

Standard Signal Generators

SG-5000 SERIES

150MHz FM stereo/FM/AM Standard signal generator

SG-5150

150MHz FM/AM Standard signal generator

SG-5155

OUTLINE

The SG-5150 is a programmable FM stereo/FM/AM standard signal generator integrating an RF signal generator with continuous coverage in the range from 100 kHz to 150 MHz & a stereo signal generator. This is the ideal choice for production line quality control and the servicing of products, including not only FM/AM radio and FM stereo tuners, but cordless telephones as well. All operations can be remotely controlled by using the optional remote controller or the GP-IB (factory option), which also allows improved efficiency in the design and production departments. The SG-5155 is a FM standard signal generator integrating an RF signal generator with continuous coverage in the range from 100 kHz to 150 MHz.

GP-IB
OPTION



SG-5000 SERIES**FEATURES**

The RF signal is generated with high precision by a highly stable PLL synthesizer technique.

The output level can be set in the range from -20dB μ to 100dB μ in 1dB μ steps by a high-accuracy attenuator.

The STO and RCL keys can be used to store and recall the programmed values.

The frequency is shown on a 7-digit LED display. It is not only continuously variable but an arbitrary digit can be varied by aligning the cursor. In addition, a ΔF display is provided.

The stereo modulation has excellent distortion figures, S/N ratios and separation characteristics. A preset key enables the setting of the modulation depth to 30% or 100% (SG-5150 only).

The storage and recall of up to 100 front panel setting conditions are possible. By using the optional RT-150 Remote Controller, it is possible to remotely control all operations.

Compatibility with the GP-IB (factory option) enables automated measurements.

PROGRAMMABLE FM/AM STANDARD SIGNAL GENERATORS

SPECIFICATIONS

Model		SG-5150
Frequency	Range	100kHz ~ 150MHz
	Display	7-digit LED display
	Resolution	100Hz (below 34.999MHz) 1kHz (35MHz and above)
	Δf Direct display	$\pm 0.9999\text{MHz}$ (below 34.999MHz) $\pm 0.999\text{MHz}$ (35MHz and above)
	Accuracy	$\pm 5 \times 10^{-5}$
Output	Level range	- 20dB μ to 100dB μ (open circuit)
	Display	3-digit LED display
	Resolution	1dB
	Level accuracy	$\pm 1\text{dB}$ (at 100dB μ)
	Attenuator accuracy	$\pm 1\text{dB}$ (0 to 100dB μ) $\pm 2\text{dB}$ (- 20dB μ to 0dB μ)
	Output impedance	50 Ω (VSWR1.2 max.)
	Spurious output	- 30dB max. (at 100dB μ)
	Residual modulation (S/N)	FM 70dB or better AM 50dB or better
Modulation	Internal modulation frequency	400Hz, 1kHz $\pm 3\%$
	Display	3-digit LED display
	External modulation	Input impedance
Input voltage		Approx. 3Vp-p
FM	Range	0 to 100kHz
	Resolution	0.1kHz
	Distortion	0.05% max. (at 75kHz modulation) AF1kHz, RF10.7MHz and 76MHz to 110MHz
	External modulation Frequency response	20Hz to 100kHz $\pm 1\text{dB}$ RF10.7MHz and 76MHz to 150MHz
FM stereo	Separation	Approx. 55dB(400Hz to 1kHz)
	External modulation Frequency response	50Hz to 15kHz $\pm 1\text{dB}$ RF10.7MHz and 76MHz to 150MHz
	Pilot frequency	19kHz $\pm 2\text{Hz}$
AM	Range	0 to 60%
	Resolution	0.1%
	Distortion	0.5% max. (30% modulation, AF : 1kHz) RF 500kHz to 34.999MHz
Memory function	Sequence presets	100 points
	Output presets	4 points
	Modulation presets	FM modulation 3.5kHz, 22.5kHz, 75kHz
		Stereo modulation 30%, 100%
AM modulation 30%		
Remote control connector	Sequence memory address, frequency, output level, modulation	
GP-IB	Factory option (conforms to IEEE-488-1978):listener/talker, local, remote, and device clear functions	
Power requirements	100/115/215/230V AC, 50/60Hz, approx. 28W	
Case dimensions	430 (W) \times 100 (H) \times 380 (D) mm	
Weight	Approx. 9.2kg	
Accessories	Instruction manual (1), cable (1), power cord (1)	
Options	RT-150, LU-100 loop antenna and GP-IB interface (factory option)	

SG-5000 SERIES

SG-5155	
	100kHz to 150MHz
	7-digit LED display
	100Hz (below 34.999MHz) 1kHz (35MHz and above)
	$\pm 0.9999\text{MHz}$ (below 34.999MHz) $\pm 0.999\text{MHz}$ (35MHz and above)
	$\pm 5 \times 10^{-6}$
	- 20dB μ to 100dB μ (open circuit)
	3-digit LED display
	0.1dB
	$\pm 1\text{dB}$ (at 100dB μ)
	$\pm 1\text{dB}$ (0 to 100dB μ) $\pm 2\text{dB}$ (- 20dB μ to 0dB μ)
	50 Ω (VSWR1.2 max.)
	- 30dB max. (at 100dB μ)
	FM 70dB or better AM 50dB or better
	400Hz, 1kHz $\pm 3\%$
	3-digit LED display
	Approx. 10k Ω
	Approx. 3Vp-p
	0 to 100kHz
	0.1kHz
	0.06% max. (at 75kHz modulation) AF1kHz, RF10.7MHz and 76MHz to 110MHz
	20Hz to 100kHz $\pm 1\text{dB}$ RF10.7MHz and 76MHz to 150MHz
	-
	-
	-
	0 to 60%
	0.1%
	0.5% max. (30% modulation, AF : 1kHz) RF 200kHz to 30MHz
	100 points
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	FM modulation 3.5kHz, 22.5kHz, 75kHz
	Stereo modulation 30%, 100%
	AM modulation 30%
	Sequence memory address, frequency, output level, modulation
	Factory option (conforms to IEEE-488-1978): listener/talker, local, remote, and device clear functions
	100/120/220/230V AC, 50/60Hz , approx. 42VA
	427 (W) \times 100 (H) \times 282 (D) mm
	Approx. 8.5kg
	Instruction manual (1), cable (1), power cord (1)
	RT-150, LU-100 loop antenna and GP-IB interface (factory option)