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Data Sheet

August 13, 2026

ANRITSU

Anritsu 68165B Synthesized Sweep Generator, 0.5 to 40.0 GHz

Anritsu 68165B Synthesized Sweep Generator 0.5 to 40 GHz The Anritsu 68165B is a synthesized sweep generator covering 0.5 to 40 GHz in the 68100B family. It provides phase-locked CW plus analog and step sweeps with banded leveled power for network analysis and ATE through K-connector millimeter-wave bands. The Anritsu 68165B is a synthesized sweep generator covering 0.5 to 40 GHz in the 68100B family. It provides phase-locked CW plus analog and step sweeps with banded leveled power for network analysis and ATE through K-connector millimeter-wave bands.



MODEL

Anritsu 68165B

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

68165B

LISTING

<https://aumictechlabs.com/products/68165b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Anritsu 68165B is a microprocessor-controlled synthesized sweep generator delivering precision microwave signal generation across 0.5 to 40.0 GHz. It produces discrete CW frequencies and full-range or narrow-band sweeps with both analog and step-sweep capability, supporting dwell times from 1 ms to 99 seconds and switching times below 15 ms + 1 ms/GHz. The instrument integrates AM, FM, phase modulation, and pulse modulation - including doublet, triplet, and quadruplet pulse modes for radar testing - with seven internal waveforms plus user-defined arbitrary waveforms. Simultaneous synchronized modulations handle complex signal

scenarios. Phase noise reaches -100 dBc at 10 kHz offset from 10 GHz. Output reaches $+17$ dBm. Front-panel or GPIB/IEEE-488 remote control enables local operation or integration into automated test systems. Step agility supports up to 1,000 non-sequential stored frequencies, and the optional AM SCAN modulator provides 60 dB modulation depth.

Technical Specifications

Frequency Range: 0.5 GHz to 40.0 GHz Output Level: Up to $+17$ dBm Phase Noise: -100 dBc at 10 kHz offset from 10 GHz (example) Sweep Modes: Broad-band, narrow-band, analog, and step sweep (1 to 10,000 steps); step size 1 kHz to full range (0.1 Hz with Option 11); dwell 1 ms to 99 seconds Switching Time: <15 ms + 1 ms/GHz or <40 ms maximum (typical) Modulation: AM, FM, phase modulation (optional, to 400 radians at 1 MHz), pulse (internal/external), with 7 internal waveforms and arbitrary capabilities Frequency Agility: 1,000 stored non-sequential frequencies

Key Features

- Dual-range sweep with alternating mode capability and independent power-level assignment
- Pulse modulation for radar blind-spot testing: doublet, triplet, quadruplet configurations
- Simultaneous synchronized modulations for complex signal synthesis
- Manual sweep mode with phase-locked frequency stepping
- TTL end-of-sweep signaling and auxiliary I/O

Compatibility & Integration

IEEE-488 GPIB remote control Operation manuals available for the 681XXB series

Features & description

From manufacturer datasheet

Features

• Frequency coverage 0.5 to 40 GHz • Synthesized sweep with high resolution phase lock • Standard 1 kHz resolution; Option 11 for 0.1 Hz • Banded leveled power per 6XX65 tables • Optional Option 15 high power and Option 16 oven • IEEE-488 GPIB remote programming

Applications

• Analog and step sweep stimulus 0.5 to 40 GHz • Scalar network analyzer and component sweep testing • ATE microwave source with GPIB automation • LO substitution with sweep capability in this band

High power Option 15 greater than 20 to 40 GHz: plus 6 dBm

Output power resolution: 0.01 dB Internal time base aging: less than 2×10^{-8} /day Internal time base aging Option 16: less than 5×10^{-10} /day SSB phase noise 68XXXB at 20 GHz 10 kHz offset: -78 dBc/Hz SSB phase noise 68XXXB at 40 GHz 10 kHz offset: -72 dBc/Hz Harmonics family typical: -50 to -60 dBc by band Nonharmonic spurious typical: -60 dBc Sweep modes: analog and step sweep Remote control: IEEE 488 GPIB Dimensions: about 5.25 inHx 16.875 inWx 23.5 inD Weight: about 50 lb Related CW model: 68065B Related signal generator: 68265B Related sweep signal model: 68365B Related ultra low noise sweep: 69165A RF connector class: TypeKfemale for models to 40 GHz Notes Power rows from Anritsu 68000B/69000A datasheet 6XX65 tables for 68165B (0.5–40 GHz). Confirm Option 15/16 and RF connector on the unit.

68165B Characteristics / Specifications

PARAMETER	VALUE
Model	68165B
Manufacturer	Anritsu / Wiltron
Instrument Type	Synthesized Sweep Generator
Alias	68165B; Anritsu 68165B
Frequency range	0.5 GHz to 40 GHz
Family	68100B Synthesized Sweep Generators
CW frequency resolution standard	1 kHz
CW frequency resolution Option	0.1 Hz
Leveled output 0.5 to 2.2 GHz	plus 13 dBm
Leveled output greater than 2.2 to 20 GHz	plus 9 dBm
Leveled output greater than 20 to 40 GHz	plus 6 dBm
Leveled with step attenuator 0.5 to 2.2 GHz	plus 11 dBm
Leveled with step attenuator greater than 2.2 to 20 GHz	plus 7 dBm
Leveled with step attenuator greater than 20 to 40 GHz	plus 3 dBm
High power Option 15 0.5 to 20 GHz	plus 13 dBm
High power Option 15 greater than 20 to 40 GHz	plus 6 dBm
Output power resolution	0.01 dB
Internal time base aging	less than 2×10^{-8} /day
Internal time base aging Option	less than 5×10^{-10} /day
SSB phase noise 68XXXB at 20 GHz 10 kHz offset	-78 dBc/Hz
SSB phase noise 68XXXB at 40 GHz 10 kHz offset	-72 dBc/Hz

PARAMETER	VALUE
Harmonics family typical	-50 to -60 dBc by band
Nonharmonic spurious typical	-60 dBc
Sweep modes	analog and step sweep
Remote control	IEEE 488 GPIB
Dimensions	about 5.25 inHx 16.875 inWx 23.5 inDWeight: about 50 lb
Related CW model	68065B
Related signal generator	68265B
Related sweep signal model	68365B
Related ultra low noise sweep	69165A
RF connector class	TypeKfemale for models to 40 GHz Notes Power rows from Anritsu 68000B/69000A datasheet 6XX65 tables for 68165B (0.5–40 GHz). Confirm Option 15/16 and RF connector on the unit.

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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Dimensions	about 5.25 in H x 16.875 in W x 23.5 in D
Weight	about 50 lb
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Related signal generator	68265B
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Instrument Type	Synthesized Sweep Generator
Alias	68165B; Anritsu 68165B
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Family	68100B Synthesized Sweep Generators
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CW frequency resolution Option 11	0.1 Hz
Leveled output 0.5 to 2.2 GHz	plus 13 dBm
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Leveled with step attenuator 0.5 to 2.2 GHz: plus 11 dBm	
Leveled with step attenuator greater than 2.2 to 20 GHz: plus 7 dBm	
Leveled with step attenuator greater than 20 to 40 GHz: plus 3 dBm	

High power Option 15 0.5 to 20 GHz: plus 13 dBm
High power Option 15 greater than 20 to 40 GHz: plus 6 dBm

Specifications

PARAMETER	VALUE
Output power resolution	0.01 dB
Internal time base aging	less than 2 x 10 ⁻⁸ /day
Internal time base aging Option 16	less than 5 x 10 ⁻¹⁰ /day

SSB phase noise 68XXXB at 20 GHz 10 kHz offset: -78 dBc/Hz
SSB phase noise 68XXXB at 40 GHz 10 kHz offset: -72 dBc/Hz

Specifications

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Harmonics family typical	-50 to -60 dBc by band
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Sweep modes	analog and step sweep
Remote control	IEEE 488 GPIB
Dimensions	about 5.25 inHx 16.875 inWx 23.5 inDWeight: about 50 lb
Related CW model	68065B
Related signal generator	68265B
Related sweep signal model	68365B
Related ultra low noise sweep	69165A
RF connector class	TypeKfemale for models to 40 GHz

Notes
Power rows from Anritsu 68000B/69000A datasheet 6XX65 tables for 68165B (0.5–40 GHz). Confirm Option 15/16 and RF connector on the unit.

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

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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.