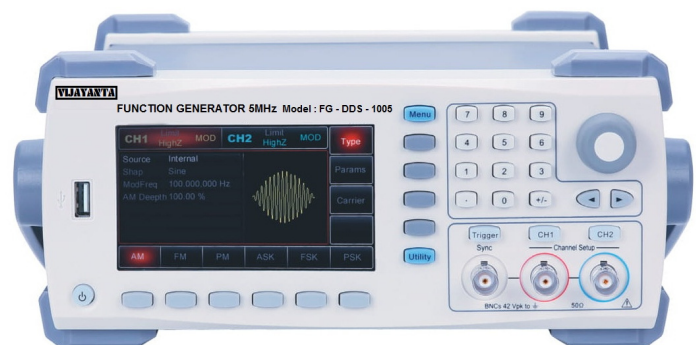


## DDS FUNCTION GENERATOR

Model : FG-DDS-1005

### FEATURES:

- Sine wave output of 5MHz, full frequency range resolution is 1 $\mu$ Hz
- Square wave/pulse waveform of 5MHz, its rising, falling, and duty cycle time are adjustable
- Uses DDS implementation method, with 125M/s sampling rate and 14bits vertical resolution
- 6-bit high precision frequency counter that is TTL level compatible
- Arbitrary waveform storage of 2048 points, and it can store up to 16 groups of nonvolatile digital arbitrary waveforms
- Abundant modulation types: AM, FM, PM, ASK, FSK, PSK, PWM
- Powerful PC software
- 4.3-inch high resolution TFT liquid crystal display
- Standard configuration interface: USB Device
- Supports internal/external modulation and internal/external/manual trigger
- Supports sweep output
- Easy-to-use multifunctional knob and number keyboard



Channel	:	Single Channel
Max. Frequency	:	5MHz
Sample Rate	:	125MSa/s
Waveform	:	Sine Wave, Square Wave, Triangle Wave, Pulse Wave, Ramp Wave, Noise, DC, Arbitrary Waveform
Working Mode	:	Output Strobe, Duration, Modulation, Scanning
Modulation Type	:	AM, FM, PM, ASK, FSK, PSK, PWM

## VIJAYANTA TECHNOLOGIES PVT. LTD.

(Formerly Vijai Electronics)

Dr. Baldev Singh Marg 28/147 Civil Lines, Roorkee-247667 Distt. Haridwar, Uttarakhand

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E-Mail : vijayantatechologies@gmail.com, vijaielectronics1965@gmail.com

## WAVEFORMS

### ✓ SINE WAVE

Frequency Range	:	1 $\mu$ Hz~5MHz
Resolution	:	1 $\mu$ Hz
Accuracy	:	$\pm$ 50ppm in 90 days, $\pm$ 100ppm in one year (18°C~28°C)
Harmonic Distortion (Typical Value)	:	✓ Test Condition: Output power 0dBm ✓ -55dBc ✓ -50dBc ✓ -40dBc
Total Harmonic Distortion (Typical Value)	:	DC~20kHz, 1Vpp < 0.2%

### ✓ SQUARE WAVE

Range	:	1 $\mu$ Hz~5MHz
Resolution	:	1 $\mu$ Hz
Lead/Tail Time	:	< 24ns (typical value, 1kHz, 1Vpp)
Overshoot (Typical Value)	:	< 2%
Duty Cycle	:	0.01% ~ 99.99%
Min.Pulse	:	$\geq$ 80ns
Jittering(Typical Value)	:	1ns+ 100ppm of period

### ✓ RAMP WAVE

Range	:	1 $\mu$ Hz~5MHz
Resolution	:	1 $\mu$ Hz
Nonlinear Degree	:	1% $\pm$ 2 mV (typical value, 1kHz, 1Vpp, symmetry 50%)
Symmetry	:	0.0% to 100.0%
Min. Edge Time	:	$\geq$ 400ns

### ✓ PULSE WAVE

Range	:	1 $\mu$ Hz~5MHz
Resolution	:	1 $\mu$ Hz
Pulse Eidth	:	$\geq$ 80ns
Lead/Tail Time	:	24ns (typical value, 1kHz, 1Vpp)
Overshoot (Typical Value)	:	2%
Jittering(Typical Value)	:	1ns+ 100ppm of period

### ✓ DC OFFSET

Range (Peak Value AC+DC)	:	$\pm$ 5V (50 $\Omega$ ) $\pm$ 10V (High Resistance)
Offset Precision	:	$\pm$ (1% of offset setting+0.5% of amplitide +2mV)

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## ✓ ARBITRARY WAVEFORM

Frequency Range	:	1 $\mu$ Hz~5MHz
Resolution	:	1 $\mu$ Hz
Waveform Length	:	2048 points
Vertical Resolution	:	14bits (including symbols)
Sample Rate	:	125MSa/s
Non-volatile Memory	:	16 types of waveform

## ✓ OUTPUT FEATURES

Amplitude Range	:	✓ 1mVpp ~ 10Vpp ✓ 50 $\Omega$ ✓ 2mVpp ~ 20Vpp (high resistance)
Accuracy (Sine wave of 1kHz) Amplitude	:	✓ <1% of amplitude setting value $\pm$ 2 mV
Flatness (relative to sine wave of 1kHz, 1Vpp/50 $\Omega$ )	:	✓ <100kHz 0.1dB ✓ 100kHz ~ 10MHz 0.2dB

## ✓ WAVEFORM OUTPUT

Impedance	:	Typical value of 50 $\Omega$
Insulation	:	To earth wire, max.42Vpk
Protection	:	Short-circuit Protection

## MODULATIONS

### ✓ AM MODULATION

Carrier Wave	:	Sine Wave, Square Wave, Ramp Wave, Arbitrary Wave
Source	:	Internal / External
Shape	:	Sine Wave, Square Wave, Ramp Wave, Noise, Arbitrary Wave
Frequency	:	2mHz ~ 50kHz
Depth	:	0% ~ 120%

### ✓ FM MODULATION

Carrier Wave	:	Sine Wave, Square Wave, Ramp Wave, Arbitrary Wave
Source	:	Internal / External
Shape	:	Sine Wave, Square Wave, Ramp Wave, Noise, Arbitrary Wave
Frequency	:	2mHz ~ 50kHz
Frequency Offset	:	1 $\mu$ Hz ~ 2.5MHz

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✓ **PM MODULATION**

Carrier Wave	:	Sine Wave, Square Wave, Ramp Wave, Arbitrary Wave
Source	:	Internal / External
Shape	:	Sine Wave, Square Wave, Ramp Wave, Noise, Arbitrary Wave
Frequency	:	2mHz ~ 50kHz
Phase Offset	:	0° ~ 360°

✓ **ASK MODULATION**

Carrier Wave	:	Sine Wave, Square Wave, Ramp Wave, Arbitrary Wave
Source	:	Internal / External
Shape	:	Square Wave of 50% duty cycle
Frequency	:	2mHz~100kHz

✓ **FSK MODULATION**

Carrier Wave	:	Sine Wave, Square Wave, Ramp Wave, Arbitrary Wave
Source	:	Internal / External
Shape	:	Square Wave of 50% duty cycle
Frequency	:	2mHz~100kHz

✓ **PSK MODULATION**

Carrier Wave	:	Sine Wave, Square Wave, Ramp Wave, Arbitrary Wave
Source	:	Internal / External
Shape	:	Square Wave of 50% duty cycle
Frequency	:	2mHz~100kHz

✓ **PWM MODULATION**

Carrier Wave	:	Pulse Wave
Source	:	Internal / External
Shape	:	Sine Wave, Square Wave, Ramp Wave, Noise, Arbitrary Wave
Frequency	:	2mHz ~ 50kHz
Source	:	Internal / External
Shape	:	Sine Wave, Square Wave, Ramp Wave, Noise, Arbitrary Wave
Frequency	:	2mHz ~ 50kHz
Phase Offset	:	0° ~ 360°

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✓ **ASK MODULATION**

Carrier Wave	:	Sine Wave, Square Wave, Ramp Wave, Arbitrary Wave
Source	:	Internal / External
Shape	:	Square Wave of 50% duty cycle
Frequency	:	2mHz~100kHz

✓ **FSK MODULATION**

Carrier Wave	:	Sine Wave, Square Wave, Ramp Wave, Arbitrary Wave
Source	:	Internal / External
Modulation Shape	:	Square Wave of 50% duty cycle
Frequency	:	2mHz~100kHz

✓ **PSK MODULATION**

Carrier Wave	:	Sine Wave, Square Wave, Ramp Wave, Arbitrary Wave
Source	:	Internal / External
Modulation Shape	:	Square Wave of 50% duty cycle
Frequency	:	2mHz~100kHz

✓ **PWM MODULATION**

Carrier Wave	:	Pulse Wave
Source	:	Internal / External
Modulation Shape	:	Sine Wave, Square Wave, Ramp Wave, Noise, Arbitrary Wave
Frequency	:	2mHz ~ 50kHz

✓ **ENVIRONMENT**

Temperature	:	Operation: 10°C ~ +40°C Non operation: -20°C ~ +60°C
Cooling Method	:	Fan cooling
Humidity Range	:	+35°C below: ≤ 90% relative humidity +35°C ~ +40°C: ≤ 60% relative humidity

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✓ **DIMENSION**

Weight	:	3kg. Approx.
Size (Reference Data)	:	165mm×320mm×110mm

❖ **STANDARD ACCESSORIES**

- BNC cable (1 meter)
- USB data cable
- Power line meets local country standard
- Warranty card
- User CD

**Note** - Technical Specifications & Appearance are subject to change without prior notice.

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