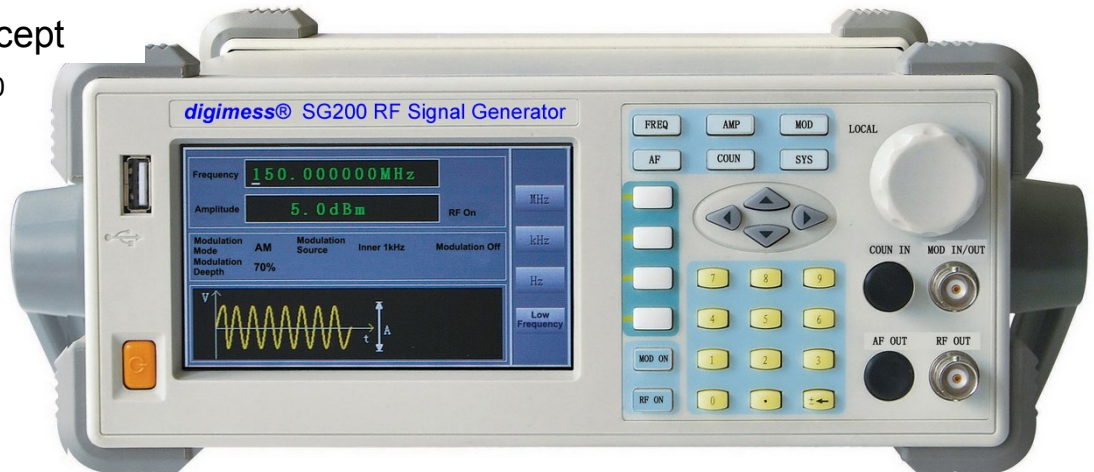


# SG200 DDS RF Signal Generator

**digimess®** concept

Order No: HUC 64-00

**CE**



The **digimess®** SG200 is a DDS synthesised RF signal generator. The unit covers the frequency 9kHz to 450MHz with a resolution of 1Hz and auto switches between the Internal or an External frequency reference. The SG200 has a 4.3 inch TFT colour display, numeric keypad or rotary control data input and amplitude can be entered in either dBm, mV,  $\mu$ V or  $\text{dB}\mu\text{V}$ . The generator includes AM, FM and Phase modulation along with FSK, PSK and Sweep facilities. Up to 8 instrument set-ups can be stored in the non-volatile memory and the unit features both USB and RS232 interfaces with a USB lead and software supplied.

## Specification

<b>DISPLAY</b> Size Type	4.3 inch TFT colour LCD	<b>FREQUENCY SWEEP</b> Frequency (start) Ranges	100kHz - 450MHz resolution 1Hz 100kHz - 75MHz, 75MHz - 140MHz, 140MHz - 260MHz, 260MHz - 360MHz, 360MHz - 450MHz 1kHz - 99.99MHz 1Hz - 99.99MHz 10 $\mu$ s - 10s, 10 $\mu$ s steps = start frequency + sweep width (within above ranges)
<b>FREQUENCY</b> Range	9kHz - 450MHz ( $< 100\text{kHz}$ amplitude un-calibrated) 1Hz	Sweep width Step frequency Step time Stop frequency	
Resolution Accuracy Settling	See Frequency Reference $< 100\text{ms}$ to within 100Hz	<b>AM MODULATION</b> Carrier frequency Range	$\geq 1.5\text{MHz}$ 0 - 120% ( $> 70\%$ un-calibrated) 0 - 70% ( $\leq +4\text{dBm}$ , $\leq 75\text{MHz}$ ) 0 - 50% ( $\leq +4\text{dBm}$ , $> 75\text{MHz}$ )
<b>FREQUENCY REFERENCE</b> Internal or external Internal Reference Stability External frequency input	Automatic switch over TCXO 10.000MHz $\pm 2.5\text{ppm} +15^\circ\text{C} - +30^\circ\text{C}$ 10MHz 0.3Vrms - 1Vrms 50 $\Omega$	Resolution Accuracy	1% (modulation $\geq 10\%$ ) 0.1% (modulation $< 10\%$ ) $< \pm 7\%$ settled value $\pm 1.5\%$ (Internal, 1kHz $\leq 30\%$ ) Int or Ext 20Hz - 10kHz $< 5\%$ (1kHz, 30%, 300Hz - 3kHz)
<b>OUTPUT</b> Level	-127dBm - +13dBm (0.1 $\mu$ V - 1000mV into 50 $\Omega$ )	<b>PHASE MODULATION</b> Source Distortion	Internal 400Hz or 1kHz 0.1 rads - 6.0 rads 0.1 rads
Resolution Entry format Accuracy Attenuation precision SWR	0.1dB, 0.1 $\mu$ V, 0.1 $\text{dB}\mu\text{V}$ dBm, mV, $\mu$ V, $\text{dB}\mu\text{V}$ $\pm 1\text{dB}$ at level +4dBm $> 400\text{kHz}$ $\pm 2\text{dB}$ at $< -105\text{dBm}$ $< 1.5$ at carrier freq $> 300\text{kHz}$ and level $< -6\text{dBm}$ 50 $\Omega$	<b>PSK</b> Source Ranges Phase 1 and Phase 2 Resolution	External TTL level See FSK 0.1° - 360° 0.1°
RF output impedance Harmonics Non-harmonics Sub-harmonics	$< -15\text{dBc}$ at level $\leq +4\text{dBm}$ $< -40\text{dBc}$ at level $\leq +4\text{dBm}$ $< -40\text{dBc}$ at level $\leq +4\text{dBm}$	<b>NON-VOLATILE STORAGE</b> Number of instrument set-ups	8
<b>MODULATION SOURCE</b> Type Internal External	Internal or external 400Hz or 1kHz, output 1Vpk 0 - 1Vpk 600 $\Omega$	<b>INTERFACE</b> Type	Standard USB and RS232
<b>FM MODULATION</b> Peak deviation Resolution Accuracy Distortion Source	0 - 100kHz 100Hz $\pm 5\%$ $\pm 50\text{Hz}$ 1kHz Int, $> 5\text{kHz}$ $< 3\%$ 1kHz Int, $> 10\text{kHz}$ 300Hz-3kHz Internal 400Hz or 1kHz	<b>GENERAL</b> Input voltage Weight Size W x H x D Temperature	200-250Vac 50/60Hz $\leq 30\text{VA}$ 3kg 250 x 120 x 400 mm Operating 0°C - 40°C Storage -10°C - +60°C Up to 75%
<b>FSK</b> Source Ranges	External TTL level 100kHz - 1.5MHz FSK $< 25\text{kHz}$ 1.5MHz - 20MHz FSK $< 25\text{kHz}$ 20MHz - 75MHz FSK $< 50\text{kHz}$ 75MHz - 140MHz FSK $< 2\text{kHz}$ 140MHz - 260MHz FSK $< 2\text{kHz}$ 260MHz - 360MHz FSK $< 2\text{kHz}$ 360MHz - 450MHz FSK $< 2\text{kHz}$	Humidity <b>ORDERING INFORMATION</b> HUC64-00 SG200 Accessories supplied	RF signal generator Operators manual, BNC test lead, software, USB and mains lead

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