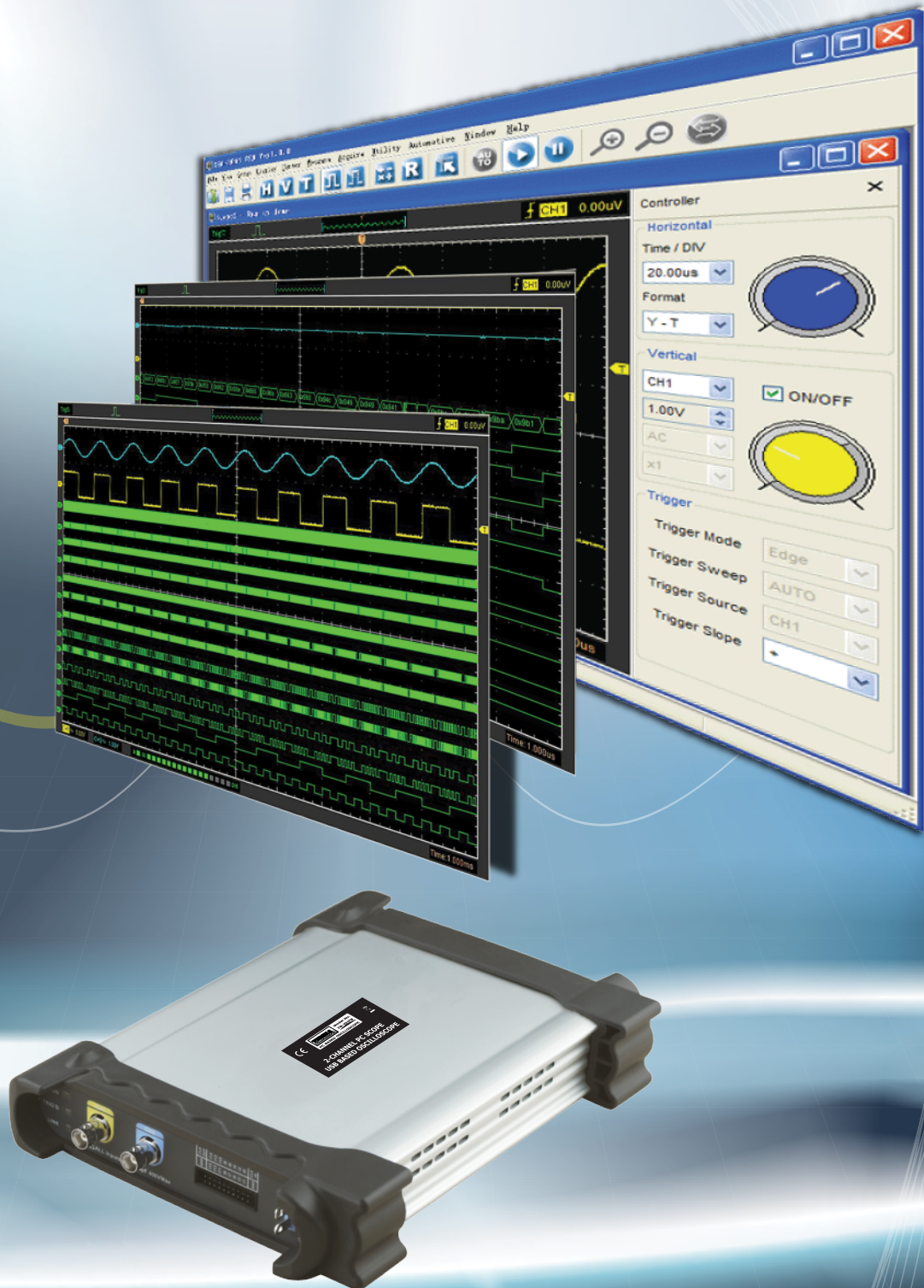


PC USB Digital Oscilloscope

60MHz; 2CH; 72-10178



Feature

5 in 1 multifunctional testing instrument:
Oscilloscope / Logic Analyzer / Arb. Waveform Generator / FFT Spectrum Analysis / Frequency Counter.
16M memory depth oscilloscope; 16 data input channels and 16M sample depth logic analyzer;
200MSa/s DDS arb. waveform generator;

Specifications

Model			72-10178
Acquisition	Sample Mode		Real-Time Sample
	Sample Rate		200MSa/s
	Average		N acquisitions, all channels simultaneously, N is selectable from 2, 4, 8, 16, 64, and 128
Input	Input Coupling		DC, AC, GND
	Input Impedance		Resistance: 1M Ω ; Capacitance: 25pF
	P-80,PP-150,PP-200 Probe Attenuation		10X
	Probe Attenuation Factors		1X, 10X
Horizontal	Maximum Input Voltage		400Vpk (DC + peak)
	Scanning Speed Range(Sec/Div)		5ns/div ~ 1000s/div(1-2-5 sequences)
	Sample Rate and Delay Time Accuracy		± 50 ppm(any interval ≥ 1 ms)
	Wave form Interpolation		Step, Linear, Sin(x)/x
	Memory Depth(Sample Points)		10K ~ 16M for each channel; 16M: 5ns/div-1000s/div
	Analog Bandwidth		60MHz (-3dB)
Vertical	A/D converter		8 bit resolution
	Vertical Scale(Volt/div) Range		10mV ~ 5V/div @ x1 probe(1,2,5 sequence);100mV ~ 50V/div @ x10 probe
	Position Range		± 4 division
	Selectable Analog		
	Bandwidth Limit(typical)		20MHz
	Lower Frequency Response(-3dB)		≤ 10 Hz(at input BNC)
Trigger	Rise Time at BNC(typical)		≤ 5.8 ns
	DC Gain Accuracy		$\pm 3\%$
	Trigger Source		CH1,CH2, EXT
	Trigger Mode		Auto, Normal and Single
	Trigger Type		Edge, Pulse,Video, Alternative
	Trigger Sensitivity		0.02 div increments
Measurement	Trigger Level Range		± 4 V
	Trigger Level Accuracy		± 4 division
	Edge Trigger Slope		Rising, Falling
	Pulse Width Trigger		Trigger Condition: Trigger when <, >, =, or $\neq$; Positive pulse or Negative pulse Pulse Width Range: Selectable from 20ns to 10s
	Video Trigger Type (Signal Formats and Field Rates)		Supports NTSC, PAL and SECAM broadcast systems for any field or any line
	Alternative Trigger		CH1/CH2: Internal Trigger, Edge, Pulse Width, Video
Arbitrary Waveform Generator	Cursor Measure		Amplitude difference between cursors (ΔV); Time difference between cursors (Δt); Reciprocal of Δt in Hertz (1/ Δt) (Cross, Trace, Horizontal, Vertical)
	Auto Measure	Voltage Time	Vp-p, Vmax, Vmin, Vmean, Vamp, Vtop, Vbase, Vmid, Vrms, Vcrms,Preshoot, Overshoot Frequency, Period, Rise Time(10%-90%), Fall Time(10%-90%), Positive Width, Negative Width, Duty Cycle
	Waveform Frequency		DC~25MHz
	DAC clock		2K~200MHz adjustable
	Frequency Resolution		0.10%
	Waveform Depth		4K Sample
Logic Analyzer	Vertical Resolution		12 bit
	Frequency Stability		<30ppm
	Wave Amplitude		± 3.5 V Max.
	Output Impedance		50 Ω
	Output Current		50mA ,Ipeak=50mA
	System BW		25MHz
Environmental	Harmonic Distortion		-50dB(1KHz), -40dB(10KHz)
	High input impedance		200K Ω (C=10pF)
	Input Voltage Range		-60V~60V
	Logic threshold Range		-6~6V
	Max. Sample Rate		100MHz
	Bandwidth		10MHz
Mechanical	Compatible input		TTL, LVTTTL, CMOS, LVCMOS, ECL, PECL, EIA
	Storage depth		10K-68M
	Temperature		Operating: 0 $^{\circ}$ C to 40 $^{\circ}$ C; Non-operating: -20 $^{\circ}$ C to +60 $^{\circ}$ C)
	Cooling Method		Forced air
	Humidity		Below +35 $^{\circ}$ C , $\leq 90\%$ relative humidity; +35 $^{\circ}$ C to +40 $^{\circ}$ C , $\leq 60\%$ relative humidity
	Altitude		Operating: 3,000m or below; Non-operating: 15,000m or below
Accessories	Size		190mm(L)x100mm(W)x35mm(H)
	Heavy		Without Packaged 0.29kg; Packaged 0.9kg;
	Probe		X1, X10 four passive probes. The passive probes have a 6MHz bandwidth (rated 100Vrms CAT III) when the switch is in the X1 position, and a maximum bandwidth (rated 300Vrms CAT II) when the switch is in the X10 position. Each probe consists of all necessary fittings.
	Adapter		A power adapter special for this product. In addition to the power adapter shipped with your instrument, you may purchase another one certified for the country of use.
	USB Line		A USB A-B line, used to connect external devices with USB-B interface like a printer or to establish communications between PC and the oscilloscope.
	Software Installation CD		A software installation CD and it also contains the user manual for the Tenma Oscilloscope.
	BNC to BNC		A Probe(BNC to BNC)
	Cable		A 20-pin logic analyzer exhaust cable
	Test Hook		Eighteen little test hooks, Logic analyzer with high-quality test hook