

Advanced Test Equipment Corp. www.atecorp.com 800-404-ATEC (2832)

WaveStation™ Function/Arbitrary Waveform Generators



Key Features

- High performance with 14-bit resolution, up to 500 MS/s sample rate and up to 512 kpts memory
- 2 channels on all models
- Large color display for easy waveform preview
- Over 40 built-in arbitrary waveforms
- Linear & Logarithmic sweeps and burst operation
- USB and GPIB connectivity
- Graphical waveform editing software for PC

With 5 basic signal types, and over 40 built-in arbitrary waveforms the WaveStation is a versatile waveform generator. A variety of modulation schemes, intuitive waveform editing software and remote control capabilities, enable versatile waveform generation of waveforms up to 160 MHz. The large color display and simple user interface make it easy to generate a wide range of waveforms.

High Performance and Signal Fidelity

High performance hardware enables WaveStation to create accurate stable waveforms. High sample rate and resolution combined with low jitter and harmonic distortion means waveforms seen on the display are accurately created and outputted by the hardware.

Extensive Waveform Library

Easily create basic sine, square, ramp, pulse, and noise waveforms. In addition, access over 40 advanced arbitrary waveforms preloaded on WaveStation. Edit waveforms using the WaveStation PC software with point-by-point manual waveform design or waveform drawing tools. Use digital filtering tools for advanced waveform creation.

Connectivity and Communication

With standard USB and GPIB connectivity it is easy to control WaveStation remotely or integrate it in to a test system. All necessary I/O for synchronization can be accessed on the rear panel. A front panel USB port provides an easy way to save waveforms.

Simple, Fast Waveform Creation

The intuitive front panel provides easy access to waveforms, modulation and operating modes. The large display shows all relevant waveform parameters and waveform shape. Included PC software provides a graphical interface for quickly modifying waveforms with point-by-point editing, digital filtering and waveform drawing tools.

POWERFUL COMBINATION OF PERFORMANCE AND FLEXIBILITY

1. Dual Output

Two synchronous outputs for additional waveform flexibility and ability to create differential waveforms.

2. Color Display

Large display provides a single view to see waveform preview, parameters and menus with a single glance.

3. Waveform Preview

Helpful display provides preview of the waveform to be generated.

4. USB Connectivity

Front panel USB port to quickly save and transfer waveforms.

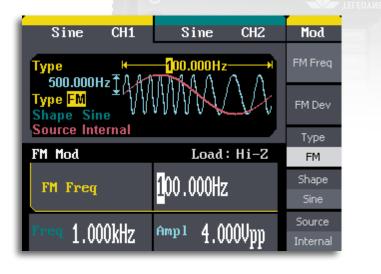
5. Display Menu

Quick access to various parameters with one touch to soft button on the front panel.



Variety of Modulation Schemes

Built-in modulation capabilities include AM, PM, FM, ASK, PSK and FSK. View the modulated waveform on the display and see how it changes when varying output frequency, carrier waveform or modulation type.





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6. On-Screen Parameter Readout

View all relevant parameters at the same time on a single screen.

7. Quick Waveform Access

Dedicated, backlit buttons for quick access to the most common waveforms.

8. Easy to Use Front Panel

Intuitive front panel allows for quick waveform parameter entry and editing.

9. Adjustable Handle

Easily adjust handle for easy transport, optimal viewing and comfortable use.

10. Connectivity

All necessary I/O for synchronization can be accessed from rear panel.



Graphical Waveform Creation

Easily create and edit waveforms on the PC with mathematical operations, filters, and point-by-point editing or draw a waveform with a mouse. Transfer waveforms to WaveStation over USB and view it on the large display. Additionally, connecting a WaveAce oscilloscope to the same PC enables seamless transfer of real world signals from oscilloscope to the WaveStation.

	WaveStation 2012	WaveStation 2022	WaveStation 2052	WaveStation 3082	WaveStation 3122	WaveStation 3162	
Bandwidth	10 MHz	25 MHz	50 MHz	80 MHz	120 MHz	160 MHz	
Channels	2						
Waveforms	Sine, Sq		Noise, Arbitrary: Sta amp, Sinc, Gaussiar			ve Pulse,	
Waveform Characteristics							
Sine							
Frequency Range	1 µHz - 10 MHz	1 µHz - 25 MHz	1 µHz - 50 MHz	1 µHz - 80 MHz	1 μHz - 120 MHz	1 µHz - 160 MHz	
Harmonic Distortion			CH1 /	CH2			
DC - 1 MHz		-60 dBc < -56 dBc					
1 MHz - 5 MHz		-53 dBc			< -46 dBc		
5 MHz -10 MHz		NA			< -46 dBc		
10 MHz - 25 MHz		-35 dBc			< -35 dBc		
25 MHz - 50 MHz		-32 dBc			< -35 dBc		
50 MHz -100 MHz		NA			< -35 dBc		
100 MHz - 160 MHz		NA			< -26 dBc		
Total Harmonic Waveform Distortion	DC	- 20 kHz, 1 Vpp < 0	.2%	DC	<mark>: - 20 KHz, 1 Vpp < C</mark>	.2%	
Spurious Signal (Non-harmonic)	D	C - 1 MHz, < -70 dB	C	DC - 160 N	1Hz, < -70 dBc + 20	dB / decade	
Spurious Signal (Non-harmonic)	1 MHz - 10 MHz,	< -70 dBc + 6 dB /	spectrum phase	DC - 160 N	1Hz, < -70 dBc + 20	dB / decade	
Phase Noise	10 kHz Offs	et, -108 dBc / Hz (ty	pical value)	100 kHz Off	set, -116 dBc / Hz (†	typical value)	
Square							
Frequency Range	1 µHz - 10 MHz	1 µHz -	25 MHz		1 µHz - 50 MHz		
Duty Cycle Range	20% - 80%	1 uHz - 10 MHz, 20% - 80% 10 MHz - 20 MHz, 40% - 60% 20 MHz - 25 MHz, 50%		≤10 MHz, 20% - 80% 10 MHz - 40 MHz, 40 - 60% 40 MHz - 50 MHz, 50%		60%	
Rise / Fall Time	<12 ns (10% - 90%)				< 6 ns (10% - 90%)		
Overshoot	< 5% (typical, 1 kHz, 1 Vpp)				< 3 %		
Asymmetric (50% Duty Cycle)	1% of period + 20 ns (typical, 1 kHz, 1 Vpp)			1% of perio	od + 5 ns (typical, 1	kHz, 1 Vpp)	
Jitter		0.4% of period (typical, 1 kHz, 1 Vpp)		DC -	1 MHz, ≤ 200 ps ± 2 MHz - 50 MHz, ≤ 500	2 ppm	
Pulse							
Frequency Range		500 μHz - 5 MHz		1 µHz - 40 MHz			
Duty Cycle Resolution		0.1 % resolution			0.0001% resolution	1	
Rise / Fall Time	7 ns (109	7 ns (10% - 90% typical 1 kHz, 1 Vpp)		6 ns ~ 6 s, 100 ps resolution			
Pulse Width	Betv	veen 16 ns and 1,8	00 s	Between 12 ns and 1,000,000 s			
		1 ns resolution		100 ps resolution			
Overshoot		< 5%		< 3%			
Jitter		8 ns (pk - pk)			1 MHz, ≤ 200 ps ± 2 ⁄IHz - 50 MHz, ≤ 500		
Triangle/Ramp							
Frequency Range		1 µHz - 300 kHz			1 µHz - 4 MHz		
Ramp Symmetry				100%			
Linearity		< 0.1% of peak	value output (typic	al, 1 kHz, 1 Vpp, 10	0% symmetric)		
Arbitrary Waveforms							
Frequency Range	1 µHz - 5 MHz		1 μHz - 40 MHz				
Waveform Length	16 kpts / Ch			Ch1: 16 Kpts Ch2: 16 Kpts or 512 Kpts			
Vertical Resolution			14	oits			
Sample Rate		125 MS/s			500 MS/s		
Min. Rise / Fall time		7 ns (typical)		6 ns			
Jitter (pk - pk)		8 ns (typical)		DC - 40 MHz, ≤ 2.1 ns ± 10 ppm			
Storage in Non-volatile RAM memory	10 waveforms			8 waveforms @) 512 kpts; 24 wave	forms @ 16 kpts	

	WaveStation 2012	WaveStation 2022	WaveStation 2052	WaveStation 3082	WaveStation 3122	WaveStation 3162		
Modulation, Sweep, Burst Capabiliti	es					-		
Amplitude Modulation								
Source	Internal / External							
Carrier	Cine Causara	Sine, Square, Ramp, Arbitrary (except DC)						
Modulation Waveform	Sine, Square,	Sine, Square, Triangle, Ramp, Noise, Arbitrary (2 mHz - 20 kHz)Sine, Square, Triangle, Ramp, Noise, Arbitrary (1 mHz - 50 kHz)						
Modulation Depth		0% - 120%						
Modulation Resolution		0.1%			1 mHz			
Modulating Waveform Sample Clock @ Max Sampling Rate				25 MHz				
Memory Size			4 k x	12 bit				
requency Modulation								
Source				/ External				
Carrier			Sine, Square, Ramp,	Arbitrary (except D	,			
Modulation Waveform	Sine, Square,	Ramp, Arbitrary (2	mHz - 20 kHz)	Sine, Square	, Triangle, Ramp, N (1 mHz - 50 kHz)	oise, Arbitrary		
Frequency Deviation	05	* BW, 10 uHz reso	lution	0	5* BW, 1 mHz resol	ution		
Frequency Resolution			1 r	nHz				
hase Modulation								
Source			Internal	/ External				
Carrier		ć	Sine, Square, Ramp,	Arbitrary (except D	C)			
Modulation Waveform	Sine, Square,	, Triangle, Ramp, No (2 mHz - 20 kHz)	oise, Arbitrary	Sine, Square	, Triangle, Ramp, N (1 mHz - 50 kHz)	oise, Arbitrary		
Phase Deviation			0 - 360 deg, 0.	l deg resolution				
SK Modulation				-				
Source			Internal	/ External				
Carrier		Ś	Sine, Square, Ramp,	Arbitrary (except D	C)			
Modulation Waveform	50% duty-cycle square waveform (2 mHz - 50 kHz) (1 mHz - 1 MHz)					oise, Arbitrary		
SK Modulation								
Source			Internal	/ External				
Carrier		S	Sine, Square, Ramp,	Arbitrary (except D	C)			
Modulation Waveform	50% duty-cycle	square waveform (2 mHz - 50 kHz)	50% duty-cycle	square waveform	(1 mHz - 1 MHz)		
WM Modulation								
Source			Internal	/ External				
Frequency		2 mHz - 20 kHz			1 mHz - 50 kHz			
Modulation Waveform		Ş	Sine, Square, Ramp,	Arbitrary (except D	C)			
External Modulation	-6 V to +	-6 V (max without d	eviation)	-4.5 V to +4	4.5 V max (max wit	h deviation)		
Duty Cycle Modulating Frequency		2 mHz - 20 kHz			2 mHz - 50 kHz			
Duty Cycle Deviation	0% to 100%	of Pulse Width, 0.1	% resolution	10	0%*DutyCycle - 15	ns.		
weep								
Carrier		Ş	Sine, Square, Ramp,	Arbitrary (except D	C)			
Туре			Linear / L	ogarithmic				
Direction	Up / Down							
Sweep Time					1 ms - 500 s ± 0.1%	6		
Trigger Source			Manual, Exte	ernal, Internal				
Sweep Range @ Max Sample Rate	1 uHz to Ba	andwith frequency (@ 125 MS/s	1 uHz to Ba	ndwidth frequency	@ 500 MS/s		
urst								
Waveform		Sine, Squ	are, Ramp, Pulse ar	d Noise, Arbitrary (e	except DC)			
Туре	Count (1 - !	50,000 Periods, Infi			,000,000 Periods) I	nfinite, Gated		
Start / Stop Phrase	,		,	360°				
Internal Period		1 µs - 500 s			1 us - 1000 s			
Gated Source			Externa	l Trigger				
Trigger Source				nal or Internal				

	WaveStation 2012	WaveStation 2022	WaveStation 2052	WaveStation 3082	WaveStation 3122	WaveStation 3162
Channel Characteristics						
Output Connector			В	NC		
Output Impedance			50 Ω , High	Impedance		
External Clock						
Input Connector			В	NC		
Frequency Range		10 MHz ± 100 Hz			10 MHz ± 1 kHz	
Min Input Voltage		3.3 Vpp			2.3 V	
Sync Output						
Voltage Level		TTL compatible		VOH (min) > 4.5 V	/, VOL (max) < 0.5 V;	(IOL / IOH = 8 mA)
Pulse Width			> 50 ns, no	t adjustable		
Output Impedance			50 Ω (typical)		
Maximum Frequency		2 MHz			10 MHz	
Trigger Output						
Voltage Level		TTL compatible			CMOS compatible	
Pulse Width		> 400 ns			> 60 ns	
Output Impedance			50 Ω (typical)		
Maximum Frequency				ЛНz		
Output Connector	Through Rear Panel					
	Ext Trig / Gate / FSK / Burst					
External Trigger						
Trigger Input Level	TTL compatible Note: The external input voltage can't be over ±6 V, otherwise instrument gets damaged					
Trigger Slope			Up or dow	n (optional)		
Trigger Pulse Width	> 100 ns > 50 ns					
Trigger Input Impedance	> 5 k Ω , DC coupling					
External Modulation	±6 V = 100% n	nodulation > 5 k Ω in	nput impedance	$\pm (4.5 \sim 5) V = 100^{\circ}$	% modulation >10 k	Ω input impedance
External Trigger		TTL compatible			CMOS compatible	
Max. Voltage Input		rnal input voltage ca se instrument gets o	damaged		Input: 0 - 5 V	
Assignable to Both Channels 1 or 2, 1 AND 2			g in: Assignment Cł Trig out: Assignmen			
Max Frequency		Ext Trig in: 1 MHz Ext Trig out: 1 MHz	in: 1 MHz External Trig out: 1 MHz		Hz	
Input Latanay					Ch1 - 366 ± 30 nS	
Input Latency	< 300 ns CH2 - 386 ± 30 nS					
Polarity Selectable	Selectable, rising edge and falling edge					
General Characteristics						
Standard Interface		U	SB Host, USB Devic	e and GPIB (IEEE 48	88)	
Front Panel Connectors			Output BNC	and USB host		
Rear Panel Connectors			BNC and	USB device		
Otata an Dawar On /Off	Calastable fastary default (last state					

State on Power On/Off	Selectable factory default / last state					
Frequency Accuracy	Within 90 days ± 50 ppm within 1 year ±100 ppm 18° C ~ 28° C	±1 ppm / year				
Temperature Coefficient	< 5 ppm / °C	±1 ppm, 0° C ~ 55° C				

2 mVpp - 3 Vpp (50 µ) 40 MHz - 130 MHz 1 mVpp 4 mVpp - 6 Vpp (high impedance) 100 MHz - 130 MHz 1 mVpp 0 MHz - 100 MHz 1 mVpp 0 MHz - 100 MHz 1 mVpp 0 MHz - 100 MHz 1 mVpp 0 MHz - 100 MHz 1 mVpp 100 MHz - 100 MHz 1 mVpp 100 MHz - 100 MHz 1 mVpp 2 mVpp - 10 Vpp (50 Q, ± 10 MHz) 100 MHz - 100 MHz 1 mVpp 2 mVpp - 10 Vpp (50 Q, ± 10 MHz) 100 MHz - 100 MHz 1 mVpp 3 mVpp - 20 Vpp (high impedance, ± 10 MHz) 100 MHz - 100 MHz 1 mVpp 4 mVpp - 20 Vpp (high impedance, ± 10 MHz) 100 MHz - 100 MHz 1 mVpp 4 mVpp - 10 Vpp (100 HHz ± 10 MHz) 100 MHz - 100 MHz 1 mVpp 2 mVpp - 10 Vpp (high impedance, ± 10 MHz) 100 MHz - 100 MHz 1 mVpp 4 mVpp - 10 Vpp (high impedance, ± 10 MHz) 100 MHz - 100 MHz 1 mVpp 4 mVpp - 10 Vpp (high impedance, ± 10 MHz) 100 MHz - 100 MHz 1 mVpp 4 mVpp - 10 Vpp (high impedance, ± 10 MHz) 100 MHz - 100 MHz 1 mVpp 4 mVpp - 10 Vpp (100 MHz ± 10 MHz) 100 MHz - 100 MHz = 10 MHz 4 mVpp - 10 Vpp (high impedance) 100 MHz - 100 MHz = 10 MHz 4 mVp - 10 Vpp (100 MHz ± 10 MZ + 10 MZ		veStation 2012	WaveStation 2022	WaveStation 2052	WaveStation 3082	WaveStation 3122	WaveStation 3162		
Amplitude - CH1 40 C+414K2: 1 mVpp-10 Amplitude - CH1 40 MHz - + 100 MHz: 1 mVpp-100 MHz - + 100 MHz: 1 mVpp-20 Hz mVpp - 50 Vpp (high impedance, > 10 MHz) Amplitude - CH2 2 mVpp - 10 Vpp (50 Ω, ≥ 10 MHz) 100 MHz - + 100 MHz: 1 mVpp-20 Hz mVpp - 50 Vpp (high impedance, > 10 MHz) Amplitude - CH2 2 mVpp - 10 Vpp (50 Ω, ≥ 10 MHz) 100 MHz - + 100 MHz: 1 mVpp-20 Hz mVpp - 50 Vpp (high impedance, > 10 MHz) Amplitude Resolution 1 mV 4 mVpp - 20 Vpp (high impedance, > 10 MHz) Amplitude Resolution 1 mV 4 mVpp - 20 Vpp (high impedance, > 10 MHz) Amplitude Resolution 1 mV 4 mVpp - 20 Vpp (high impedance, > 10 MHz) Amplitude Resolution 1 mV 4 No Resolutiz: 1 mVpp - 20 Hz mVp + 10 MHz: 1 mVpp - 20 Hz mVp + 10 MHz: 10 MZP + 10 MHz: 1 mVpp - 20 Hz mVp + 10 MHz: 10 MZP + 10 MHz: 1 mVp + 10 MHz: 1 mVp + 10 MHz: 1 mVp + 10 MHz: 10 MZP + 10 MHz: 1 mVp + 10 MHz: 1 mVp + 20 MHz: 1 mVp + 10 MHz: 1 mVp + 10 MHz: 1 mVp + 20 MHz: 1 mVp + 10 MHz: + 10 MHz: 1 mVp +	iaracteristics (contd)								
Amplitude - CH2 U Mitz - 100 Mitz 1 mVpp 100 Mitz - 100 Mitz - 10	e - CH1	2 mVpp - 3 Vpp (50 Ω)		DC - < 40 MHz: 1 mVpp - 10 Vpp (50 Ω) 40 MHz - < 100 MHz: 1 mVpp - 5 Vpp (50 Ω) 100 MHz - < 130 MHz: 1 mVpp - 1.5 Vpp (50 Ω) 130 MHz - 160 MHz: 1 mVpp - 1.5 Vpp (50 Ω)					
$\begin{tabular}{ c c c c c } & Text{Prod} Vep (50 $ \Omega_{c} = 10 $ MHz r = 100 $ MHz r$		4 mVpp - 6 Vpp (high impedance)			DC - < 40 MHz: 1 mVpp - 20 Vpp (Hi Z) 40 MHz - < 100 MHz: 1 mVpp - 10 Vpp (Hi Z) 100 MHz - < 130 MHz: 1 mVpp - 2.7 Vpp (Hi Z) 130 MHz - 160 MHz: 1 mVpp - 2.2 Vpp (Hi Z)				
Amplitude Resolution 1 mV Vertical Accuracy (Compared to 100 kHz sine) 15° C to 40° C, ≤ 40 MHz; ± (2 mV + 0.4 dB) Less than 15° C, > 40 WHz; ± (2 mV + 0.65 dB) (add 1/30th of output amplitude and speficiation per deg C for tempe aspeficiation per deg C for tempe aspeficiatin per deg C for tempe aspeficiation per deg C for tempe aspefi		2 mVpp 4 mVpp - 20 Vp	- 5 Vpp (50 Ω , > 10 pp (high impedance	0 MHz) ce, ≤ 10 MHz)	DC - < 40 40 MHz - < 1 100 MHz - < 1 130 MHz - 1 DC - < 40 40 MHz - < 1 100 MHz - <	MHz: 1 mVpp - 10 ¹ 100 MHz: 1 mVpp - 130 MHz: 1 mVpp - 60 MHz: 1 mVpp - 1 MHz: 1 mVpp - 20 00 MHz: 1 mVpp - 130 MHz: 1 mVpp -	Vpp (50 Ω) 5 Vpp (50 Ω) 1.5 Vpp (50 Ω) .5 Vpp (50 Ω) Vpp (Hi Ζ) 10 Vpp (Hi Ζ) 2.7 Vpp (Hi Ζ)		
Vertical Accuracy (Compared to 100 kHz sine) 15° C to 40° C, ≤ 40 MHz; ± (2 mV + 0.46 dB) (add 1/30th of output implifuede a spelification per deg. for tempe 18.28 deg C) Amplitude Flatness (Compared to 100 kHz sine, 3 Vpp) 10° C to 35° C; ± 0.45 dB ≤ 10 MHz; ± 0.1 C ≤ 80 MHz; ± 0.2 C Cross Talk < 70 dBc	e Resolution			11		<u>, , , , , , , , , , , , , , , , , , , </u>	<u></u>		
Amplitude Flatness (Compared to 100 kHz sine, 3 Vpp)10° C to 35° C: 4.0.45 dB All other cases: 4.0.9 dB ≤ 80 MHz ± 0.2 c ≤ 160 MHz ± 0.2 d(Compared to 100 kHz sine, 3 Vpp)All other cases: 4.0.9 dB ≤ 100 MHz ± 0.2 d(Cross Talk<-70 dBc			· · · · · · · · · · · · · · · · · · ·	,	(add 1/30th of o	utput amplitude an er deg C for tempera 18 - 28 deg C)	d offset accuracy aturs outside of		
Output Current Max - Ch 1 only \pm 60 mA \pm 200 mAOutput ConnectorBNCDC OffsetBNCCoffset \pm 1.5 V (50 Ω)Range DC - CH1 \pm 1.5 V (50 Ω)Range (DC) - Ch2 \pm 1.5 V (50 Ω) \pm 10 V (high impedance) \pm 10 V (high impedance)Offset Accuracy \pm ([setting offset value]*1% + 3 mV)Resolution1 mV0.1 mV0.1 mVWaveform Output1 mVImpedance50 Ω (typical), High ZProtectionShort-circuit protectionDimensions (H x W x D)105 mm x 229 mm x 281 mm (4.1* x 9.0" x 11.1")Valage100 - 240 Vms (± 10%), 50 / 60 HzVoltage100 - 240 Vms (± 10%), 50 / 60 HzConsumption (nominal)50 W MaxEnvironment-20° C to 40° CTemperature - Operating0° C to 40° CTemperature - Operating5% to 90% relative humidity (non-condensing) up to +30° CHumidity Range - Operating5% to 90% relative humidity (non-condensing) as t+40° CHumidity Range - Non-operating5% to 90% relative humidity (non-condensing) up to +30° CAltitude - Non-operating5% to 90% relative humidity (non-condensing) up to +30° CAltitude - Non-operating5% to 90% relative humidity (non-condensing) up to +30° CAltitude - Non-operatingUp to 15,000 meters (49,200 ft)						3			
Output Current Max - Ch 2 only \pm 200 mA \pm 200 mAOutput ConnectorBNCDC OffsetRange DC - CH1 \pm 1.5 V (50 Ω)Range (DC) - Ch2 \pm 5 V (50 Ω)Offset Accuracy \pm 10 V (high impedance)Offset Accuracy \pm ((setting offset value)*1% + 3 mV)Resolution1 mV0.1 mVWaveform OutputImpedance50 Ω (typical), High ZProtectionDisplayCharacteristics3.5 inch TFT-LCD, 320 x 240, RGB4.3 inch TFT-LCD, 480 x 3Physical Characteristics0DisplayCharacteristics000.1 mx 229 mm x 281 mm (4.1" x 9.0" x 11.1")105 mm x 261 mm x 344 mm (4.1" weight2.6 kg (5.7 lbs)2.8 kg (6.1 lbs)PowerVoltage100 - 240 V _{rms} (± 10%), 50 / 60 HzConsumption (nominal)EnvironmentEnvironmentIemperature - Operating0% to 90% relative humidity (non-condensing) at ±40° CHumidity Range - Operating0% to 90% relative humidity (non-condensing) at ±40° CHumidity Range - Non-operating5% to 90% relative humidity (non-condensing) at ±40° CHumidity Range - Non-operating0% to 90% relative humidity (non-condensing) at ±40° CHumidity Range - Non-operating0% to 90% relative humidity (non-condensing) at ±40° CHumidity Range - Non-operating0% to 90% relative humidity (non-condensing) at ±40° CHumidity Range - N	lk		< -70 dBc			< -60 dB			
Output ConnectorBNCDC Offset $\pm 1.5 \vee (50 \ \Omega)$ $\pm 5 \vee (50 \ \Omega)$ Range DC - CH1 $\pm 3 \vee (high impedance)$ $\pm 10 \vee (high impedance)$ Range (DC) - Ch2 $\pm 10 \vee (high impedance)$ $\pm 10 \vee (high impedance)$ Offset Accuracy $\pm (lsetting offset value *1% + 3 mV)$ $\pm (lsetting offset value *1% + 3 mV)$ Resolution1 mV0.1 mVWaveform Output1 mV0.1 mVImpedance $50 \Omega (typical), High Z$ ProtectionShort-circuit protectionDisplayCharacteristicsCharacteristics 3.5 inch TFT-LCD, 320×240 , RGBPhysical Characteristics $105 \text{ mm} \times 229 \text{ mm} \times 281 \text{ mm} (4.1" \times 9.0" \times 11.1")$ Ibmensions (H × W × D)105 mm × 229 mm × 281 mm (4.1" × 9.0" × 11.1")Power $100 - 240 \text{ Vrms} (\pm 10\%), 50 / 60 \text{ Hz}$ Voltage $100 - 240 \text{ Vrms} (\pm 10\%), 50 / 60 \text{ Hz}$ Consumption (nominal) 50 W Max Environment $-20^{\circ} \text{ C} \text{ to } 40^{\circ} \text{ C}$ Temperature - Operating $0^{\circ} \text{ C} \text{ to } 0^{\circ} \text{ C}$ Humidity Range - Operating 5% to 90% relative humidity (non-condensing) up to $+30^{\circ} \text{ C}$ Upper limit derates to 50% relative humidity (non-condensing) at $\pm 40^{\circ} \text{ C}$ Humidity Range - Non-operating $3,048 \text{ m} (10,000 \text{ ft}) \text{ max at } \leq 30^{\circ} \text{ C}Altitude - Non-operatingUp to 15,000 meters (49,200 ft)$			± 60 mA						
DC OffsetRange DC - CH1 $\pm 1.5 V (50 \Omega)$ $\pm 5 V (50 \Omega)$ Range DC - CH2 $\pm 3 V (high impedance)$ $\pm 10 V (high impedance)$ Offset Accuracy $\pm (lsetting offset valuel*1% + 3 mV)$ $\pm (lsetting offset valuel*1%)$ Resolution1 mV0.1 mVWaveform Output1 mV0.1 mVImpedance50 Ω (typical), High ZProtectionShort-circuit protectionDisplayCharacteristics3.5 inch TFT+LCD, 320 x 240, RGB4.3 inch TFT+LCD, 480 x 2Physical Characteristics05 mm x 229 mm x 281 mm (4.1" x 9.0" x 11.1")105 mm x 261 mm x 344 mm (4.1" x 9.0" x 11.1")Dimensions (H x W x D)105 mm x 229 mm x 281 mm (4.1" x 9.0" x 11.1")105 mm x 261 mm x 344 mm (4.1" x 9.0" x 11.1")Voltage100 - 120 V _{rms} (± 10%), 50 / 60 Hz2.8 kg (6.1 lbs)Power100 - 120 V _{rms} (± 10%), 400 Hz50 W MaxEnvironment50 W Max2.0 ° C to 40° CTemperature - Operating0° C to 40° C2.0° C to 60° CHumidity Range - Operating5% to 90% relative humidity (non-condensing) up to +30° CUpper limit derates to 50% relative humidity (non-condensing) up to +30° CHumidity Range - Non-operating5% to 95% relative humidity (non-condensing) up to +30° CAltitude - Non-operating3,048 m (10,000 ft) max at ≤ 30° CAltitude - Non-operating040 sto 200	, , , , , , , , , , , , , , , , , , , ,		± 200 mA			± 200 mA			
Range DC - CH1 $\pm 1.5 \vee (50 \ \Omega)$ $\pm 3 \vee (high impedance)$ $\pm 5 \vee (50 \ \Omega)$ $\pm 10 \vee (high impedance)$ Range (DC) - Ch2 $\pm 5 \vee (50 \ \Omega)$ $\pm 10 \vee (high impedance)$ Offset Accuracy $\pm (setting offset value *1% + 3 mV)$ $\pm 5 \vee (50 \ \Omega)$ $\pm 10 \vee (high impedance)$ Offset Accuracy $\pm (setting offset value *1% + 3 mV)$ $\pm (setting offset value *1% + 3 mV)$ Resolution1 mV0.1 mVWaveform OutputImpedance $50 \ \Omega$ (typical), High ZProtectionShort-circuit protectionDisplayCharacteristics $3.5 \operatorname{inch TFT-LCD}, 320 \times 240, RGB$ $4.3 \operatorname{inch TFT-LCD}, 480 \times 25$ Physical Characteristics $0.5 \operatorname{inch TFT-LCD}, 320 \times 240, RGB$ $4.3 \operatorname{inch TFT-LCD}, 480 \times 25$ Dimensions (H x W x D) $105 \operatorname{mm x} 229 \operatorname{mm x} 281 \operatorname{mm} (4.1" x 9.0" x 11.1")$ $105 \operatorname{mm x} 344 \operatorname{mm} (4.100 \times 100 \times 120 $	onnector			BI	NC				
Image (DC) - Ch2 \pm 3 V (high impedance) \pm 10 V (high impedance)Offset Accuracy \pm 10 V (high impedance)Resolution1 mVNaveform Output0.1 mVImpedance50 Q (typical), High ZProtectionShort-circuit protectionDisplayCharacteristicsCharacteristics3.5 inch TFT-LCD, 320 x 240, RGBPhysical CharacteristicsInto x 229 mm x 281 mm (4.1" x 9.0" x 11.1")Display105 mm x 229 mm x 281 mm (4.1" x 9.0" x 11.1")Power100 - 240 V _{rms} (\pm 10%), 50 / 60 HzVoltage100 - 240 V _{rms} (\pm 10%), 400 HzConsumption (nominal)50 W MaxEnvironment-20° C to 40° CTemperature - Operating0° C to 40° CTemperature - Storage-20° C to 60° CHumidity Range - Operating5% to 90% relative humidity (non-condensing) up to +30° CUpper limit derates to 50% relative humidity (non-condensing) at +40° CHumidity Range - Non-operating5% to 95% relative humidity (non-condensing) at +40° CAttitude - Non-operating3.048 m (10,000 ft) max at \leq 30° CAttitude - Non-operatingUp to 15,000 meters (49,200 ft)	2 011		± 1.5 V (50 Ω)			±5 V (50 Ω)			
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ORDERING INFORMATION

Product Description	Product Code
WaveStation Function/Arbitrary Waveform Ger	erators
10 MHz, 2 Ch, 14 bit, 125 MS/s Function/Arbitrary Waveform Generator	WaveStation 2012
25 MHz, 2 Ch, 14 bit, 125 MS/s Function/Arbitrary Waveform Generator	WaveStation 2022
50 MHz, 2 Ch, 14 bit, 125 MS/s Function/Arbitrary Waveform Generator	WaveStation 2052
80 MHz, 2 Ch, 14 bit, 500 MS/s Function/Arbitrary Waveform Generator	WaveStation 3082
120 MHz, 2 Ch, 14 bit, 500 MS/s Function/Arbitrary Waveform Generator	WaveStation 3122
160 MHz, 2 Ch, 14 bit, 500 MS/s Function/Arbitrary Waveform Generator	WaveStation 3162

Product Description	Product Code
Included with Standard Configuration	
Power Cable for the Destination Country	
USB 2.0 Cable Type A to B (Black, 1 m)	
USB to GPIB Converter	
Getting Started Manual	
Performance Certificate	
Declaration of Conformity	
Product Registration Card	

Accessories

Rack Mount Kit for WaveStation 2000 / 3000

WSTA-RACK

Customer Service

Teledyne LeCroy instruments are designed, built, and tested to ensure high reliability. In the unlikely event you experience difficulties, our waveform generators are fully warranted for three years.

This warranty includes:

- No charge for return shipping
- Long-term 7-year support
- Upgrade to latest software at no charge

For more information, please contact:





Local sales offices are located throughout the world. Visit our website to find the most convenient location.