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Data Sheet

August 13, 2026

HP / AGILENT

HP / Agilent 83711A Synthesized CW generator, 1 to 20 GHz

HP 83711A Synthesized CW Generator 1 to 20 GHz The HP 83711A is a 1 to 20 GHz synthesized CW generator (A-series predecessor to 83711B). Fundamental oscillators and switched low-pass filters deliver harmonics less than -50 dBc (catalog also cites less than -55 dBc typical), no subharmonics, and spurious less than -60 dBc. Level resolution is 0.01 dB. Option 1E1 adds a 90 dB step attenuator; Option 1E8 provides 1 Hz resolution; Option 1E5 adds a high-stability timebase. CW LO and exciter applications 1 to 20 GHz; noise-figure source with 8970B; millimeter drive with 83550-series modules; field maintenance and ATE. The HP 83711A is a 1 to 20 GHz synthesized CW generator (A-series predecessor to 83711B). Fundamental oscillators and switched low-pass filters deliver harmonics less than -50 dBc (catalog also cites less than -55 dBc typical), no subharmonics, and spurious less than -60 dBc. Level resolution is 0.01 dB. Option 1E1 adds a 90 dB step attenuator; Option 1E8 provides 1 Hz resolution; Option 1E5 adds a high-stability timebase. CW LO and exciter applications 1 to 20 GHz; noise-figure source with 8970B; millimeter drive with 83550-series modules; field maintenance and ATE.



MODEL

**HP / Agilent
83711A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

83711A

LISTING

<https://aumictechlabs.com/products/83711a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The HP/Agilent 83711A is a synthesized CW generator delivering precise frequency control and stable output across 1 to 20 GHz. Purpose-built for RF and microwave testing, it functions as a local oscillator or exciter in laboratory and field environments. The instrument combines high signal purity with ample output power and dynamic range exceeding 100 dB, enabling accurate characterization of microwave components and systems.

Technical Specifications
Frequency range: 1 GHz to 20 GHz
Output power: Typically greater than +14 dBm across the operating band
Dynamic range: Greater than 100 dB
Harmonics: Less than -50 dBc or -55 dBc
Spurious suppression: Less than -60 dBc
Output power level resolution: 0.01 dB
Output power level accuracy: Typically ± 1.0 dB at any frequency or power level
MTBF: Over 20,000 hours

Key Features
HP-IB programmability with SCPI compatibility - all front panel functions remotely controllable
RF output via Type-N male connector (standard) or female APC-3.5 mm precision connector (Option 1E9)
Lightweight design suitable for field deployment and maintenance
Automated adjustment routines restore factory performance within six hours if drift occurs
Optional 110 dB output step attenuator (Option 1E1)

Typical Applications
Local oscillator and exciter for microwave test systems
Component characterization and system-level RF measurements
Integration with noise figure analyzers such as the HP 8970B

Compatibility & Integration
The 83711A operates with HP 83550 Series millimeter wave modules to extend signal generation capability to 110 GHz. Complete documentation includes user guides, programming references, calibration procedures, and service materials with troubleshooting and block diagram information.

Features & description

From manufacturer datasheet

Features

- Synthesized CW 1 to 20 GHz (use 83712A for 10 MHz start)
- Greater than 100 dB dynamic range with Option 1E1
- User level correction for remote test ports
- SCPI HP-IB programmable
- Two-year performance verification cycle recommended in literature

83711A Characteristics / Specifications

PARAMETER	VALUE
Model	83711A
Manufacturer	Hewlett Packard / Agilent / Keysight
Instrument Type	Synthesized CW generator
Family	83711A 83712A
Alias	HP 83711A; Agilent 83711A; Keysight 83711A
Frequency Range	1 GHz to 20 GHz
Frequency Resolution Standard	1 kHz
Frequency Resolution Option 1E	1 Hz
Max Leveled Power Option 1E1 1 To 18 GHz	+10 dBm
Max Leveled Power Option 1E1 18 To 20 GHz	+8 dBm
Typical Output Power	greater than +14 dBm
Display Power Resolution	0.01 dB
Power Accuracy	plus/minus 2 dB at any frequency power or temperature
Flatness	plus/minus 0.5 dB
Harmonics	less than -50 dBc
Subharmonics	none
Spurious	less than -60 dBc
SSB Phase Noise 500 MHz At 10 kHz Offset	-103 dBc/Hz
SSB Phase Noise 2 GHz At 10 kHz Offset	-91 dBc/Hz
SSB Phase Noise 18 GHz At 10 kHz Offset	-73 dBc/Hz
Dynamic Range With Option 1E	greater than 100 dB
Operating Temperature	0 C to +55 C
Size	426 mmWx 133 mmHx 498 mmDNet Weight: less than 16 kg (35 lb)
Mains	90-132 V 48-440 Hz; 198-264 V 48-66 Hz; 400 VA maximum

PARAMETER	VALUE
EMC	EN55011/CISPR 11 ClassAand MIL-STD-461C Part 2 RE02 CE03 CS02 RS03
Related 10 MHz Start Sibling	83712A
RelatedBSeries Successor	83711B
Related Signal Generator With Modulation	83731A/B

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 C to +55 C
Operating Temperature	0 C to +55 C
Size	426 mmWx 133 mmHx 498 mmDNet Weight: less than 16 kg (35 lb)
Mains	90-132 V 48-440 Hz; 198-264 V 48-66 Hz; 400 VA maximum
EMC	EN55011/CISPR 11 ClassAand MIL-STD-461C Part 2 RE02 CE03 CS02 RS03
Related 10 MHz Start Sibling	83712A
RelatedBSeries Successor	83711B
Related Signal Generator With Modulation	83731A/B Notes Specs from HP 83711A/83712A catalog page and Keysight-reproduced A-series datasheet extracts (5091-5152E referenced). Do not mix B-series leveled-power tables from 5963-6615E onto thisAunit without checking theAtechnical data sheet. Confirm Option 1E1/1E5/1E8.

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.

performance verification cycle recommended inAliterature

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Model	83711A
Manufacturer	Hewlett Packard / Agilent / Keysight
Instrument Type	Synthesized CW generator
Family	83711A 83712A
Alias	HP 83711A; Agilent 83711A; Keysight 83711A
Frequency Range	1 GHz to 20 GHz
Frequency Resolution Standard	1 kHz
Frequency Resolution Option 1E8	1 Hz

Max Levelled Power Option 1E1 1 To 18 GHz: +10 dBm
Max Levelled Power Option 1E1 18 To 20 GHz: +8 dBm

Specifications

PARAMETER	VALUE
Typical Output Power	greater than +14 dBm
Display Power Resolution	0.01 dB
Power Accuracy	plus/minus 2 dB at any frequency power or temperature
Flatness	plus/minus 0.5 dB
Harmonics	less than -50 dBc
Subharmonics	none
Spurious	less than -60 dBc

SSB Phase Noise 500 MHz At 10 kHz Offset: -103 dBc/Hz
SSB Phase Noise 2 GHz At 10 kHz Offset: -91 dBc/Hz
SSB Phase Noise 18 GHz At 10 kHz Offset: -73 dBc/Hz
Dynamic Range With Option 1E1: greater than 100 dB
Option 1E1: 90 dB output step attenuator
Option 1E5: high-stability timebase
Option 1E8: 1 Hz frequency resolution

Specifications

PARAMETER	VALUE
Operating Temperature	0 C to +55 C
Size	426 mmWx 133 mmHx 498 mmDNet Weight: less than 16 kg (35 lb)
Mains	90-132 V 48-440 Hz; 198-264 V 48-66 Hz; 400 VA maximum
EMC	EN55011/CISPR 11 ClassAand MIL-STD-461C Part 2 RE02 CE03 CS02 RS03
Related 10 MHz Start Sibling	83712A
RelatedBSeries Successor	83711B
Related Signal Generator With Modulation	83731A/B

Notes
Specs from HP 83711A/83712A catalog page and Keysight-reproduced A-series datasheet extracts (5091-5152E referenced). Do not mix B-series leveled-power tables from 5963-6615E onto thisAunit without checking theAtechnical data sheet. Confirm Option 1E1/1E5/1E8.

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 ·
30-day returns
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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.