

Digital Storage Oscilloscope, the DCS-7500 series



Description	Model	
1GS/s 2ch Digital Storage Oscilloscope	150MHz	DCS-7515
	100MHz	DCS-7510
	60MHz	DCS-7506

Outline

The DCS-7500 series are 2ch Digital Storage Oscilloscopes which have 5.6-inch color LCD (TFT) and LED back light. There are three models (Frequency bandwidth : 150MHz, 100MHz and 60MHz) and their sample rate is 1GS/s (at Real-Time, maximum on each channel) or 25GS/s E.T. (at Equivalent, maximum on each channel). In addition, two-Mega points memories' record length, and wave form magnification function are available and they enable to measure wave forms in detail.

The DCS-7500 series are user friendly and high-performance. Automatic measurement and calculation functions are available and they enable to use the DCS-7500 series for development, designing, production lines, education and so on.

In addition, wave form data captured by the DCS-7500 series can be imported, edited and output by arbitrary function generators for simulation test of re-creating complicated wave forms

Features

- **Frequency bandwidth**
Three types, 150MHz, 100MHz and 60MHz, are available.
- **High sample rate**
Maximum 1GS/s (25ns/div~100 μ s/div) (using 1ch)
Maximum 500MS/s (50ns/div~100 μ s/div) (using 2ch at a time)
25GS/s equivalent sample rate per channel
- **Long memory**
Maximum two mega points (one mega points at using 2ch) long memory is available and it enable to monitor magnified wave forms in detail.
- **Automatic measurement functions**
27 kinds of automatic measurement functions (for vertical axis : 12 items, for horizontal axis : seven items and for delaying : eight items) are available and five parameters can be displayed on the LCD display at same time.
- **Automatic calculation functions**
Versatile calculation (+, -, x, FFT, FFT-RMS analysis) functions are available.
- **Built-in memory**
The DCS-7500 series can memorise front panel setting and wave forms data by themselves using the memory.
- **Clear display**
The DCS-7500 series have a broad outlook 5.6 inch color LCD display (TFT) and LED back light.
- **Support voltage and current probes**
Enable to set measuring scales of voltage / current (vertical axis) at from x 0.1 ~ x 2000 (1-2-5 steps) according to probes.
- **Various trigger functions**
Edge trigger, Video trigger and Pulse trigger functions are available.
- **SD / SDHC card slot**
To inset SD / SDHC card into the slot on front panel enable to save wave forms data (CSV), image data (BMP) and front panel setting in the card.
- **Application software; FreeWave**
The software enables to control the DCS-7500 series by PC (through USB). It can display wave forms on PC display in real time and save wave forms data as not only still picture but also motion picture by PC.

Specification

		DCS-7515	DCS-7510	DCS-7506
Vertical axis				
Sensibility		2mV/div~10V/div (1-2-5 steps)		
Accuracy		$\pm(3\% \times [\text{Readout}] + 0.1\text{div} + 1\text{mV})$		
Bandwidth (-3dB)	DC (AC) coupling	DC(10Hz)~150MHz	DC(10Hz)~100MHz	DC(10Hz)~60MHz
Rise time		2.3ns max.	3.5ns max.	5.8ns max.
Input impedance		1M Ω \pm 2%, Approx. 15pF		
Maximum input voltage		300V (DC + AC peak), Installation Category II		
20MHz bandwidth (-3dB) function		Available		
Trigger				
Sources		CH1, CH2, LINE, EXT		
Modes		AUTO, NORMAL, SINGLE, TV (Video), Edge, Pultch Width, Forcing		
Coupling		AC, DC, Low / High Frequency rejection, Noise rejection		
Trigger sensibility	0.5div (5mV min.)	DC ~ 25MHz		
Ext. trigger sensibility	1.5div (15mV min.)	25MHz ~ 150MHz	25MHz ~ 100MHz	25MHz ~ 60MHz
Horizontal axis				
Range		1ns/div~50s/div, 1-2-5 steps (250ms/div~50s/div at Roll mode)		
Modes		Main, Area magnification, Magnification, Roll, X-Y		
Accuracy		$\pm 0.01\%$		
Delay range	Pre-trigger	10 div Max.		
	Post-trigger	1000 div		
Signal Acquisition System				
Sample rate	Real-time	1GS/s Max. (1ch)		
	Equivalent	25GS/s Max.		
Vertical resolution		8 bits, 25 levels / div		
Record length		One Mega points Max. (2CH), Two Mega points Max. (1CH)		
Acquisition modes		Normal, Peak Detect, Avarage		
Peak detection		10ns (500ns/div~50s/div)		
Average		2, 4, 8, 16, 32, 64, 128, 256		
Cursors and Measurement				
Automatic measurement functions	Vertical axis	Peak-to-peak, Max., Min., Amp, High, Low, Avarage, Rms, Upper / Lower overshoot, Upper / Lower preshoot		
	Horizontal axis	Frequency, Period, Rise time, Fall time, Positive pulse width, Negative pulse width, Duty cycle		
	Delaying	FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF		
Cursors measurement		Voltage / Time difference between cursors (ΔV , ΔT , $1/\Delta T$)		
Frequency counter		Resolution : six digits, Accuracy : $\pm 2\%$ (cannot measure below two Hz)		
Interfaces				
USB device port		Standard equipment, Compliant with USB 1.1 and 2.0 full-speed, Compatible with PictBridge printers		
SD card slot		Standard equipment, Compliant with SD / SDHC (Class 2, 4 and 6), Capacity 32 GB Max. (SDHC)		
General				
Power requirements		100V~240V AC, 47Hz~63Hz		
Power consumption		18 Watts, 40VA max.		
Overall dimensions		341.5 (W) x 162.3 (H) x 159 (D) mm		
Weight		Approx. 2.5 kg		
Accessories		Probe, AC power cord, CD-ROM (Instruction manual, APP software; FreeWave)		

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