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Data Sheet

August 13, 2026

KEYSIGHT / AGILENT / HP

Keysight / Agilent / HP 8648A-1E5-1EP Signal Generator

The Keysight 8648A is a synthesized signal generator offering excellent performance and reliability. It delivers signals from 100 kHz to 1 GHz, with precise frequency and amplitude control. Ideal for various RF testing applications, it features low noise and stable output.

**MODEL****Keysight / Agilent /
HP 8648A-1E5-1EP****CALIBRATION****Available on
request****CONDITION****Used****STATUS****In stock****RFQ / SKU****8648A-1E5-1EP****LISTING**[https://aumictechlabs.c
om/products/8648a-1e
5-1ep-2/](https://aumictechlabs.com/products/8648a-1e5-1ep-2/)

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight/Agilent/HP 8648A-1E5-1EP is a synthesized signal generator engineered for RF testing in high-volume manufacturing environments including cordless phones, pagers, and two-way radios. This model combines precise frequency and amplitude control with Option 1E5 high stability timebase and Option 1EP pager signaling capability for POCSAG, FLEX, and FLEX-TD format testing. Technical Specifications Frequency range: 100 kHz to 1 GHz Frequency resolution: 0.001 Hz steps with 10 Hz display resolution Frequency accuracy (standard): Typically $\pm 3 \times 10^{-6} \times$ carrier frequency (Hz) Frequency accuracy (Option 1E5): Typically $\pm 0.15 \times 10^{-6} \times$ carrier frequency (Hz) or $\pm 0.092 \times 10^{-6} \times$ carrier frequency (Hz) within 90 days of calibration Output power range: -136 dBm to +10 dBm (maximum +13 dBm) Power resolution: 0.1 dB Output accuracy: ± 1 dB (typical) Output impedance: 50 Ohm Frequency switching speed: <75 ms below 1001 MHz; <100

ms at 1001 MHz and above Harmonics (output $\leq +4$ dBm): $\leftarrow 30$ dBc Subharmonics (< 1001 MHz, output $\leq +4$ dBm): $\leftarrow 60$ dBc Phase noise (typical at 500 MHz): -120 dBc/Hz to -110 dBc/Hz single-sideband AM modulation accuracy: Typically $\pm 7\%$ of setting $\pm 1.5\%$ over 0°C to 50°C at $< 70\%$ depth DC FM accuracy: ± 500 Hz carrier frequency accuracy below 1001 MHz Key Features Modulation modes: AM, FM, and phase modulation Option 1E5 timebase: Aging $< \pm 0.1$ ppm/year and $< \pm 0.0005$ ppm/day; temperature stability $< \pm 0.01$ ppm (typical); line voltage stability $< \pm 0.1$ ppm (typical) Standard timebase: Aging $< \pm 2$ ppm/year; temperature stability $< \pm 1$ ppm; line voltage stability $< \pm 0.5$ ppm Pager encoder (Option 1EP): POCSAG, FLEX, and FLEX-TD signaling support Remote programming: GPIB (IEEE-488.2-1987) interface with Listen and Talk capabilities Typical Applications Cordless phone RF testing Pager and two-way radio manufacturing test Digital paging format validation (POCSAG, FLEX, FLEX-TD) Compatibility & Integration GPIB remote programming enables automated test system integration for high-volume production environments.

8648A1E51EP Characteristics / Specifications

PARAMETER	VALUE
Model	8648A
Manufacturer	Hewlett Packard / Agilent / Keysight
Instrument Type	Synthesized signal generator
Series	8648
Alias	8648A-1E5-1EP; HP 8648A
Frequency Range	100 kHz to 1000 MHz
Settable Resolution	0.001 Hz
Display Resolution	10 Hz
Accuracy Standard	typically plus/minus 3e-6 times carrier
Accuracy 1E	typically plus/minus 0.15e-6 times carrier
Accuracy 1E5 90 day	typically 0.092e-6 times carrier class
Switching Speed	typically less than 75 ms (less than 1001 MHz)
Output Level	plus 10 to -136 dBm class
Level Accuracy	plus/minus 1 dB class through 1 GHz
Timebase 1E5 Aging Year	less than plus/minus 0.1 ppm per year
Timebase 1E5 Aging Day	less than plus/minus 0.0005 ppm per day
Timebase Standard Aging	less than plus/minus 2 ppm per year
Timebase 1E5 Temp	less than plus/minus 0.01 ppm typical
Internal AM FM Tones	400 Hz or 1 kHz
Modulation Generator	10 Hz to 20 kHz (1E2 functions included in 1EP)
External FM DC	dc to 25 kHz typical 3 dB
POCSAG Speeds	512, 1200, 2400 bps
FLEX 2 Level	1600 and 3200 bps
FLEX 4 Level	3200 and 6400 bps
FSK Deviation Accuracy 1EP	plus/minus 60 Hz

PARAMETER	VALUE
Residual FM Class	4 Hz at 500 MHz
Remote	GPIB
RF Connector	BNC female class on 8648A
Operating Temperature	0 to 50 C after 30 min warm-up
Related 8648B	9 kHz to 2000 MHz
Related 8648C	9 kHz to 3200 MHz
Related 8648D	9 kHz to 4000 MHz
Not 1EA	high power is 8648B/C/D
Not 1E	pulse modulation is 8648B/C/D Notes Specs from HP/Agilent 8648A/B/C/D data sheet (100 kHz-1000 MHz, 1E5 timebase, 1EP pager). Confirm 1E5 and 1EP on the option label. Performance below 250 kHz is typical.

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 to 50 C after 30 min warm-up
Operating Temperature	0 to 50 C after 30 min warm-up
Related 8648B	9 kHz to 2000 MHz
Related 8648C	9 kHz to 3200 MHz
Related 8648D	9 kHz to 4000 MHz
Not 1EA	high power is 8648B/C/D
Not 1E	pulse modulation is 8648B/C/D Notes Specs from HP/Agilent 8648A/B/C/D data sheet (100 kHz-1000 MHz, 1E5 timebase, 1EP pager). Confirm 1E5 and 1EP on the option label. Performance below 250 kHz is typical.

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	
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PARAMETER	VALUE
Model	8648A
Manufacturer	Hewlett Packard / Agilent / Keysight
Instrument Type	Synthesized signal generator
Specifications	
PARAMETER	VALUE
Series	8648
Alias	8648A-1E5-1EP; HP 8648A
Frequency Range	100 kHz to 1000 MHz
Specifications	
PARAMETER	VALUE
Settable Resolution	0.001 Hz
Display Resolution	10 Hz
Accuracy Standard	typically plus/minus 3e-6 times carrier
Specifications	
PARAMETER	VALUE
Accuracy 1E5	typically plus/minus 0.15e-6 times carrier
Accuracy 1E5 90 day	typically 0.092e-6 times carrier class
Switching Speed	typically less than 75 ms (less than 1001 MHz)
Specifications	
PARAMETER	VALUE
Output Level	plus 10 to -136 dBm class
Level Accuracy	plus/minus 1 dB class through 1 GHz
Timebase 1E5 Aging Year	less than plus/minus 0.1 ppm per year

Specifications

PARAMETER	VALUE
Timebase 1E5 Aging Day	less than plus/minus 0.0005 ppm per day
Timebase Standard Aging	less than plus/minus 2 ppm per year
Timebase 1E5 Temp	less than plus/minus 0.01 ppm typical

Specifications

PARAMETER	VALUE
Internal AM FM Tones	400 Hz or 1 kHz
Modulation Generator	10 Hz to 20 kHz (1E2 functions included in 1EP)
External FM DC	dc to 25 kHz typical 3 dB

Option 1EP: POCSAG, FLEX, FLEX-TD pager encoder (8648A only)

Specifications

PARAMETER	VALUE
POCSAG Speeds	512, 1200, 2400 bps
FLEX 2 Level	1600 and 3200 bps
FLEX 4 Level	3200 and 6400 bps

Specifications

PARAMETER	VALUE
FSK Deviation Accuracy 1EP	plus/minus 60 Hz
Residual FM Class	4 Hz at 500 MHz
Remote	GPIO

Specifications

PARAMETER	VALUE
RF Connector	BNC female class on 8648A
Operating Temperature	0 to 50 C after 30 min warm-up
Related 8648B	9 kHz to 2000 MHz

Specifications

PARAMETER	VALUE
Related 8648C	9 kHz to 3200 MHz
Related 8648D	9 kHz to 4000 MHz

PARAMETER

VALUE

Not 1EA

high power is 8648B/C/D

Not 1E6: pulse modulation is 8648B/C/D

Notes

Specs from HP/Agilent 8648A/B/C/D data sheet (100 kHz-1000 MHz, 1E5 timebase, 1EP pager). Confirm 1E5 and 1EP on the option label. Performance below 250 kHz is typical.

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>

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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.