

UTG2062A Function/Arbitrary Waveform Generator

Key Features:

- 60MHz sine waveform output at 1μHz resolution
- 25MHz pulse waveform output with adjustable rise/fall time
- 250MSa/s sample rate with 14bits resolution
- Dual channels output supporting stand-alone or channel-coupling output mode
- 1M points arbitrary waveform storages with 8 waveforms for non-volatile memory
- Modulation types including: AM,FM,PM,ASK,FSK and PWM
- 4.3" high resolution color TFT display
- Standard ports: USB Host, USB Device and LAN



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Intuitive Operating Interface

UTG2062A function/arbitrary waveform generator relies on direct digital synthesis (DDS) technology to output precise and stable waveforms with remarkable resolution down to 1μHz. Through offering corresponding buttons to accompany the interface menu, it makes any setting very convenient for you to operate. The combination of numeric keypad and the rotary knob offers an extremely easy access to any adjustment of parameters, such as frequency, amplitude, offset, etc. Meanwhile, the rotary knob itself can let you switch into other desired settings right from the current parameters. You can select Vpp, Vrms or dBm as unit after entering voltage value by numeric keypad. You can also set the amplitude using the high level and low level.

Multiple Built-in Functions

UTG2062A provides common signals which coverage most of you needs and stands out among the crowd for its versatile modulation options such as AM, PM, FM, ASK, FSK and PWM. Waveforms can be modulated internally or externally, and its programmable frequency marker allows you to choose linear or logarithmic sweep freely. You can also further customize the signal through the programmable burst cycles and gated function. As for the application system, connection to USB port can initiate the waveform capture, waveform analysis, etc;

Arbitrary Waveform Editing

Arbitrary waveform generator is an innovative idea by combing both computer, software and signal generator techniques into one. When creating the arbitrary waveforms, the software generates waveforms automatically just after inputting the needed point number and the corresponding voltage value. You can also copy and paste certain segment of some waveform to create periodic waveforms of all kinds.

Functional Interface

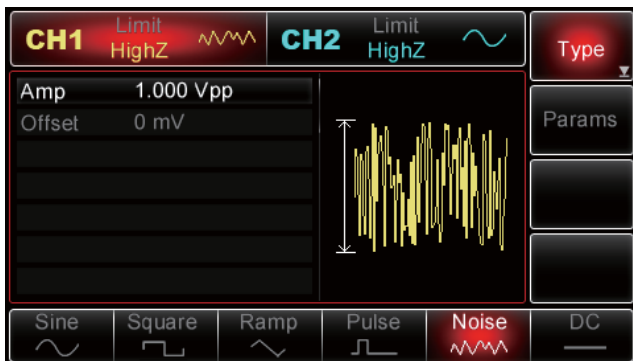
■ Multiple waveforms selectable from dual channels



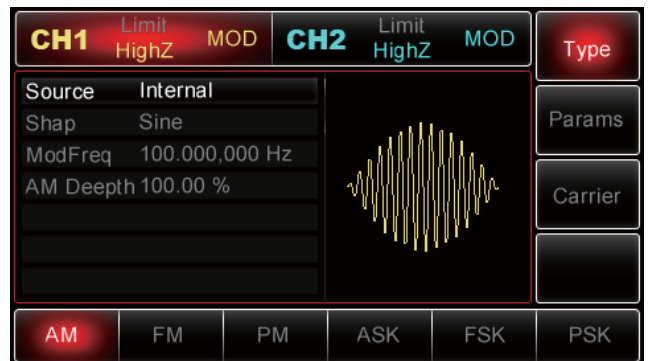
■ Square wave with 50% duty cycle



■ Noise signal at 60MHz bandwidth



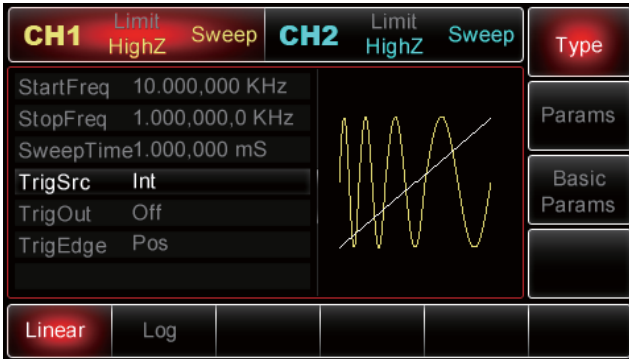
■ Versatile Modulation Options



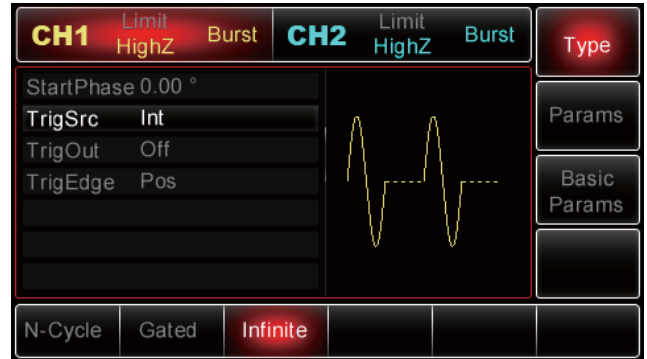
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■ Linear and logarithmic sweep available



■ Three burst modes for your option



Technical Specifications

■ General Specifications

Model	UTG2062A
Channels	2
Max. Frequency	60MHz
Sample Rate	250MSa/s
Waveforms	Sine, Square, Ramp, Pulse, Noise, DC, Arbitrary Waveforms
Working Mode	Output Gate, Continuous, Modulate, Frequency Sweep, Burst
Modulation Types	AM,FM,PM,ASK,FSK,PSK,PWM

■ Waveform Specifications

● Sine Wave		● Square Wave	
Frequency Range	1μHz~60MHz	Frequency Range	1μHz~25MHz
0dBm	DC~20kHz -70dBc	Rise/Fall Time	< 13ns(10%~90%) (Typical, 1kHz, 1Vpp)
Harmonic Distortion(typical)	20kHz~100kHz -65dBc	Overshoot(Typical)	< 2%
	100kHz~1MHz -50dBc	Symmetry	1%+4ns of the period
	1MHz~20MHz -40dBc	(below 50% duty cycle)	Jitter(typical)
Total Harmonic Distortion(typical)	20MHz~60MHz -35dBc	● Ramp Wave	
	DC~20kHz, 1Vpp < 0.2%	Frequency Range	1μHz~400kHz
Non-harmonic spurious(typical)	DC~10MHz, < -70dBc	Nonlinearity	< 0.1% of peak output (Typical, 1kHz, 1Vpp, symmetrical 100%)
	10MHz~60MHz, < -70dBc+6dB/octave	Symmetry	0.0%~100.0%
	1kHz offset: -105dBc/Hz	● Gaussian Noise	
Phase Noise(typical)	10kHz offset: -115dBc/Hz	Bandwidth	60MHz bandwidth(-3dB), typical
	100kHz offset: -125dBc/Hz	● DC Offset	
		Range(Peak AC+DC)	±5V(50Ω) ±10V(High resistance)
● Pulse Wave		Offset Accuracy	±(2% of Offset setting+ 0.5% of amplitude +2mV)
Frequency Range	500μHz~25MHz	● Output Characteristics	
Pulse Width	12ns~2000s	Amplitude range	1mVpp~10Vpp(50Ω) 2mVpp~20Vpp(high resistance)
Variable edge time	10ns~2ms	Accuracy(1kHz sine)	±(1% of setting value+1mVpp)
Overshoot (Typical)	< 2%	Amplitude Flatness	< 100kHz 0.1dB
Jitter	1ns+100ppm of the period	(with reference to 1kHz sine wave, 5Vpp)	100kHz~5MHz 0.15dB 5MHz~60MHz 0.3dB
● Arbitrary Wave			
Frequency Range	1μHz~12MHz		
Waveform Length	2~1M points		
Vertical Resolution	14bits(symbols included)		
Sample Rate	250MSa/s		
Min Fall/Rise Time	35ns, Typical		
Jitter(RMS)(typical)	6ns+30ppm		
Nonvolatile Memory	8 waveforms		
● Waveform Output			
Impedance	50Ω, typical		
Isolation	42Vpk maximum to earth		
Protection	Short-circuited protection, waveform output disabled automatically when overloaded.		

UTG2062A**Function/Arbitrary Waveform Generator****■ Modulation Characteristics**

● AM		● FM	
Carrier Waveforms	Sine, Square, Ramp, Arbitrary	Carrier Waveforms	Sine, Square, Ramp, Arbitrary
Source	Internal/External	Source	Internal/External
Modulating Waveforms	Sine, Square, Ramp, Noise, Arbitrary	Modulating Waveforms	Sine, Square, Ramp, Noise, Arbitrary
Modulating Frequency	2mHz~20kHz	Modulating Frequency	2mHz~20kHz
Modulation Depth	0%~120%	Frequency Deviation	1μHz~20MHz
● PM		● ASK	
Carrier Waveforms	Sine, Square, Ramp, Arbitrary	Carrier Waveforms	Sine, Square, Ramp, Arbitrary
Source	Internal/External	Source	Internal/External
Modulating Waveforms	Sine, Square, Ramp, Noise, Arbitrary	Modulating Waveforms	Square waveforms with 50% duty cycle
Modulating Frequency	2mHz~20kHz	Modulating Frequency	2mHz~100kHz
Phase Deviation	0°~360°		
● FSK		● PWM	
Carrier Waveforms	Sine, Square, Ramp, Arbitrary	Carrier Waveforms	Pulse
Source	Internal/External	Source	Internal/External
Modulating Waveforms	Square waveforms with 50% duty cycle	Modulating Waveforms	Sine, Square, Ramp, Noise, Arbitrary
Modulating Frequency	2mHz~100kHz	Modulating Frequency	2mHz~20kHz
		Width Deviation	0%~100% of pulse width

■ Sweep

Carrier Waveforms	Sine, Square, Ramp, Arbitrary	Sweep Time	1ms~500s±0.1%
Type	Linear, Logarithmic	Trigger Source	Manual, External, Internal

■ Burst

Waveforms	Sine, Square, Ramp, Pulse, Noise, Arbitrary	Internal Cycle	1μs~500s±1%
Type	N-Cycle(1~50000cycle), Infinite, Gated	Gate Source	External
Start/Stop Phase	-360°~+360°	Trigger Source	Manual, External, Internal

■ Connector on Back Panel

Modulation Input	±5Vpk full-scale	Input/Output Impedance	2kΩ/50Ω, typical, AC coupled
	5kΩ input impedance	Lock Time	<1s
Input/Output Frequency Range	10MHz±500Hz	External Trigger	TTL Compatible
Input/Output Level Range	80mVpp~10Vpp/0dB, (typical)		

■ Trigger Input

Input Level	TTL Compatible	Input Impedance	>10kΩ, DC-coupled
Slope	Rise or Fall, selectable	Linear Sweep	<500μs, Typical
Pulse Width	>100ns	Burst Delay	<500ns, Typical

■ Trigger Output

Level	TTL Compatible, to 50Ω	Output Impedance	50Ω, Typical
Pulse Width	>400ns, Typical	Max. Frequency	1MHz

■ General Characteristics

● Display		● Power	
Display Type	4.3 inch color TFT display	Power Supply	100—240 V AC, 45—440Hz, CAT II
Display Resolution	480 Horizontal × 272 Vertical	Power Dissipation	<50W
● Environment		Fuse	2A, T level, 250V
Temperature Range	Operating: 10°C~+40°C		
	Non-operating: -20°C~+60°C		
Cooling	Natural cooling		
Humidity	<+35°C: ≤90% RH		
	+35°C~+40°C: ≤60% RH		
Altitude	Operating: <3000m		
	Non-operating: <15000m		

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