthesized 100 kHz to 990 MHz with 8-digit LED frequency display The HP/Agilent 8656A is a synthesized signal generator covering 100 kHz to 990 MHz (10 kHz under-range) with leveled output from plus 13 to minus 127 dBm. OEM 8656A operating/service specifications list 100 Hz or 250 Hz resolution by band, AM and FM, and HP-IB programming of frequency, amplitude, and modulation. General-purpose RF receiver testing to 990 MHz, mixed AM/FM production tests, and HP-IB automated source benches. Synthesized 100 kHz to 990 MHz with 8-digit LED frequency display Calibrated plus 13 to minus 127 dBm with 0.1 dB resolution



MODEL

**Agilent / Keysight
8656A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

8656A

LISTING

<https://aumictechlabs.com/products/8656a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 8656A is a synthesized signal generator delivering programmable RF signal generation from 0.1 MHz to 990 MHz with 10 Hz frequency resolution. This instrument combines precise amplitude control (0.1 dB resolution, +13 dBm to -127 dBm output range) with integrated modulation capabilities, supporting both AM and FM modes simultaneously or independently. Frequency switching completes in less than 35 ms to within 100 Hz of the carrier frequency, enabling rapid frequency-agile testing protocols. The architecture maintains level flatness of ≤ 1.0 dB across the operating frequency range at 0 dBm output, with absolute accuracy of ± 1.0 dB in the 123.5 MHz to 990 MHz band. AM modulation reaches 99% depth with $\leq 1.5\%$ distortion at frequencies ≥ 400 kHz and output levels $\leq +7$ dBm. FM capabilities span internal rates at 400 Hz and 1 kHz, plus external rates DC to 100 kHz, with harmonic and non-harmonic distortion 0.15 V into 50 Ω) selectable to 1, 5, or 10 MHz. Compact benchtop form factor (425 mm $\times$ 520 mm $\times$ 133 mm, 18.1 kg) accommodates lab and field deployment across operating temperatures 0°C to 55°C. Standard power requirements accept 100, 120, 220, or 240 Vrms ($\pm 5\%$, -10%) at 48–440 Hz with maximum consumption of 125 VA.

8656A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Synthesized RF signal generator
Series Family	HP Agilent 8656A/8656B/8657
Frequency Range	100 kHz to 990 MHz
Frequency Underrange	10 kHz to 990 MHz with uncalibrated output and modulation
Frequency Resolution	100 Hz or 250 Hz depending on carrier frequency
Frequency Display	8-digit LED in MHz
Output Level Range	plus 13 dBm to minus 127 dBm
Output Level Resolution	0.1 dB
Absolute Level Accuracy	less than or equal to plus or minus 1.5 dB from 100 kHz to 990 MHz
Level Flatness	less than or equal to plus or minus 1.0 dB at 0.0 dBm setting
Harmonics	less than minus 30 dBc at output less than plus 1 dBm
Nonharmonics	less than minus 60 dBc at offsets greater than 5 kHz in CW
Subharmonics	none
Residual AM	less than minus 70 dBc in 0.05 to 15 kHz post-detection BW
AM Depth Range	0 to 99 percent with 1 percent resolution
FM Peak Deviation	up to 99 kHz
FM Deviation Resolution below 10 kHz	100 Hz
FM Deviation Resolution at or above 10 kHz	1 kHz
Internal Modulation Tones	400 Hz or 1 kHz
Mixed Modulation	AM/FM, AM/AM, or FM/FM
External Doubler Coverage	to 1.8 GHz with external doubler
Internal Reference	50 MHz reference oscillator
External Reference Input	1, 5, or 10 MHz
Remote Interface	HP-IB
Line Frequency	48 to 66 Hz

PARAMETER	VALUE
Power Dissipation	125 VA maximum
Leakage	less than 1.0 uV induced inatwo-turn 2.5 cm loop 2.5 cm from the front surface
Interference Standards	MIL STD 461A CE03/RE02, VDE 0871, CISPR 11
Net Weight	18.1 kg (40 lb)
Dimensions	133 mmHby 425 mmWby 520 mmDOperating Temperature: 0 to 55 C class
Output Impedance	50 ohm
Amplitude Display	3.5-digit LED with unit annunciators
Operating temperature	0 to 55 C class

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 to 55 C class
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Output Impedance	50 ohm
Amplitude Display	3.5-digit LED with unit annunciators Notes Numeric rows from HP 8656A Operating and Service Manual specification tables (100 kHz to 990 MHz, plus 13 to minus 127 dBm). Residual FM band table in the manual lists less than 15 Hz class in 0.3 to 3 kHz post-detection BW on the lowest band; use the certificate for the exact banded residual FM limits.

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 list 100 Hz or 250 Hz resolution by band, AM and FM, and HP-IB programming of frequency, amplitude, and modulation.

Applications

General-purpose RF receiver testing to 990 MHz, mixed AM/FM production tests, and HP-IB automated source benches.

Key Features

Synthesized 100 kHz to 990 MHz with 8-digit LED frequency display

Calibrated plus 13 to minus 127 dBm with 0.1 dB resolution

Internal 400 Hz and 1 kHz tones plus mixed AM/FM

Optional 10 MHz crystal reference Option 001

Modular design with built-in service features

Technical Specifications

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FM Peak Deviation	up to 99 kHz
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FM Deviation Resolution at or above 10 kHz: 1 kHz

Specifications

PARAMETER	VALUE
Internal Modulation Tones	400 Hz or 1 kHz
Mixed Modulation	AM/FM, AM/AM, or FM/FM
External Doubler Coverage	to 1.8 GHz with external doubler
Internal Reference	50 MHz reference oscillator
External Reference Input	1, 5, or 10 MHz

Option 001: 10 MHz crystal reference

Specifications

PARAMETER	VALUE
Remote Interface	HP-IB
Line Frequency	48 to 66 Hz
Power Dissipation	125 VA maximum
Leakage	less than 1.0 uV induced in a two-turn 2.5 cm loop 2.5 cm from the front surface
Interference Standards	MIL STD 461A CE03/RE02, VDE 0871, CISPR 11
Net Weight	18.1 kg (40 lb)
Dimensions	133 mmH by 425 mmW by 520 mmD Operating Temperature: 0 to 55 C class
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Notes

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Ordering Information

OPTION	DESCRIPTION
Option 001	Modular design with built-in service features

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

Aumictech
788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.