

Quick Fact Sheet

Rubidium™ MG362x1A

Low Noise RF/Microwave Signal Generator

9 kHz to 20/43.5/70 GHz

Anritsu
Advancing beyond

Signal purity and frequency stability are essential distinguishing characteristics of a high frequency microwave signal generator. The Rubidium MG362x1A signal generator product line is built to deliver outstanding signal purity and frequency stability across a broad frequency range of 9 kHz to 70 GHz. The Rubidium MG362x1A delivers best in class output power even at high frequencies up to 70 GHz and beyond. With availability of industry standard interfaces and drivers for remote programming, Rubidium offers exceptional overall utility and value to users.

The Rubidium MG362x1A standard phase noise outperforms competition by a substantial margin. Two additional tiers of phase noise performance on top of the standard phase noise performance are offered as options:

- The low phase noise option (Option 3) delivers improved close in phase noise along with better frequency stability.
- The ultra low phase noise option (Option 13) provides improved phase noise at higher offsets.

For CW only applications between 2 GHz to 20 GHz, Rubidium provides an even lower phase noise than the ultra low phase noise option, allowing for another 3 dB improvement on a separate RF output port at the back panel.

All Rubidium MG362x1A standard models offer industry's highest output power outperforming nearest competition by 2 to 4 dB. Most signal generators in the market would be compelled to add a high power option in order to match Rubidium's standard output power, resulting in additional cost for users. Hence Rubidium standard output power offers the best value to its users compared to competition.

For users who require higher output power, Rubidium offers a High Power Option (Option 15) which offers 2 to 4 dB higher power than any competitor. Higher output power is very helpful at microwave frequencies because it can overcome higher cable losses without any need for external amplifier.

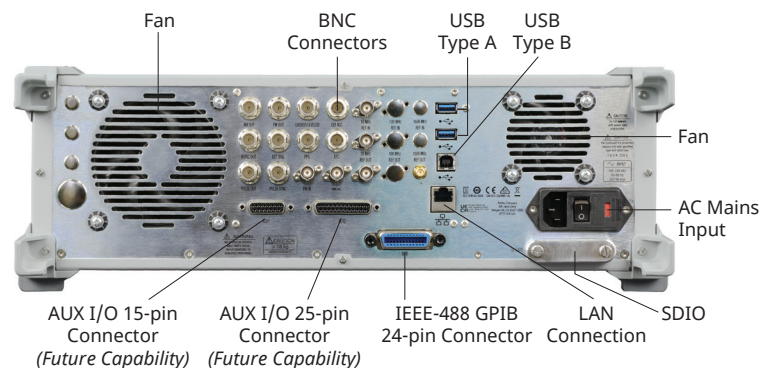
The low noise RF/microwave signal generator Rubidium MG362x1A offers atomic clock frequency stability with an internal rubidium frequency reference option. The exceptional frequency stability coupled with low phase noise performance makes the Rubidium MG362x1A the ideal choice for many metrology applications.

The Rubidium MG362x1A modulation capabilities include amplitude, frequency, phase, and pulse modulation to address simple to complex signal simulation requirements. It offers very comprehensive pulse generation capabilities including a pulse train generator to test pulsed radar systems. It also features an arbitrary wave form generator which enables customers to generate user defined waveforms for modulation.

The Rubidium MG362x1A is housed in a 3U chassis with a 7-inch touch screen on the front panel and traditional keypad/dial interface. The Rubidium MG362x1A offers a high degree of configurability through a wide range of options to achieve optimum cost to function tradeoffs for the customers.

Key Benefits

- Broad frequency coverage from 9 kHz to 70 GHz, Operable to 72 GHz
- Industry leading phase noise and spurious performance over full frequency range
- Best in class output power even at high frequencies up to 70 GHz and beyond
- Atomic clock frequency stability with optional internal Rubidium frequency reference
- Pulse Radar signal simulation with comprehensive pulse generation capability including pulse train



Rubidium MG362x1A Signal Generator Back Panel

Quick Fact Sheet

Rubidium™ MG362x1A

Low Noise RF/Microwave Signal Generator

9 kHz to 20/43.5/70 GHz



Key Specifications

Performance	
Frequency Range	9 kHz to 20/43.5/70 GHz
Frequency Resolution	0.001 Hz
SSB Phase Noise	-136 dBc/Hz (typical) and -140 dBc/Hz (measured) at 10 GHz Output, 10 kHz Offset
Harmonics	(20/43.5/70 GHz) -55 dBc
Non-Harmonics	(20/43.5/70 GHz) -63 dBc
Internal Time Base Stability – Aging	< $\pm 2 \times 10^{-8}$ per Year with Option 3
Leveled Output Power	Up to +30 dBm
Pulse Modulation	Rise/Fall Times 5 ns (typical)
Output Power	-130 dBm to +20 dBm (20 GHz standard output) -130 dBm to +16 dBm (43.5 GHz, standard output) -100 dBm to +6 dBm (70 GHz, standard output)
Power Sweep Resolution	0.01 dB/Step

Key Features

Feature	
Modulation	AM, FM, PM, Leveled Pulse, Pulse Train
LF Signal Generator Waveforms	Sine, Square, Pulse, Triangle, Ramp, GN/UN Noise
Frequency Sweep Modes	Step, List
Frequency Sweep Width	9 kHz to Full Frequency Range (step, list)
Power Sweep	Step, List

Rack Mount Options

Option No	Description
MG362x1A-0001	Rack Mount with Slides
MG362x1A-0011	Rack Mount without Slides (shelf mount)

Security Options

Option No	Description
MG362x1A-0037	Removable SDIO Memory

Instrument Options

Option Number	Description
MG362x1A-0001	Option 1, Rack Mount with Slides (cannot be ordered with Option 11)
MG362x1A-0002	Option 2, Mechanical Step Attenuator, 110 dB
MG362x1A-0003	Option 3, Low Phase Noise and High Stability
MG362x1A-0006*	Option 6, Analog Sweep, Frequency
MG362x1A-0009*	Option 9, Rear Panel K(m)-Connector RF Output
MG362x1A-0010	Option 10, User Defined Modulation (always requires Option 27. Also requires Option 26 and Option 12 when ordering without Option 15. When ordering with Option 15, requires Option 45 and Option 12)
MG362x1A-0011	Option 11, Rack Mount without Slides (shelf mount)
MG362x1A-0012	Option 12, Amplitude, Frequency, and Phase Modulation, Internal/External (requires Option 27)
MG362x1A-0013	Option 13, Ultra Low Phase Noise (requires Option 3)
MG362x1A-0015	Option 15, High Power Output (cannot be ordered with Option 26. Choose Option 45 when ordering with option 26)
MG362x1A-0016	Option 16, Analog Power Sweep
MG362x1A-0017	Option 17, Delete Front Panel (requires Option 1 or 11. Cannot be ordered with Option 29)
MG362x1A-0018*	Option 18, On-site User Level Calibration (requires accessory kit 2000-2166-R, and MA24330A or MA24350A USB power sensor, each sold separately)
MG362x1A-0023	Option 23, Premium Phase Noise, CW (requires Option 3 and 13)
MG362x1A-0025	Option 25, Pulse Train Modulation (always requires Option 27. Also requires Option 26, or when ordered with Option 15, requires Option 45)
MG362x1A-0026	Option 26, Pulse Modulation, Internal/External (always requires Option 27. When ordered with Option 15, choose Option 45 instead of 26)
MG362x1A-0027	Option 27, Modulation Hardware (requires at least one of Option 12 and/or Option 26, or Option 45)
MG362x1A-0029	Option 29, Front Panel Modulation Input Output Access (always requires Option 27. Requires either Option 12 and/or Option 26. Cannot order with Option 17. When ordered with Option 15, requires Option 45 and/or Option 12.)
MG362x1A-0030	Option 30, 600 Ω External AM/FM Input Impedance (requires Option 12 and 27)
MG362x1A-0033	Option 33, Phase Noise, Export Option (cannot be ordered with Options 3, 13, 23, and 56)
MG362x1A-0037	Option 37, Removable SDIO Memory
MG362x1A-0045	Option 45, High Power Pulse Modulation (requires Option 27, cannot be ordered with Option 15 or Option 17)
MG362x1A-0056	Option 56, Ultra Stability Time Base (requires Option 3 or 13)
MG362x1A-0066	Option 66, GNSS Atomic Clock Receiver (requires Option 3 or 13)
MG362x1A-0082*	K(f)-Connector
MG362x1A-0097	Accredited Calibration to ISO17025 and ANSI/NCSL Z540-1, Includes Calibration Certificate, Test Report, and Uncertainty Data
MG362x1A-0098	Standard Calibration to ISO17025 and ANSI/NCSL Z540-1, Includes Calibration Certificate
MG362x1A-0099	Premium Calibration to ISO17025 and ANSI/NCSL Z540-1, Includes Calibration Certificate, Test Report, and Uncertainty Data

* MG36271A model excluded

**Does not apply to 70 GHz model