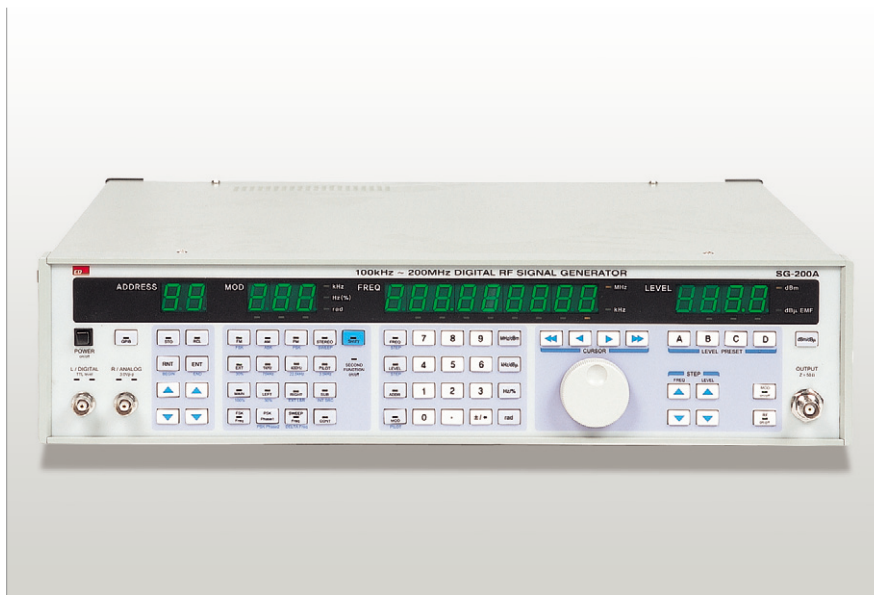


## • Signal Generator

# 100kHz~200MHz DIGITAL RF SIGNAL GENERATOR

# SG200A

- Built-in High Performance DSP Processor and Direct Digital Synthesizer(DDS)
- 0.5ppm High-stability TCXO and Internal Modulation Signal(20 Hz~15 kHz : 1 Hz Resolution)
- Wide Frequency Range : 100 kHz~200 MHz
- Frequency Resolution : 1 Hz
- Level Flatness :  $\pm 1$  dB
- Level Resolution : 0.1 dB
- High Output Power : +13 dBm
- Low Phase Noise :  $< -110$  dBc(@ $\Delta f=10$  kHz)
- Modulation : FM /AM/PM/FSK/PSK/ASK
- Digital Frequency Sweep Generator



## > SPECIFICATIONS

- **Carrier Frequency**
  - » Range : 100kHz to 200MHz
  - » Resolution : 1Hz
- **Reference Frequency**
  - » Frequency Range : 10.000MHz
  - » Frequency Temp Stability :  $< 0.5$  ppm
  - » RT Frequency Stability :  $< 0.5$  ppm
  - » Stability vs. Aging :  $< 0.5$  ppm/year
  - » Operating Temperature :  $0^{\circ}\text{C} \sim 50^{\circ}\text{C}$
  - » Ref Out Frequency : 10.000MHz
- **Spectral Purity**
  - » Harmonics :  $< -30$  dBc
  - » Non-harmonics(Spurious) :  $< -40$  dBc
  - » Residual FM :  $< 5$  Hz(0.3 to 3kHz BW) Typically  $< 2$  Hz
  - » Residual AM :  $< 0.05\%$
  - » Residual PM :  $< 0.01$  Rad(0.3 to 3kHz BW) Typically  $< 0.001$  Rad
  - » Phase Noise :  $< -110$  dBc/Hz(@ $\Delta f=10$  kHz)
- **Level**
  - » Range : -130 to +13dBm
  - » Resolution : 0.1dB
  - » Accuracy :  $< \pm 1$  dB(@  $\geq -100$  dBm),  $< \pm 2$  dB(@  $< -100$  dBm)
  - » Characteristic Impedance :  $50\Omega$
  - » VSWR :  $\leq 1.5 : 1$  @  $\leq 9$  dBm
  - » RF Flatness :  $\pm 1$  dB
- **Modulation Source**
  - » Frequency Range : 20Hz to 15kHz Sine  $\pm 0.01\%$
  - » Resolution : 1Hz
  - » Ext Input Impedance :  $30k\Omega$
  - » Ext Input Voltage : 3Vp-p
- **Amplitude Modulation**
  - » Frequency Range : 100kHz~200MHz
  - » Level :  $\leq +7$  dBm
  - » Operating Modes : Internal, External
  - » Modulation Depth : 0% to 100%
  - » Resolution : 0.1%
  - » Accuracy
    - $> < \pm$ (indicated value x 2%), Typically  $< \pm$ (indicated value x 0.5%), 100kHz~60MHz  $< \pm 30\%$ , Typically  $< \pm 20\%$ , 60MHz~200MHz, @ AF=Internal 1kHz

# 100kHz~200MHz DIGITAL RF SIGNAL GENERATOR

# SG200A

- » Distortion
  - › < 0.4% @ AF=Internal 1kHz, 100kHz~60MHz
  - › < 30% @ AF=Internal 1kHz, 60MHz~200MHz
  - › Demod. BW=50Hz~15kHz

### • Frequency Modulation

- » Operating Modes : Internal, External
- » Frequency Deviation : 0 to 200kHz
- » Resolution : 1Hz
- » Accuracy : < ±3% @ AF=Internal 1kHz
- » Distortion
  - › < 0.05%, Typically < 0.03%
  - › @ AF=Internal 1kHz
  - › Demod. BW=50Hz~15kHz
  - › De-emp=50µsec

### • Phase Modulation

- » Operating Modes : Internal, External
- » Phase Deviation : 0 rad to 3.14rad
- » Resolution : 0.01rad
- » Accuracy : < ±3% @ AF=Internal 1kHz
- » Distortion
  - › < 0.5% @ AF=Internal 1kHz
  - › Demod. BW=50Hz~15kHz

### • Memory for Device Settings

- » Storable Settings : 100

### • FSK Modulation

- » Operating Mode : External
- » Frequency Range : 100kHz to 120MHz
- » FSK Mode : 2 Level FSK
- » Frequency Shift(F1-F0) : 0 to 10MHz
- » Resolution : 1Hz
- » Frequency Flatness : Peak-to-Peak 4dB

### • PSK Modulation

- » Operating Mode : External
- » Frequency Range : 100kHz to 120MHz

- » PSK Mode : 2 Level PSK
- » Phase Shift(PH1 - PH0) : 0 to 6.28rad
- » Resolution : 0.01rad

### • GATE(ASK) Modulation

- » Operating Mode : External
- » Frequency Range : 100kHz to 120MHz
- » ON/OFF Ratio : ≥80dB
- » Rise/Fall Time : > 55µsec
- » Input Level : TTL : 1 ON, 0 Off

### • Sweep

- » Start F/Stop F : 100kHz to 120MHz
- » Resolution : 1Hz
- » Type : Linear
- » Direction : Up or Up\_Down Repeat
- » Step(Delta) Frequency : 1Hz~10MHz
- » Step Frequency Resolution : 1Hz
- » Step Duration : 3.33333ms. FIX
- » Frequency Flatness : Peak-to-Peak 4 dB

## GENERAL CHARACTERISTICS

### • Temperature Condition

- » 10°C~35°C Specification
- » 0°C~40°C Operation

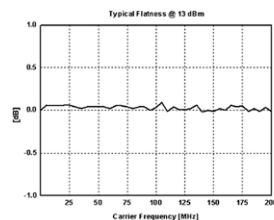
### • AC Power Supply : 90~240 V AC Free Voltage, 50/60Hz

### • Dimension : 435(W) x 110(H) x 390(D)mm

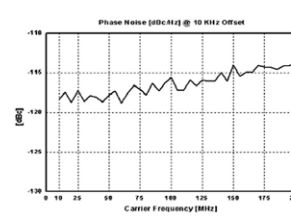
### • Weight : 6.6kg

## ACCESSORIES

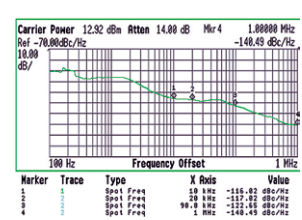
- AC Power Cord : 1ea
- BNC Cable : 1ea
- Operating Manual : 1ea



Typical Amplitude Flatness



Typical Phase Noise Performance



zoomHz Phase Noise