

Aplab

150MHz DDS SIGNAL GENERATOR DDS150



Aplab DDS150 is a fully programmable, **Digital Synthesized Signal Generator** covering 100KHz to 150MHz. It is designed for applications which require good modulation, frequency, and output level performance with better spectral purity for a low price. The DDS150 is well suited for testing a wide variety of RF receivers (particularly in-band), and RF devices, such as filters, amplifiers, and mixers etc. in departments like R&D laboratories, Army workshops, Air Force, Navy, Production line, Telecom Maintenance Lab, Educational Institutes and many others.

Features

- Using DDS Technology, Frequency Stability ± 5 ppm / day
- 100KHz to 150MHz, 1Hz Resolution
- -127 to +13 dBm Output, 0.1dB Resolution
- AM, FM and FSK Internal and External
- Non-harmonic Spurious Products less than -40dBc and Harmonics less than -15dBc
- Sweep Function
- Non-volatile Memory

TECHNICAL SPECIFICATIONS

FREQUENCY

Range : 100KHz to 150MHz.
Resolution : 1Hz, digital readout.
Stability : ± 5 ppm / day

REFERENCE

Internal

Frequency : 10MHz, TCXO.
Accuracy : ± 10 ppm
Stability 0 - 40°C : ± 2.5 ppm.

External (Ref. In)

Frequency : Accepts 10MHz signal.
Level : Level of 0.3V to 1Vrms into 50 ohms termination.
Waveform : Sine or square.

RF OUTPUT

Level Range : +13 to -117 dBm, settable upto -127dBm (1 volt to 0.1micro volt).

Level Resolution : 0.1dB .

Level Accuracy : ± 2.0 dB.

Level Flatness : ± 1.0 dB.

Output Impedance : 50 ohms.

VSWR : $< 1.5 : 1$ at RF output < -6 dBm, frequency > 300 KHz.

Output Connector : Type 'BNC' female.

SPECTRAL PURITY

Harmonics : -15 to -20 dBc.

Subharmonics

Spurious : < -40 dBc for offset > 5 KHz from carrier.

RESIDUAL FM : < 30 Hz

(rms in 0.3KHz - 3KHz band PDBW)

RESIDUAL AM : < -60 dBc (50Hz to 15KHz post detection bandwidth).

MODULATION

Modes : AM,FM,FSK

Internal Source : 400Hz, 1KHz derived from frequency standard.

External Source

AM Mode : 20Hz to 10KHz frequency response, 600 ohm input. Input level 1V peak provides indicated modulation index.

FM mode : 20Hz to 10KHz frequency response, 600 ohm input impedance input level 1V peak provides indicated modulation index.

AM CHARACTERISTICS

AM Frequency Response : ± 3 dB, 20Hz to 10KHz, carrier frequency > 65 MHz.

AM Range : 0 to 100%.

AM Resolution : 1%.

Modulation Accuracy AM (0 - 100%) : $\pm 2\%$ +(4% of setting) at internal rates.

AM Distortion : $< 5\%$ at internal rates.

FM CHARACTERISTICS

FM Resolution : 100Hz.

FM Deviation Range : 0 to 100KHz

Modulation Accuracy FM : $\pm 5\%$ ± 50 Hz of indicated setting, at internal rates.

FM Distortion : $< 3\%$ (THD) for deviation > 100 Hz.

FSK CHARACTERISTICS

Modulated Signal : TTL level from external.

FSK Range :

100kHz to 1.5MHz, FSK speed < 25 kHz.

1.5MHz to 20MHz, FSK speed < 25 kHz.

20MHz to 65MHz, FSK speed < 50 kHz.

65MHz to 300MHz, FSK speed < 2 kHz.

SWEEP CHARACTERISTICS

Sweep Range : 100kHz - 65MHz,
65MHz - 110MHz,
110MHz - 150MHz.

Sweep Speed : 10ms to 1 sec step is 10ms.

FRONT PANEL CONTROLS TYPE : Push button.

STORED SETTINGS : Total 10, complete front panel settings.

Frequency Switching Speed : < 100 ms to be within ± 100 Hz, final value of frequency.

Amplitude Switching Time : < 100 ms to be within 0.1dB.

INTERFACE (Optional) : Optional RS232 & IEEE488 GPIB Interface.

GENERAL

Power : 220V AC $\pm 10\%$, 50Hz.

Consumption : 50VA.

Size : 254 (W) x 95 (H) x 384 (D) mm.

Weight : 4.5 Kg. (approx).

STANDARD ACCESSORIES : BNC(M) to BNC(M) Cable - 1 No.
Mains Cord - 1 No.
Instruction Manual - 1 No.

WE PURSUE A POLICY OF CONTINUOUS DEVELOPMENT AND PRODUCT IMPROVEMENT. THUS THE SPECIFICATIONS IN THIS DOCUMENT AND THE LOCATION OF CONTROLS ON THE FRONT PANEL MAY BE CHANGED WITHOUT NOTICE.

Aplab Test & Measurement Instruments

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