

DSO2000 Series Digital oscilloscope 100-150Mhz



◆ Feature:

- 1) 2 channels which are respectively controlled by independent knobs
- 2) 100 MHz and 150MHz analog channel bandwidth
- 3) Sampling rate up to 1 GSa/s
- 4) 8M memory depth
- 5) Vertical range 2mV/div ~ 10V/div
- 6) Built-in 1 CH 25MHz waveform generator (DSO2D10, DSO2D15)
- 7) Vertical resolution: 8bit
- 8) Trigger: Edge, Pulse, Video, Slope, Overtime, Window, Pattern, Interval, Under Amp, UART, LIN, CAN, SPI, IIC
- 9) BUS decode and protocol analysis: RS232/UART, I2C, SPI, CAN, LIN
- 10) Can save multiple data formats, such as settings, waveforms, reference waveforms, CSV, pictures
- 11) A 3-digit digital voltage meter and a 6-digit hardware frequency indicator
- 12) 32 kinds of auto measurements with statistics, real-time statistics of maximum, minimum, standard deviation and etc.
- 13) 2 sets of digital voltmeters
- 14) Support threshold testing, free measurements within the screen
- 15) Abundant SCPI remote command control
- 16) USB Host/Device.

◆ Model

| Model | Channel | Bandwidth | Sample rate | Memory depth | AWG |
|---------|----------|-----------|-------------|--------------|---------|
| DSO2C10 | 2 CH | 100 MHz | 1GSa/S | 8M | Without |
| DSO2C15 | 2 CH | 150 MHz | 1GSa/S | 8M | Without |
| DSO2D10 | 2 CH+1CH | 100 MHz | 1GSa/S | 8M | 1CH |
| DSO2D15 | 2 CH+1CH | 150 MHz | 1GSa/S | 8M | 1CH |

| Model | DSO2D15 | DSO2D10 | DSO2C15 | DSO2C10 |
|--|---|---------|---------|---------|
| Bandwidth | 150MHz | 100MHz | 150MHz | 100MHz |
| Oscilloscope channels | 2CH | 2CH | 2CH | 2CH |
| Waveform generator | 1CH | 1CH | - | - |
| Oscilloscope | | | | |
| Sample rate | 1GSa/s (single channel) 500MSa/s (two channels) | | | |
| Acquisition | | | | |
| Normal | Sample data | | | |
| Peak-to-peak value | Display high frequency and random burr | | | |
| Average | Average waveform, times: 4, 8, 16, 32, 64, 128 | | | |
| High resolution | Up to 12bit | | | |
| Input | | | | |
| Input coupling | DC, AC, GND | | | |
| Input impedance | 1MΩ±2% 20pF±3pF | | | |
| Probe attenuation factor | 1X, 10X, 100X, 1000X | | | |
| Voltage rating | 300V CAT II | | | |
| Maximum input voltage | 300VRMS (10X) | | | |
| Horizontal | | | | |
| Waveform interpolation | (sin x)/x | | | |
| Maximum record length | Single channel maximum 8M | | | |
| | Two channels maximum 4M | | | |
| Horizontal scale range | 2ns/div~100s/div 1, 2, 5 step by step | | | |
| Time base mode | Y-T, X-Y, Roll | | | |
| Zero offset | ±0.5 div×minimum time base gear | | | |
| Sample Rate and Delay Time Accuracy | ±25ppm | | | |
| Delta Time Measurement Accuracy (Full Bandwidth) Sample Rate and Delay Time Accuracy | single-shot, Normal mode ± (1 sample interval+100ppm×reading+0.6ns) | | | |
| | > 16 times averages ± (1 sample interval+100ppm×reading+0.4ns) | | | |
| | Sample interval=sec/div÷200 | | | |
| Sample Rate and Delay Time Accuracy | ±50ppm (at any interval greater than 1ms) | | | |
| Vertical | | | | |
| Model | DSO2D15 | DSO2D10 | DSO2C15 | DSO2C10 |
| Bandwidth | 150MHz | 100MHz | 150MHz | 100MHz |

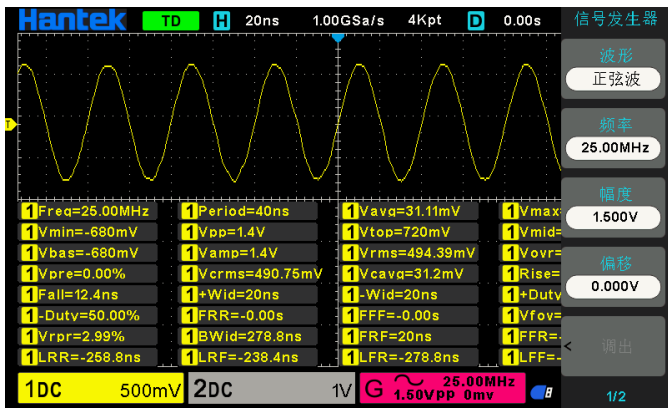
| | | | | |
|---|---|---|-------|-------|
| Rising time in BNC position (typical) | 2.4ns | 3.5ns | 2.4ns | 3.5ns |
| Vertical resolution | 8 bits resolution, each channel samples simultaneously | | | |
| Vertical sensitivity | 2mV/div to 10V/div | | | |
| Offset range | ≥ 200mV/div, ±1V; | | | |
| | < 200mV/div ±50V | | | |
| Mathematical operation | +, -, ×, ÷, FFT | | | |
| FFT | Window: Rectangle, Hanning, Hamming, Blackman, Bartlett, Flattop | | | |
| Bandwidth Limit | 20MHz | | | |
| Bass response (-3db) | In BNC position ≤ 10Hz | | | |
| Vertical gain accuracy | In "normal" or "average" acquisition mode, the accuracy of 10V/div to 10mV/div is ±3%; | | | |
| | In "normal" or "average" acquisition mode, the accuracy of 5mV/div to 2mV/div is ±4% | | | |
| Note: Bandwidth reduced to 6MHz when using a 1X probe | | | | |
| Trigger | | | | |
| Trigger type | Edge, Pulse width, Video, Slope, Overtime, Window, Pattern, Interval, Under Amp, UART, LIN, CAN, SPI, IIC | | | |
| Trigger level range | ±5 divisions from the center of the screen | | | |
| Trigger mode | Auto, Normal, single | | | |
| Level | CH1~CH2 | ±4 divisions from the center of the screen | | |
| | EXT(Only With AWG Model) | 0~3.3V | | |
| Holdoff range | 8ns~10s | | | |
| Trigger level accuracy | CH1~CH2 | 0.2 div×volts/div within ±4 divisions from the center of the screen | | |
| | EXT(Only With AWG Model) | ± (Set value× 6%+40mV) | | |
| Edge trigger | Slope | Rising edge, falling edge, rising or falling edge | | |
| | Signal source | CH1, CH2, EXT(Only With AWG Model) | | |
| Pulse width trigger | Polarity | Positive polarity, negative polarity | | |
| | Condition(When) | <, >, !=, = | | |
| | Signal source | CH1~CH2, | | |
| | Pulse width range | 8ns ~ 10s | | |
| Video trigger | Accuracy | 8ns | | |
| | Signal standard | NTSC, PAL | | |
| | Signal source | CH1~CH2 | | |
| | Synchronization | Scanning line, line number, odd field, even field, all field | | |
| | Slope | rising, falling | | |
| Slope trigger | Condition(When) | <, >, !=, = | | |
| | Signal source | CH1 ~ CH2 | | |
| | Time range | 8ns ~ 10s | | |
| | Accuracy | 8ns | | |

| | | |
|-------------------------|-------------------------|--|
| Overtime trigger | Signal source | CH1~CH2, |
| | Polarity | Positive polarity, negative polarity |
| | Time range | 8ns ~ 10s |
| | Accuracy | 8ns |
| Window trigger | Signal source | CH1~CH2 |
| Pattern trigger | Pattern | 0: low level; 1: high level; X: ignore |
| | Level (signal source) | CH1~CH2 |
| Interval trigger | Slope | rising, falling |
| | Condition(When) | <, >, !=, = |
| | Signal source | CH1~CH2 |
| | Time range | 8ns ~ 10s |
| | Accuracy | 8ns |
| Under Amp trigger | Polarity | Positive polarity, negative polarity |
| | Condition(When) | <, >, !=, = |
| | Signal source | CH1~CH2 |
| | Time range | 8ns ~ 10s |
| | Accuracy | 8ns |
| UART trigger | Condition(When) | Start, Stop, data, Parity ERR, COM ERR |
| | Signal source(RX/TX) | CH1~CH2 |
| | Data format | Hex (hexadecimal) |
| | Data length | 1 byte |
| | Data bit width | 5 bit, 6 bit, 7 bit, 8 bit |
| | Odd-even check | none, odd, even |
| | Idle level | high, low |
| | Baud rate (optional) | 110/300/600/1200/2400/4800/9600/14400/19200/38400/57600/115200 /230400/380400/460400 bit/s |
| Baud rate(user-defined) | 300bit/s~334000bit/s | |
| LIN trigger | Condition(When) | Interval field, synchronization field, ID field, synchronization error, identifier, ID and data |
| | Signal source | CH1~CH2 |
| | Data format | Hex (hexadecimal) |
| | Baud rate (optional) | 110/300/600/1200/2400/4800/9600/14400/19200/38400/57600/115200 /230400/380400/460400 bit/s |
| | Baud rate(user-defined) | 300bit/s~334000bit/s |
| CAN trigger | Condition(When) | Start bit, remote frame ID, data frame ID, frame ID, data frame data, error frame, all errors, ACK Error, overload frame |
| | Signal source | CH1~CH2 |
| | Data format | Hex (hexadecimal) |
| | Baud rate (optional) | 10000, 20000, 33300, 500000, 62500, 83300, 100000, 125000, 250000, 500000, 800000, 1000000 |
| | Baud rate(user-defined) | 5kbit/s~1Mbit/s |

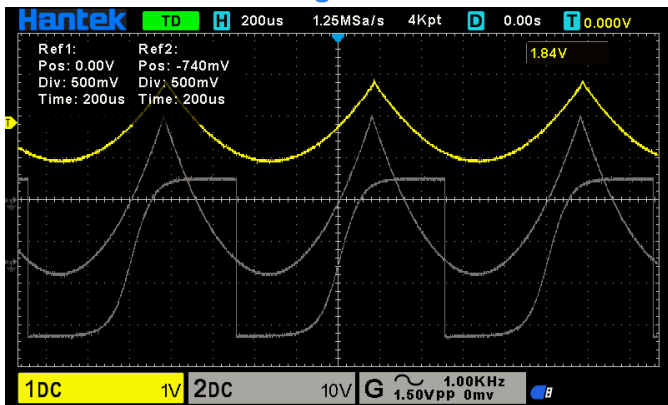
| | | |
|------------------------------|---|---|
| SPI trigger | Signal source | CH1~CH2 |
| | Data format | Hex (hexadecimal) |
| | Data bit width | 4, 8, 16, 24, 32 |
| IIC trigger | Signal source (SDA/SCL) | CH1~CH2 |
| | Data format | Hex (hexadecimal) |
| | Data index | 0~7 |
| | When(condition) | Start bit, stop bit, No Ack, address, restart, address and data |
| Measurement | | |
| Cursor | Voltage difference between cursors ΔV | |
| | Time difference between cursors ΔT | |
| | Reciprocal of ΔT , in Hertz ($1/\Delta T$) | |
| Auto measurement | frequency, period, mean, peak-to-peak, RMS, minimum, mixmum, rising time, falling time, + width, - width, base, top, middle, amplitude, overshoot, preshoot, rising edge phase difference, falling edge phase difference, + duty, - duty, period mean, PRMS, FOVshoot, ROVshoot, BWIDTH, FRF, FFR, LRR, LRF, LFR, LFF | |
| DVM | Data source | CH1, CH2 |
| | Measurement type | DC RMS |
| | | AC RMS |
| | | DC |
| Frequency meter | hardware 6 bits frequency meter | |
| Arbitrary waveform generator | | |
| Channel | 1 | |
| Sample rate | 200MSa/s | |
| Vertical resolution | 12 bits | |
| Maximum frequency | 25 MHz | |
| Standard waveforms | sine, square, ramp,Exp, noise, DC | |
| Arbitrary waveform | Arb1, Arb2, Arb3, Arb4 | |
| Sin | Frequency range | 0.1Hz~25MHz |
| Square/pulse | Frequency range | 0.1Hz~10MHz |
| Triangular wave | Frequency range | 0.1Hz~1MHz |
| Sampling wave | Frequency range | 0.1Hz~1MHz |
| Index | Frequency range | 0.1Hz~5MHz |
| Noise | | |
| Arb1 | Frequency range | 0.1 Hz to 10 MHz |
| Arb2 | Frequency range | 0.1 Hz to 10 MHz |
| Arb3 | Frequency range | 0.1 Hz to 10 MHz |
| Arb4 | Frequency range | 0.1 Hz to 10 MHz |
| Waveform length | 4KSa | |
| Frequency | Accuracy | 100 ppm (<10 kHz) 50 ppm (>10 kHz) |
| | Resolution | 0.1 Hz or 4 bits, take the greater one |
| Amplitude | Output range | 10mV~7Vp-p (high impedance) |
| | | 5mV~3.5Vp-p (50 Ω) |
| DC offset | Range | ± 3.5 V, high impedance |
| | | ± 1.75 V, 50 Ω |

| | | | | |
|------------------------|--------------------------|---|--|--|
| | Resolution | 100 μ V or 3 bits, take the greater one | | |
| | Accuracy | 2% (1 kHz) | | |
| Output impedance | 50 Ω | | | |
| General specifications | | | | |
| Display | Display type | 7" diagonal TFT liquid crystal | | |
| | Display resolution | 800 (horizontal)*480 (vertical) pixels | | |
| | Display colour | 16 million colours (24 bits true colour) | | |
| | Persistence time | minimum, 1 s, 5 s, 10 s, 30 s, infinite | | |
| | Display type | dot, vector | | |
| | Display brightness | adjustable | | |
| | Grid type | adjustable | | |
| | Grid brightness | adjustable | | |
| Interface | Standard interface | USB Host, USB Device | | |
| General specifications | Probe compensator output | | | |
| | Output voltage, typical | about 2Vpp input \geq 1M Ω load | | |
| | Frequency, typical | 1kHz | | |
| | Power supply | 100-120VAC _{RMS} (\pm 10%), 45Hz to 440Hz, CAT II | | |
| | | 120-240VAC _{RMS} (\pm 10%), 45Hz to 66Hz, CAT II | | |
| | Power consumption | <30W | | |
| | Fuse | T, 3.15A, 250V, 5x20mm | | |
| | Operating temperature | 0~50 $^{\circ}$ C (32~122 $^{\circ}$ F) | | |
| | Storage temperature | -40~+71 $^{\circ}$ C (-40~159.8 $^{\circ}$ F) | | |
| | Humidity | \leq +104 $^{\circ}$ F(\leq +40 $^{\circ}$ C): \leq 90% relative humidity | | |
| | | 106 $^{\circ}$ F~122 $^{\circ}$ F (+41 $^{\circ}$ C ~50 $^{\circ}$ C): \leq 60% relative humidity | | |
| | Altitude | Operating and nonoperating | 3, 000m (10, 000 feet) | |
| | Mechanical shock | Random vibration | 0.31 g _{RMS} from 50Hz to 500Hz, 10 minutes on each axis | |
| | | Nonoperating | 2.46g _{RMS} from 5Hz to 500Hz, 10 minutes on each axis | |
| | | Operating | 50g, 11ms, half-sine wave | |
| | Mechanical | Size | 318 x 110 x 150mm (length x width x height) | |
| Weight | | 1900g | | |

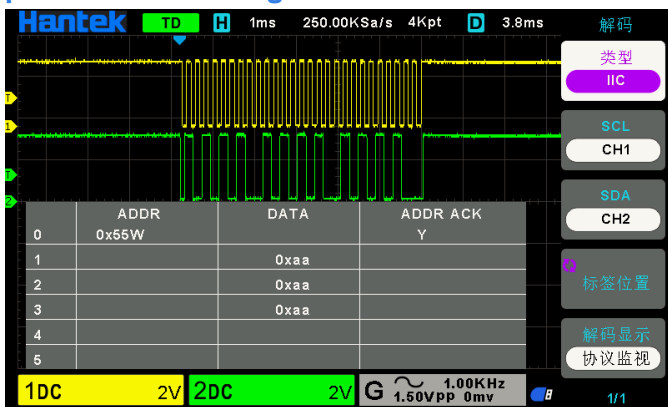
1CH 25MHz waveform generator



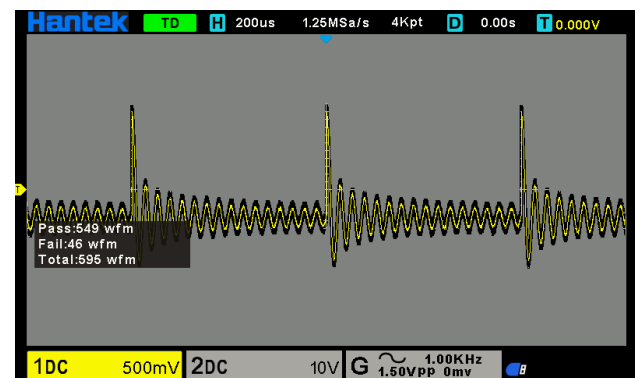
Can save 10 sets of reference waveforms, CSV waveforms and settings



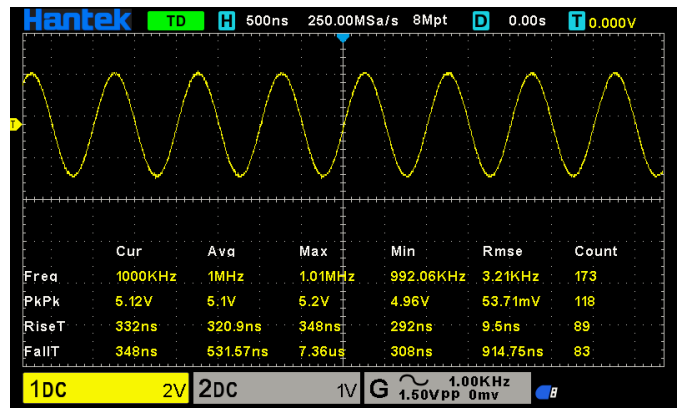
Serial bus trigger and decode, with the protocol monitoring function



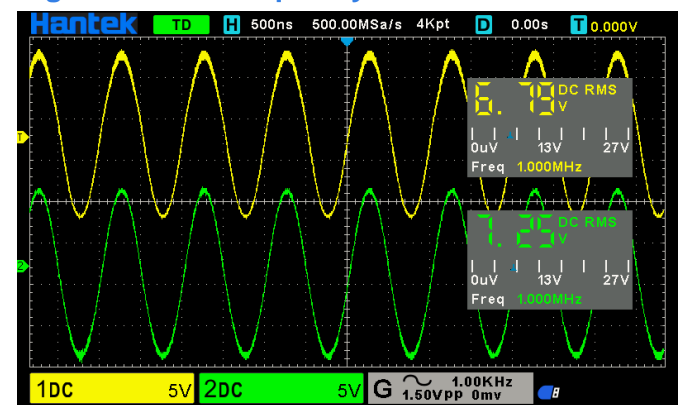
PASS/FAIL



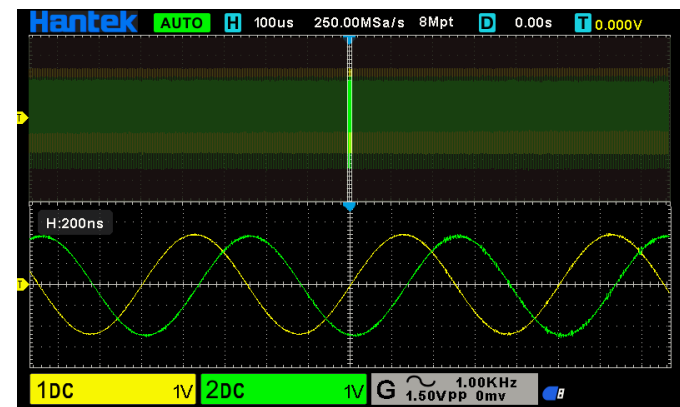
32 kinds of auto measurements with statistics



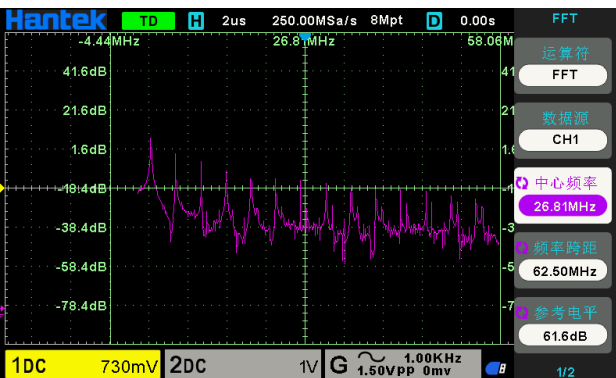
2 sets of DVM, 3-digit digital voltage meter and 6-digit hardware frequency indicator functions



8M memory depth, reducing waveform distortion and restore real waveforms



Mathematical operation and FFT



X-Y format and display in dual windows

