

MAIN FEATURES

- Sine wave output of 10MHz/5MHz, full frequency range resolution is 1µHz
- 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



Type	DDS - 1010	DDS - 1005
Channel	Single Channel	Single Channel
Max. Frequency	10MHz	5MHz
Sample Rate	125MSa/s	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	

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Features of Waveform		
Sine Wave		
Frequency Range	1μHz~10MHz	1μHz~5MHz
Resolution	1μHz	
Accuracy	±50ppm in 90 days, ±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		
Frequency Range	1μHz ~ 5MHz	1μHz ~ 5MHz
Resolution	1μHz	
Lead/Tail Time	< 24ns (typical value, 1kHz, 1Vpp)	
Overshoot (Typical Value)	< 2%	
Duty Cycle	0.01% ~ 99.99%	
Min.Pulse	≥80ns	
Jittering□Typical Value□	1ns+ 100ppm of period	

Ramp Wave	
Frequency Range	1μHz~400kHz
Resolution	1μHz
Nonlinear Degree	1%±2 mV (typical value, 1kHz, 1Vpp, symmetry 50%)
Symmetry	0.0% to 100.0%
Min. Edge Time	≥400ns

Pulse Wave		
Frequency Range	1μHz ~ 5MHz	1μHz ~ 5MHz
Resolution	1μHz	
Pulse Eidth	≥80ns	
Lead/Tail Time	24ns (typical value, 1kHz, 1Vpp)	
Overshoot (Typical Value)	2%	
Jittering (Typical Value)	1ns+ 100ppm of period	

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DC Offset	
Range (Peak Value AC+DC)	±5V (50Ω)
	±10V (High Resistance)
Offset Precision	±(1% of offset setting+0.5% of amplitude +2mV)

Features of Arbitrary Waveform		
Frequency Range	1μHz ~ 2MHz	1μHz ~ 1MHz
Resolution	1μHz	
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	1mVpp ~ 10Vpp
	50Ω	50Ω
	2mVpp ~ 20Vpp (high resistance)	2mVpp ~ 20Vpp (high resistance)
Accuracy (Sine wave of 1kHz) Amplitude Flatness (relative to sine wave of 1kHz, 1Vpp/50Ω)	<1% of amplitude setting value ±2 mV	
	<100kHz 0.1dB	
	100kHz ~ 10MHz 0.2dB	

Waveform Output	
Impedance	Typical value of 50Ω
Insulation	To earth wire, max.42Vpk
Protection	Short-circuit Protection

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

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FM Modulation

Carrier Wave	Sine Wave, Square Wave, Ramp Wave, Arbitrary Wave	
Source	Internal / External	
Modulation Shape	Sine Wave, Square Wave, Ramp Wave, Noise, Arbitrary Wave	
Modulation Frequency	2mHz ~ 50kHz	
Frequency Offset	1μHz ~ 5MHz	1μHz ~ 2.5MHz

PM Modulation

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

ASK Modulation

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

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

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

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

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Environment	
Temperature Range	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
Altitude	Operation: below 2000 meters
	Non Operation: below 15000 meters

Machine Specifications	
Size (Reference Data)	165mm×320mm×110mm
Net Weight	3.10kg
Gross Weight	4.10kg

ACCESSORIES:-

Type	DDS- 1000 Series
Standard Accessories	Power line meets local country standard
	USB data cable
	BNC cable (1 meter)
	User CD
	Warranty card

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