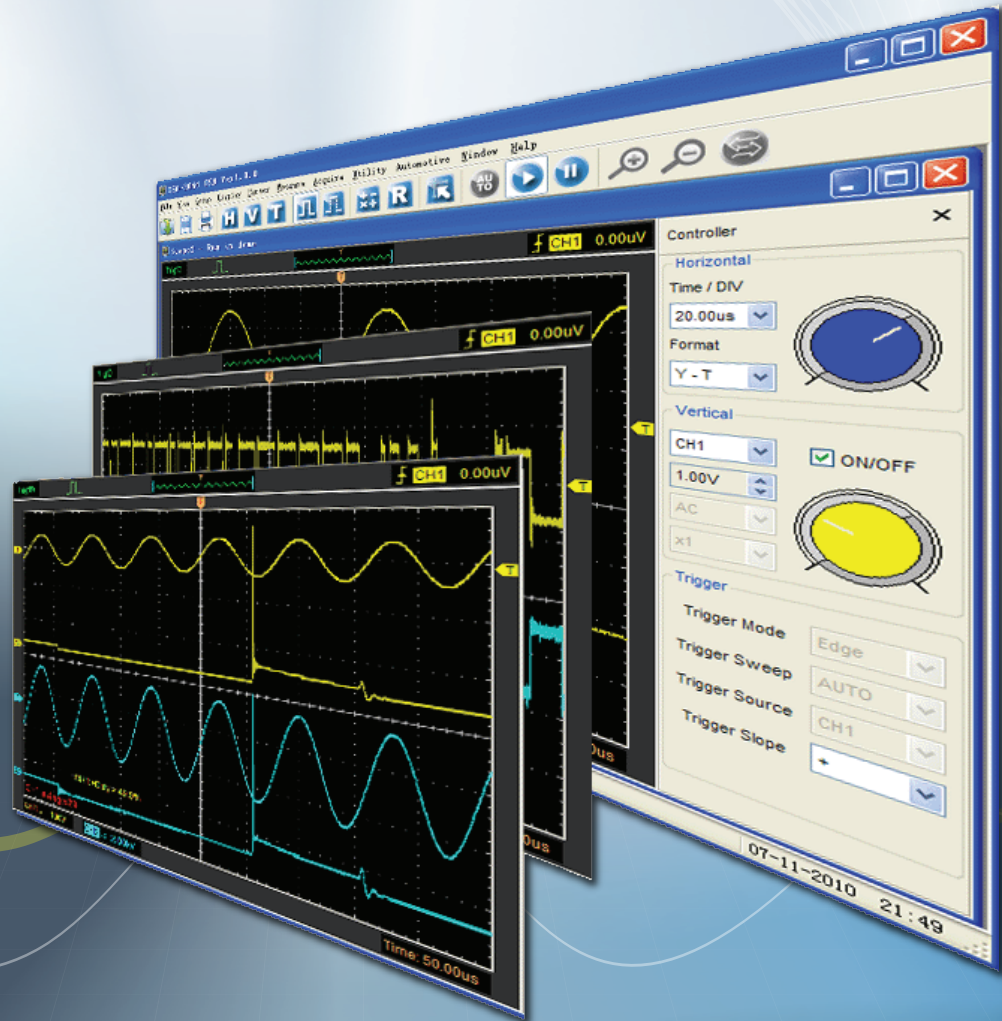# PC USB Digital Oscilloscope

## 60MHz; 4CH;    72-10175

# Feature

- 4 Channels and EXT trigger, 60MHz Bandwidth.
- 200MSa/s real-time sampling rate, 10k--16M memory depth per Channel.
- Frequency Counter, FFT spectrum analysis.
- 8--36V Wide range of input voltage, suitable for vehicle power.
- USB 2.0 interface plug and play, LAN and WIFI optional.
- More than 20 kinds of automatic measurement function, PASS/FAIL Check function, is suitable for engineering application.
- Software Support: Windows NT, Windows 2000, Windows XP, VISTA, Windows 7.
- Supply DEMO code (VC/VB/LABVIEW) and technical support.

## Specifications

| Model | | 72-10175 |
|---|---|---|
| **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: 1MΩ; Capacitance: 25pF |
| | P-80,PP-150,PP-200 Probe Attenuation | 10X |
| | Probe Attenuation Factors | 1X, 10X |
| | Maximum Input Voltage | 400Vpk (DC + peak) |
| **Horizontal** | Scanning Speed Range(Sec/Div) | 5ns/div ~ 1000s/div(1-2-5 sequences) |
| | Sample Rate and Delay Time Accuracy | ±50ppm( any interval ≥1ms ) |
| | Wave form Interpolation | Step, Linear, Sin(x)/x |
| | Memory Depth(Sample Points) | 10K ~ 16M for each channel; 16M: 5ns/div-1000s/div |
| **Vertical** | Analog Bandwidth | 60MHz (-3dB) |
| | 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 | ±4division |
| | Selectable Analog Bandwidth Limit(typical) | 20MHz |
| | Lower Frequency Response(-3dB) | ≤ 10Hz(at input BNC) |
| | Rise Time at BNC(typical) | ≤5.8ns |
| | DC Gain Accuracy | ±3% |
| **Trigger** | Trigger Source | CH1,CH2, CH3, CH4, EXT |
| | Trigger Mode | Auto, Normal and Single |
| | Trigger Type | Edge, Pluse,Video, Alternative |
| | Trigger Sensitivity | 0.02 div increments |
| | Trigger Level Range | ±4V |
| | Trigger Level Accuracy | ±4 division |
| | Edge Trigger Slope | Rising, Falling |
| | Pulse Width Trigger | Trigger Condition： Trigger when <, >, =, or ≠; 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/CH3/CH4: Internal Trigger, Edge, Pulse Width, Video |
| **Measurement** | 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 | Vp-p, Vmax, Vmin, Vmean, Vamp, Vtop, Vbase, Vmid, Vrms, Vcrms,Preshoot, Overshoot |
| | Auto Measure — Time | Frequency, Period, Rise Time(10%~90%), Fall Time(10%~90%), Positive Width, Negative Width, Duty Cycle |
| **Environmental** | Temperature | Operating: 0℃ to 40℃; Non-operating: -20℃ to +60℃) |
| | Cooling Method | Forced air |
| | Humidity | Below +35℃, ≤90% relative humidity; +35℃ to +40℃, ≤60% relative humidity |
| | Altitude | Operating: 3,000m or below; Non-operating:15,000m or below |
| **Mechanical** | Size | 190mm(L)x100mm(W)x35mm(H) |
| | Heavy | Without Packaged 0.29kg; Packaged 0.9kg; |
| **Accessories** | 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. |