SIGNAL AM/FM STEREO SIGNAL GENERATOR

Cost-effective, high stable, 170 MHz wide band

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LG 3236 (S1 version) AM/FM STEREO SIGNAL GENERATOR

GENERAL

The LG 3236(S1 version) Synthesized Standard Signal Generator covers a wide frequency range of 100 kHz to 170 MHz and provides FM/AM modulation capability. The high-accuracy crystal-controlled reference oscillator ensures highly stable RF frequency of $\pm 5 \times 10^{-6}$ (5 ppm).

The solid-state step attenuator is used for the RF output system to extend service life (because there is no mechanical contact), and is suited to frequent changes in output level such as in automatic production and inspection applications.

For modulation functions, the LG 3236(S1 version) is equipped with a high-quality stereo FM modulator. The AM modulator supports up to 100 %. In addition, the LG 3236(S1 version) is equipped with a simultaneous AM/ FM modulation function (2 Audio Frequency systems) and a DDS AF oscillator that covers a frequency range of 20 Hz to 20 kHz.

FM stereo modulator and simultaneous FM/AM modulation capability is equipped.

FEATURES

- Oscillation frequency is locked to a high-accuracy reference oscillator to ensure accuracy of ±5 x 10⁻⁶ (5 ppm).
- The solid-state step attenuator is used for the RF output system to extend service life (because there is no mechanical contact), and is suited to frequent changes in output level such as in automatic production and inspection applications.
- The RF frequency covers a wide range of 100 kHz to 170 MHz.

- The output level can be set in the range of -20 dBµ to 126 dBµ (0 dBµ = 1 µV, 50 Ω into open circuit) in 0.1 dB steps.
- Equipped with a simultaneous AM/FM modulation function.
- Two systems of low-distortion, fixed oscillators are provided as AF oscillators, and the AM/FM and the L and R of FM stereo can be set to different frequencies.
- The variable DDS oscillator is provided allowing arbitrary AF frequencies to be specified in 1-Hz resolution.
- The FM modulation supports up to 200 kHz and AM modulation up to 100 %.

In addition, a wide bandwidth of external modulation up to 100 kHz is supported for both FM and AM.

- FM stereo modulator is equipped.
- Since the GPIB interface is provided as standard, this instrument can be incorporated into a GPIB measurement system.
- The numeric keys are used for setting the frequency, output level, and modulation factor.
- Up to 100 preset conditions consisting of frequency, output level, and modulation can be stored to internal memory.
- All front panel switches (except power switch) can be remotely controlled via the 24-pin connector on the rear panel.
- An SCA input connector and a PILOT output connector are provided for connecting instruments such as an external FM multiple signal generator. (S1 version)

SPECIFICATIONS LG 3236 (S1 version)

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Fraguanay	
Frequency	
Range:	100 kHz to 170 MHz
Resolution:	100 Hz (100 kHz to 39.9999 MHz)
	1 kHz (40 MHz to 170 MHz)
Cotting	Tan key and digit colort key and retary
Setting:	
	knob
Accuracy:	±5 X 10 ⁻⁶ (≥ 500 kHz)
2	$+(5 \times 10^{-6} + 1 \text{ digit}) (< 500 \text{ kHz})$
Display	
Display:	6 algits
Output Level	
Range:	-20 dBµ to 126 dBµ
	(0 dB μ = 1 μ V, 50 Ω into open circuit)
Resolution:	0.1 dB
Setting:	Ten-key had digit-select key and rotary
Getting.	luse la
	KNOD
Output Level Accuracy:	± 1 dB (output ≥ 0 dBµ)
	± 1.5 dB (output < 0 dBμ)
Impedance:	50 0 VSWB < 1.4
Spurious Output:	< -25 dBc
Spurious Output.	
Display:	4 digits
Modulation	
Frequency Modulation	(FM)
Deviation:	0 to 200 kHz (≥2 MHz)
	0 to $1/10$ of carrier frequency (-2 MHz)
Dianter	
Display:	3 uigits
Resolution:	0.1 kHz (< 100 kHz), 1 kHz (≥100 kHz)
Modulation Accuracy:	± (preset value X 0.03 + 0.8) kHz
Distortion:	≤ 0.05 % (10.7 ± 1 MHz. 76 to 108 MHz)
	$\leq 0.1.0$ (other frequencies)
	(1 kHz modulation frequency, 75 kHz
	deviation, 50 Hz to 15 kHz demodulation
	bandwidth, 50 µs de-emphasis/AM OFF)
Residual FM:	> 78 dB S/N at 75 kHz deviation
nesiduai i mi	(10 7 MU = 70 += 100 MU =)
	(10.7 MHz, 76 to 108 MHz)
	(50 Hz to 15 kHz demodulation
	bandwidth. 50 µs de-emphasis/AM OFF)
Pre-emphasis:	The deviation at AF = 1 kHz is reduced by
	approximately 20 dB when pre-emphasis
	approximately 20 db when pre-emphasis
	is turned ON.
	The deviation increases according to the
	pre-emphasis characteristics as the AF
	frequency increases
EM Storeo	
O an amatia ma	
Separation:	\geq 55 dB (AF KHZ, 75 KHZ deviation, 76
	to 108 MHz)
Mode:	MAIN, SUB, L, R
Pilot Signal	
Frequency	19 kHz +1 Hz
Deviation	
Display:	3 uigits
Resolution:	0.1 kHz
Accuracy:	± (preset value X 0.1 + 0.5) kHz
Pilot Output Signal	u ,
Output Loval	1 Vrms (into open airquit)
Output Impedance:	600 <u>()</u>
SCA Signal Input	
Input Reference Leve	I:1 Vrms
Input Impedance	10 kO
Amplitudo Modulati	on(AM)
Depth:	υ το 100 % (≤123 dBμ)
	0 to 60 % (>123 dBµ)
Display:	3 digits
Resolution	01%
Accuracy:	$(\text{proport value } X \cap OE \rightarrow 1) 0/(200.07)$
Accuracy:	± (preset value X 0.05 + 1) %(≤99 %)
Distortion:	\leq 0.3 % (30 %AM, \leq 123 dBµ 200 kHz to 2 MHz)
	≤ 0.5 %(30 %AM, ≤126 dBµ 200 kHz to 2 MHz)
	< 1.0 % (<90 %AM, <123 dBu)
	$(\Lambda E 1)/U_7 = 50$ U ₇ to 15 /U ₇ domoduleting
	bandwidth, excluding the range 26. 67
	MHz±10 kHz.FM OFF)

Residual AM:	$\geq 55~\text{dB}$ (S/N at 30 % depth, 200 kHz to 2 MHz)
	(50 Hz to 15 kHz demodulation
Internal Mark 197	bandwidth, FM OFF)
(1) Fixed Oscillators(2 System)	
Frequency:	400 Hz 1 kHz (An oscillator generates
ricquency.	both frequencies, selectable.)
Accuracy:	± 5 %
(2) DDS Oscillators	
Frequency:	20 Hz to 20 kHz
Resolution:	1 Hz
Frequency Accuracy: ±0.01 % ±1 digit	
External Modulation	10.1-0
Input Impedance: Reference Input Voltage	
Frequency Range:	FM \cdot 20 Hz to 100 kHz(MONO)
rioquonoy nangoi	AM : 20 Hz to 12 kHz(<2.5 MHz)
	20 Hz to 20 kHz(<10 MHz)
	20 Hz to 100 kHz(≥10 MHz)
Flatness:	Within ± 1 dB (1 kHz reference)
Simultaneous Modulat	on Function
(1) Combination with the Monaural FM Modulator	
INT FM + INT AM	
EXIFM + INTAM EXTEM \pm EXTAM	
(2) Combination with th	e Stereo FM Modulation
INT FM STEREO	
EXT FM STEREO	INT AM
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / FXT FM[אן INT AM 1] + or 1] + or
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / INT FM[R] INT AM F, or F, EXT AM F, EXT AM
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / INT FM[EXT FM[L] / EXT FM	R] INT AM + or R] EXT AM [R]
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / INT FM[EXT FM[L] / EXT FM Preset	R] INT AM R] + or R] EXT AM R] _
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / INT FM[EXT FM[L] / EXT FM Preset	R] INT AM + or EXT AM [R] Up to 100 preset conditions consisting of
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / INT FM[EXT FM[L] / EXT FM Preset	INT AM R] R] [R] Up to 100 preset conditions consisting of frequency, output level, and modulation
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / INT FM[EXT FM[L] / EXT FM Preset	INT AM P P P P P P P P P P P P P
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / INT FM[EXT FM[L] / EXT FM Preset	INT AM R] H] H] H] H] Up to 100 preset conditions consisting of frequency, output level, and modulation can be stored to internal memory.
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / INT FM[EXT FM[L] / EXT FM Preset	INT AM R] B] P] B] Cup to 100 preset conditions consisting of frequency, output level, and modulation can be stored to internal memory. Low enough not to cause measurement interferences under 0 dBu (1 ul)
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / INT FM[EXT FM[L] / EXT FM Preset	R] INT AM R] + or B] EXT AM
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / INT FM[EXT FM[L] / EXT FM Preset RF Leakage	INT AM R] R] Image: R] Up to 100 preset conditions consisting of frequency, output level, and modulation can be stored to internal memory. Low enough not to cause measurement interference under 0 dBµ (1 µV) conditions.
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / INT FM[EXT FM[L] / EXT FM Preset RF Leakage Remote Control	INT AM R] R] R] Up to 100 preset conditions consisting of frequency, output level, and modulation can be stored to internal memory. Low enough not to cause measurement interference under 0 dBµ (1 µV) conditions. All front panel switches (except power
EXT FM STEREO INT FM[L] / INT FM[L] INT FM[L] / EXT FM[EXT FM[L] / INT FM[EXT FM[L] / EXT FM Preset RF Leakage Remote Control	INT AM P] R] H] P]
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / INT FM[EXT FM[L] / EXT FM Preset RF Leakage Remote Control GPIB	INT AM P] R] P] P] <
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / INT FM[EXT FM[L] / EXT FM Preset RF Leakage Remote Control	INT AM PI PI <
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / INT FM[EXT FM[L] / EXT FM Preset RF Leakage Remote Control GPIB Environmental Condition	INT AM P]
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / INT FM[EXT FM[L] / EXT FM Preset RF Leakage Remote Control GPIB Environmental Condition Operating Temperature:	INT AM P]
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / INT FM[EXT FM[L] / EXT FM Preset RF Leakage Remote Control GPIB Environmental Condition Operating Temperature: Operating Humidity: State Currented Temperature:	INT AM R] P Conditions Conditions. All front panel switches (except power switch) can be remotely controlled. IEEE 488.1-1987 IS 0 to 40 °C ≤ 85 % RH (without condensation) 10 to 25 °C
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / INT FM[EXT FM[L] / EXT FM[Preset RF Leakage Remote Control GPIB Environmental Condition Operating Temperature: Operating Humidity: Spec-Guaranteed Temperature	INT AM R] Pice All for the panel switches (except power switch) can be remotely controlled. IEEE 488.1-1987 IS 0 to 40 °C ≤ 85 % RH (without condensation) :10 to 35 °C :< 85 % BH (without condensation)
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EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / EXT FM[EXT FM[L] / EXT FM Preset RF Leakage Remote Control GPIB Environmental Condition Operating Temperature: Operating Humidity: Spec-Guaranteed Temperature Spec-Guaranteed Temperature Spec-Guarantee S	INT AM P] Low enough not to cause measurement interference under 0 dBµ (1 µV) controlled. All front panel switches (except power switch) can be remotely controlled. IEEE 488.1-1987 P] O to 40 °C ≤ 85 % RH (without condensation) Indoor use Up to 2,000 m II 2
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / EXT FM[EXT FM[L] / EXT FM Preset RF Leakage Remote Control GPIB Environmental Condition Operating Temperatures Operating Temperatures Operating Humidity: Spec-Guaranteed Temperatures Spec-Guaranteed Humidity Operating Environments Operating Altitude: Overvoltage Category: Pollution Degree: Power Requirements	INT AM P] Control panel switches (except power switch) can be remotely controlled. P] P] O to 40 °C ≤ 85 % RH (without condensation) 10 to 35 °C ≤ 85 % RH (without condensation) Indoor use Up to 2,000 m II 2
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / EXT FM[EXT FM[L] / EXT FM[EXT FM[L] / EXT FM[Preset RF Leakage Remote Control GPIB Environmental Condition Operating Temperature: Operating Temperature: Operating Humidity: Spec-Guaranteed Temperature Spec-Guaranteed Temperature Spec-Guarantee Spec-Guar	INT AM P] Low enough not to cause measurement interference under 0 dBµ (1 µV) conditions. All front panel switches (except power switch) can be remotely controlled. P] IEEE 488.1-1987 B] O to 40 °C < 85 % RH (without condensation) Indoor use Up to 2,000 m II 2 AC 100, 120, 220, 240 V ±10 %,
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / EXT FM[EXT FM[L] / EXT FM[EXT FM[L] / EXT FM[Preset RF Leakage Remote Control GPIB Environmental Condition Operating Temperature: Operating Temperature: Operating Humidity: Spec-Guaranteed Temperature: Spec-Guaranteed Temperature: Spec-Guaranteed Temperature: Operating Environment: Operating Environment: Operating Altitude: Overvoltage Category: Pollution Degree: Power Requirements	INT AM PI
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EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / EXT FM[EXT FM[L] / EXT FM[Preset RF Leakage Remote Control GPIB Environmental Condition Operating Temperature: Operating Humidity: Spec-Guaranteed Temperature: Spec-Guaranteed Temperature: Spec-Guaranteed Humidity Operating Environment: Operating Environment: Operating Altitude: Overvoltage Category: Pollution Degree: Power Requirements Dimensions and Weight	INT AM + or EXT AMINT AM + or EXT AMUp to 100 preset conditions consisting of frequency, output level, and modulation can be stored to internal memory.Low enough not to cause measurement interference under 0 dBµ (1 µV) conditions.All front panel switches (except power switch) can be remotely controlled.IEEE 488.1-1987 19S0 to 40 °C < 85 % RH (without condensation) indoor use Up to 2,000 m II 2AC 100, 120, 220, 240 V ±10 %, 250 Vmax. 50/60 Hz426 (W) x 99 (H) x 300 (D) mm, 8 kg
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / EXT FM[EXT FM[L] / EXT FM Preset RF Leakage Remote Control GPIB Environmental Condition Operating Temperatures Operating Humidity: Spec-Guaranteed Temperatures Spec-Guaranteed	INT AM + or EXT AMP]P]P]P]P]P]P]P]P]P]Up to 100 preset conditions consisting of frequency, output level, and modulation can be stored to internal memory.Low enough not to cause measurement interference under 0 dBµ (1 µV) conditions.All front panel switches (except power switch) can be remotely controlled.IEEE 488.1-1987 S 0 to 40 °C ≤ 85 % RH (without condensation) :10 to 35 °C :≤ 85 % RH (without condensation) Indoor use Up to 2,000 m II 2AC 100, 120, 220, 240 V ±10 %, 250 Vmax. 50/60 Hz426 (W) x 99 (H) x 300 (D) mm, 8 kgPower cord
EXT FM STEREO INT FM[L] / INT FM[F INT FM[L] / EXT FM[EXT FM[L] / EXT FM[EXT FM[L] / EXT FM Preset RF Leakage Remote Control GPIB Environmental Condition Operating Temperatures Operating Humidity: Spec-Guaranteed Temperatures Spec-Guaranteed Temperatures Spec-Guaranteed Temperatures Operating Environment: Operating Environment: Operating Altitude: Overvoltage Category: Pollution Degree: Power Requirements Dimensions and Weight Accessories	INT AM PI PI PI </th