Aplab GLOBAL

SG1600C Series

Signal Generator / Counter

5MHz (SG1605C) / 10MHz (SG1610C) / 20MHz (SG1620C)

Aplab SG1600C series of signal-waveform generators are precision instrument to produce waveform like, Sine, Square, Triangle, Sweep, Pulse etc. Waveforms with varieties of modulation mode like AM, FM, FSK makes it ideal equipment for bench & laboratory testing making it popular among electronic engineers, scientist and in the field of education, production etc. Ergonomically designed front panel allows easy access to all the controls. Internal AM, FM, FSK make it easy to modulate waveform without the need of external source. It also has built in Frequency Counter upto 100MHz. The high reliability of the instrument is achieved by MSI and LSI with other high grade components and careful design to make it most stable and lowest distortion signal generator in its class. These signal generators come with optional Interface through RS232/USB.

FEATURES

- LSI Circuitry, SMT Technology, Portable
- High Reliability : MTBF >10000 Hrs.
- Simultaneous Frequency (5 Digit) and Amplitude (3 Digit) Display
- Frequency Range : 0.2Hz~5MHz (**SG1605C**), 0.2Hz~10MHz (**SG1610C**), 0.2Hz~20MHz (**SG1620C**)
- Output Level : 10Vp-p (50 ohms), 20Vp-p (Open Circuit), Fully Protected
- 7 Types of Waveforms : Sine, Square, Triangle, TTL, CMOS, Pulse, and Sweep
- Duty-Factor Variable : 20%-80%
- Triangle Linearity : >90%
- DC-Offset : -5V ~ +5V (50 Ohms), -10V ~ +10V (Open Load)
- Rise-Time : <20 nsec
- Sine Distortion : <1%
- Output Impedance : 50 Ohms, for TTL/CMOS 600 Ohms
- Output Attenuation : 0dB / 20dB / 40dB / 60dB
- External Frequency Counter : 0.2Hz~100MHz
- Single Pulse Output
- Frequency Stability : ±0.1% / min (Warm up time 15 min)
- Modulation Modes : AM /FM (Int/Ext), FSK, PWM, PAM etc.
- RS232/485 Interface (Optional)
- VCF Facility
- Auxiliary Outputs
  50Hz Sine wave
  0.2Hz ~ 40KHz Power Output

Technical Specifications

	SG 1605C	SG 1610C	SG1620C
Output Frequency	0.2Hz ~ 5MHz	0.2Hz ~ 10MHz	0.2Hz ~ 20MHz
Variable Decade Ranges	7	8	8
Output Impedance	50 Ohms, TTL / CMOS SYNC 600 Ohms.		
Output Waveform	Sine, Square , Triangle and Sweep, Pulse, CMOS, TTL, FSK, AM, FM.		
Output Display	5 digit (10.000Hz ~ 20000KHz), 4 digit (0.200Hz ~ 9.999Hz)		
Output Amplitude	20Vp-p ±10% max. (open load) 10Vp-p into 50 Ohms.		14V p-p ±10% max. (open load) 7 Vp-p into 50 Ohms.
Synchronous Output	Pulse , TTL, CMOS		
TTL	TTL level, "0"level <0.8V, "1" level 3.5V across 600 Ohms.		
CMOS	CMOS Level for Freq. < 2MHz "0"level < 4.5V, "1" level 5V ~ 13.5V adjustable.		
Single Pulse	"0" level <0.5V, "1" level >3.5V.		
Reverse Voltage Protection	±30V at test condition with DC level to "OFF".		
Amplitude Display	3 digits with automatically positioned decimal point.		
Display Unit	Vp-p or mVp-p, Vrms or mVrms.		
Display Error	±20% +1 digit.		
DC Off-Set	-5V ~ +5V ±10% in to 50 Ohms, -10V ~ +10V ±10% in Open Load.		
Attenuation	0dB, 20dB, 40dB and 60dB.		
Duty Cycle / Symmetry	20% ~ 80% adjustable.		
VCF Input	0 ~ 2V.		
Internal Sweep			
Sweep Mode	Linear / Log.		
Sweep Time	10 msec ~ 5sec, ±10%.		
Sweep Width	>1 Full Frequency Range.		
Internal Modulation			
FSK	Freq. : 1 KHz., Freq Offset : 0 ~ ≥5%.		
FM	Internal Freq. : 1KHz, Freq. Rrange : 0 ~ 5%.		
AM	Internal : Frequency 1KHz, Depth : 0 ~ 100% ±5%.		
External Modulation			
FM			
Input Signal	0V ~ 2V.		
Signal Period	10msec ~ 5sec.		
Input Impedance	100 K Ohms.		
Frequency Off-set range	0 ~ 5%.		
AM			
Input Signal	0V ~ 2V.		
Signal Period	10msec ~ 5sec.		
Input Impedance	100 K Ohms.		
Frequency Off-set Range	0 ~ 5%.		
Frequency Counter			
Display	8 Digit.		
Frequency Range	0.2Hz ~ 100000KHz.		
Sensitivity	50mV ~ 2V (10Hz ~ 20MHz), 100mV ~ 2V (0.2Hz ~ 10Hz and 20MHz ~ 100MHz).		
Input Impedance	500K Ohms // 30 pF.		
Wave-Form	Sine / Square.		
Measurement Time	1 Period for Freq. <10Hz and 0.1s for Freq. > 10Hz.		
Time Base	10 MHz. Stability ±5 x 10 -5/day.		
Measurement Error	Time-Base Error ± Trigger Error (0.3% for S/N ratio better than 40dB).		
HF Filter	Above 100KHz.		
Auxiliary Outputs (Optional)			
	Sine wave 50Hz.		
	Power Output (Sine wave) : Range 0.2Hz ~ 40KHz, Output Power approx 10W (4 ohms load).		
General			
Interface (Optional)	RS232, USB		
Power Supply	220V ±10%, 50Hz, <30VA.		
Size and Weight	250 (D) x 235(W) x 90 (H) mm, 3.5Kg.		
Operating Temperature	0 deg ~ 40 deg.		
Standard Accessories	Mains Cord, 1 No. BNC-BNC, BNC to Crocodile, Instruction Manual.		
Optional Accessories	50 Ohms Termination, RS232 Cable.		

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