Arbitrary Waveform Generators

multicomp PRO

MP750510

MP750511

MP750512

MP750513

Features

- Advanced DDS technology
- 1µHz frequency resolution
- Vertical Resolution: 14 bits, 10Marb waveform length
- Comprehensive waveform output: 6 basic waveforms and 152 built-in arbitrary waveforms
- Comprehensive modulation functions: AM, FM, PM, FSK, 3FSK, 4FSK, PSK, OSK, ASK, DSB-AM, QPSK, SUM, BPSK, PWM, Sweep and Burst etc
- High-accuracy frequency counter integrated, supported range 100mHz - 200MHz
- SCPI, and LabVIEW supported
- 7 inch (800 x 480 pixels) TFT LCD screen

Part Number	MP750510	MP750511	MP750512	M750513
Channel	2			
Frequency Output	35MHz	60MHz	80MHz	100MHz
Sample Rate	500MSa/s			
Vertical Resolution	14 bits			
Waveform				
Standard Waveform	Sine, square, pulse, ramp, noise, and harmonic			
Arbitrary Waveform	Exponential rise, exponential fall, sin(x)/x, step wave, and others, total 150 built-in waveforms and user-defined arbitrary waveform			
Frequency (resolution 1µHz)				
Sine	1µHz ~ 35MHz	1µHz-60MHz	1µHz ~ 80MHz	1µHz~100MHz
Square	1µHz ~ 15MHz	1µHz ~ 30MHz	1µHz ~ 30MHz	1µHz ~ 30MHz
Pulse	1µHz ~ 15MHz	1µHz ~ 25MHz	1µHz ~ 25MHz	1µHz ~ 25MHz

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Part Number	MP750510	MP750511	MP750512	M750513
Ramp	1µHz ~ 3MHz	1µHz ~ 3MHz	1µHz ~ 3MHz	1µHz ~ 3MHz
Noise	35MHz (-3dB, typical)	60MHz (-3dB, typical)	80MHz (-3dB, typical)	100MHz (-3dB, typical)
Arbitrary Waveform	1µHz ~15MHz	1µHz ~ 15MHz	1µHz ~15MHz	1µHz ~15MHz
Harmonic	1µHz ~17.5MHz	1µHz ~ 30MHz	1µHz ~40MHz	1µHz ~50MHz
Accuracy	±2ppm, 25°C±5°C			
Sine Wave Spectrum Purity				
Harmonic Distortion [typical (0dB)]	DC ~ 1MHz: < -65dBc 1MHz ~ 10MHz: < -60dBc 10MHz ~ 60MHz: < -55dBc 60MHz ~ 120MHz: < -50dBc			
Total Harmonic Distortion	<0.05 %, 10 Hz to 20 kHz, 1 Vpp			
Spurious (non-harmonic) [typical (0dB)]	≤10MHz: <-70dBc >10MHz: <-70dBc + 6dB/ octave band			
Phase Noise [typical (0 dBm, 10kHz deviation)]	Typical (0dBm,10kHz offset) 1MHz:-110dBc/Hz			
Square				
Rise / Fall Time	<8ns			
Overshoot	< 3%			
Duty Cycle	50.0% (fixed)			
Jitter (rms)	≤5MHz:<300ps + 2ppm; >5MHz 300ps			
Pulse				
Period	66.667ns~1000000s	40ns ~ 1000000s		
Pulse Width	≥18ns	≥12ns		
Rise / Fall Time	≥8ns			
Overshoot	< 3%			
Jitter (rms)	≤5MHz:<300ps + 2ppm;>5MHz 300ps			
Duty cycle	0.3%~99.6%			
Ramp				
Linearity	≤0.5% of peak output (typical, 1kHz, 1 Vpp, 50% symmetry			
Symmetry	0% ~ 100%			
Arbitrary				
Waveform Length	2 points - 10M points			
Minimum Rise/Fall Time	<8ns			
Jitter (rms) (1MHz, 1Vpp, 50Ω)	≤5MHz:<300ps + 2ppm; >5MHz 300ps			

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Part Number	MP750510	MP750511	MP750512	M750513
Amplitude				
Into 50Ω load	1mVpp ~ 10Vpp (≤ 25MHz) 1mVpp ~ 5Vpp (≤60MHz) 1mVpp ~ 2.5Vpp (≤100MHz)			
Resolution	0.1mVpp or 4digits, (amplitude>1Vpp: 1mVpp)			
DC Offset Range (AD+DC)	±5V (50Ω) ±10V (high resistance)			
DC offset resolution	0.1mV or 4digits			
Load Impedance	50Ω (typical)			
DC offset Accuracy	±(1% of setting + 1mVpp+ amplitude Vpp * 0.5%) (typical 1kHz sine, 0V offset)			
Unit	mVpp, Vpp, Vrms, mVrms, dBm			
Modulation				
Type	AM, DSB-AM, FM, PM, ASK, FSK, PSK, BPSK, QPSK, 3FSK, 4FSK, OSK, PWM, SUM			
DSB-AM				
Carrier Waveform	Sine, square, ramp			
Source	Internal / External			
Internal Modulation Waveform	Sine, square, ramp			
AM				
Carrier Waveform	Sine, square, ramp, and arbitrary (except DC)			
Source	Internal / external			
Modulating Waveform	Sine, square, ramp, noise, and arbitrary			
Depth	0.0%~120.0%			
Modulating Frequency	2mHz ~1MHz			
FM				
Carrier Waveform	Sine, square, ramp, and arbitrary (except DC)			
Source	Internal / external			
Modulating Waveform	Sine, square, ramp, noise, and arbitrary			
Modulating Frequency	2mHz ~1MHz			
PM				
Carrier Waveform	Sine, square, ramp, and arbitrary (except DC)			
Source	Internal / external			
Modulating Waveform	Sine, square, ramp, noise, and arbitrary			
Phase Deviation	0° - 180°			
Modulating Frequency	2mHz - 1MHz			
ASK				
Carrier Waveform	Sine, square, ramp, and arbitrary (except DC)			
Source	Internal / external			
Modulating Waveform	Square with 50% duty cycle			
Key Frequency	2mHz ~ 1MHz			

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Part Number	MP750510	MP750511	MP750512	M750513
FSK/3FSK/4FSK				
Carrier Waveform	Sine, square, ramp, and arbitrary (except DC)			
Source	Internal			
Modulating Waveform	Square with 50% duty cycle			
Key Frequency	2mHz ~ 1MHz			
PSK				
Carrier Waveform	Sine, square, ramp, and arbitrary (except DC)			
Source	Internal / external			
Modulating Waveform	Square with 50% duty cycle			
Key Frequency	2mHz ~ 1MHz			
BPSK				
Carrier Waveform	Sine, square, ramp, and arbitrary (except DC)			
Source	Internal			
Modulating Waveform	Square with 50% duty cycle			
Key Frequency	2mHz ~ 1MHz			
OSK				
Carrier Waveform	Sine, square, ramp, and arbitrary (except DC)			
Source	Internal			
Oscillation Time	Square with 50% duty cycle			
Key Frequency	2mHz ~ 1MHz			
Concussion time	8ns ~ 249.75s			
SUM (Dual tone)				
Carrier Waveform	Sine, square, ramp			
Source	Internal / external			
Internal Modulation Waveform	Sine, square, ramp, white noise, arbitrary waveform			
Internal am frequency	2mHz ~ 1MHz			
Depth	0.0% ~ 100.0%			
PWM				
Carrier Waveform	pulse			
Source	Internal / external			
Modulating Waveform	Sine, square, ramp, noise, and arbitrary			
Width Deviation	0~99%			
Modulating Frequency	2mHz ~ 1MHz			
Deviation	0~min			
Pulse train responses				
Carrier	Sine, Square, Harmonic, Pulse, Noise and Arbitrary Waveform			
Carrier frequency	2mHz ~ BW/2			
Type	Count (1 to 1,000,000 cycles), unlimited, gated			

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Part Number	MP750510	MP750511	MP750512	M750513
Internal cycle	20ns ~ 500s			
Gated Source	External trigger			
Sweep characteristic				
Carrier	Sine, square, ramp, and arbitrary (except DC)			
Minimum / maximum starting frequency	-	1µHz	-	-
Maximum / Termination frequency	Sine: 35MHz Square: 15MHz	Sine: 60MHz Square: 30MHz	Sine: 80MHz Square: 30MHz	Sine: 100MHz Square: 30MHz
	Ramp: 3MHz Arbitrary: 15MHz (Built-in) or 25MHz (User defined)			
Type	Linear, logarithmic, step			
Direction	up / down			
Scanning time	1ms to 500s ± 0.1%			
Trigger source	Internal, external, manual			
Frequency Counter				
Function	Frequency, period, +width, -width, +duty and -duty			
Frequency Range	100mHz ~ 200MHz			
Frequency Resolution	7 digits			
Coupling mode	AC, DC			
Input / Output				
Input Supply Voltage	100V AC to 230V AC, 50Hz/60Hz			
Display	7″ 800 × 480 pixels screen LCD			
Input mode	Frequency counter, External modulation input, External trigger input, Internal clock output, External reference clock input / output			
Communication Interface	USB Host, USB Device, LAN			
Standard Warranty	12 Months			
Mechanical specifications				
Size	340mm × 177mm × 90mm			
Weight	2.3kg			

Accessories

EU+UK/US depending on region

CD Rom

User's Manual
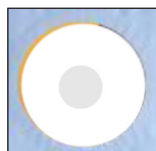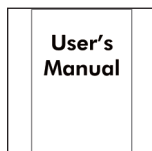
Manual

USB Cable

Q9 Cable

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Description	Part Number
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Arbitrary Waveform Generator, 80MHz	MP750512
Arbitrary Waveform Generator, 100MHz	MP750513

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