

ANRITSU

MG3694C

The Anritsu MG3694C is a high-performance microwave signal generator from the MG3690C series, covering a standard frequency range of 2 GHz to 40 GHz, with low-end extensions available down to 0.1 Hz. Designed for demanding applications like LO substitution, clock generation, radar simulation, and complex signal emulation, the MG3694C offers industry-leading phase noise performance with options like Ultra Low (Option 3) and Premium (Option 3X) phase noise. It features powerful analog modulation, 5 ms switching speeds, and highly configurable output power stages.

SPECIFICATIONS

Frequency

Minimum Frequency	2 GHz (optionally extendable to 0.1 Hz or 10 MHz) Hz
Maximum Frequency	40 GHz Hz
Frequency Resolution	0.01 Hz

Output

Maximum Output Power	+13 dBm standard (+19 dBm with Option 15) dBm
Output Power Range	+13 dBm to -15 dBm standard (leveled), extendable down to -120 dBm with Option 2 Step Attenuator
Phase Noise	-115 dBc/Hz typical at 10 kHz offset, 10 GHz carrier (Option 3) / -121 dBc/Hz typical (Option 3X)

Modulation

Modulation	AM, FM, Phase, Pulse require Option 28; External I/Q modulation via IF input requires Option 7
Sweep Modes	Analog Sweep, Step Sweep, List Sweep
Pulse Generator PRF Range	0.1 Hz to 10 MHz
Pulse Generator Pulse Width Range	25 ns to 167 ms
Pulse Generator Delay Range	30 ns to 167 ms
External AM Input Sensitivity	1 Vp-p for 100% depth (Linear) or 1 dB/V (Log)

General

Reference Oscillator	Internal 10 MHz reference
Interfaces	GPIB (IEEE-488.2), LAN (10/100 Base-T)
Display	Liquid Crystal Display (LCD) with backlighting
Warm-up Time	1 hour (typical) to meet full specifications

Physical

Power Supply	90 VAC to 264 VAC, 47 Hz to 63 Hz
Dimensions (W×H×D)	426 mm x 133 mm x 591 mm mm
Weight	18 kg kg

Frequency Specifications

Internal Reference Aging Rate	± 2.0 x 10 ⁻⁸ per day standard, ± 5.0 x 10 ⁻¹⁰ per day with Option 16
External Reference Input Frequency	10 MHz (± 10 Hz)
External Reference Input Amplitude	0.5 Vp-p to 2 Vp-p, 50 Ω impedance

Amplitude Specifications

Amplitude Resolution	0.01 dB
Amplitude Accuracy	± 1.0 dB typical
Output Impedance	50 Ω nominal

Spectral Purity

Harmonics	<-30 dBc at ≤ 20 GHz, <-20 dBc at > 20 GHz to 40 GHz
Non-Harmonics (Spurious)	<-60 dBc
Sub-Harmonics	<-60 dBc

Analog Modulation

Pulse Modulation On/Off Ratio	> 80 dB
Pulse Modulation Minimum Pulse Width	100 ns leveled, 10 ns unleveled
Pulse Modulation Pulse Resolution	10 ns
Pulse Generator Modes	Single, doublet, triplet, quadruplet pulse generation
AM Depth Range	0% to 90% (linear)

System Connectivity and Interfaces

RF Output Connector Type	K (female), compatible with 3.5mm and SMA
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Physical and Environmental Specifications

Operating Temperature Range	0 °C to 50 °C
Storage Temperature Range	-40 °C to +75 °C
Rack Unit (RU) Height	3U

Power Requirements

Power Consumption	250 VA maximum
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Hardware and Software Options

Low Frequency Extension Options	Option 4 (extends minimum frequency to 10 MHz) / Option 5 (extends minimum frequency to 0.1 Hz)
Step Attenuator Option	Option 2 (adds 110 dB step attenuator)
High Power Option	Option 15 (increases maximum leveled power)
Ultra-Low Phase Noise Option	Option 3
Premium Phase Noise Option	Option 3X
High Stability Reference Option	Option 16 (high stability ovenized reference oscillator)
IF Up-conversion Option	Option 7 (adds rear panel input for I/Q modulation)

Pulse Modulation

Pulse Rise and Fall Time	< 10 ns (3 ns typical)
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Frequency Modulation

FM Modulation Rate	DC to 10 MHz (External, AC/DC coupled); 0.1 Hz to 1 MHz (Internal)
FM Maximum Deviation	Up to 40 MHz (carrier dependent, up to 400 MHz with Option 10)

Phase Modulation

PM Modulation Rate	DC to 1 MHz (External); 0.1 Hz to 1 MHz (Internal)
PM Maximum Deviation	Up to 1600 rad (carrier dependent)

Internal LF Generator

Internal Modulation Waveforms	Sine, Square, Triangle, Ramp, Noise
Internal LF Generator Frequency Range	0.1 Hz to 1 MHz (Sine); 0.1 Hz to 100 kHz (Square, Triangle, Ramp)

Programming & Emulation

Emulations	SCPI, HP 8340/41, HP 836xx, HP 8673, Wilttron 6700B
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Environmental

Operating Altitude	Up to 4,600 m
Operating Humidity	5% to 95% RH (non-condensing)

RF Output

RF Output SWR	< 2.0 typical (2 GHz to 40 GHz)
Reverse Power Protection	30 dBm (1 W) maximum from a 50 ohm source

Sweep

Number of Sweep Markers	20
Number of Sweep Steps	1 to 10,000 (step sweep)
Analog Sweep Dwell Time Range	30 ms to 99 s (Sweep Time)
Step Sweep Dwell Time Range	1 ms to 99 s per step

Inputs & Outputs

External Reference Output Frequency	10 MHz
External Reference Output Amplitude	1 Vp-p into 50 ohms nominal
Aux I/O Connector	25-pin D-sub, female
GPIO Connector	24-pin female, IEEE-488.2
Ethernet Connector	RJ-45, 10/100 Base-T
Serial Connector	9-pin D-sub, male, RS-232

TECHNOLOGY

Synthesized Microwave Signal Generator

APPLICATIONS

LO substitution, clock generation, radar emulation, RF and microwave device characterization

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.