WideView

DS-1500 Series

Digital Oscilloscope

Find out a hidden waveform other are missing!

Analog-View Technology!

Control waveforms at remote site!

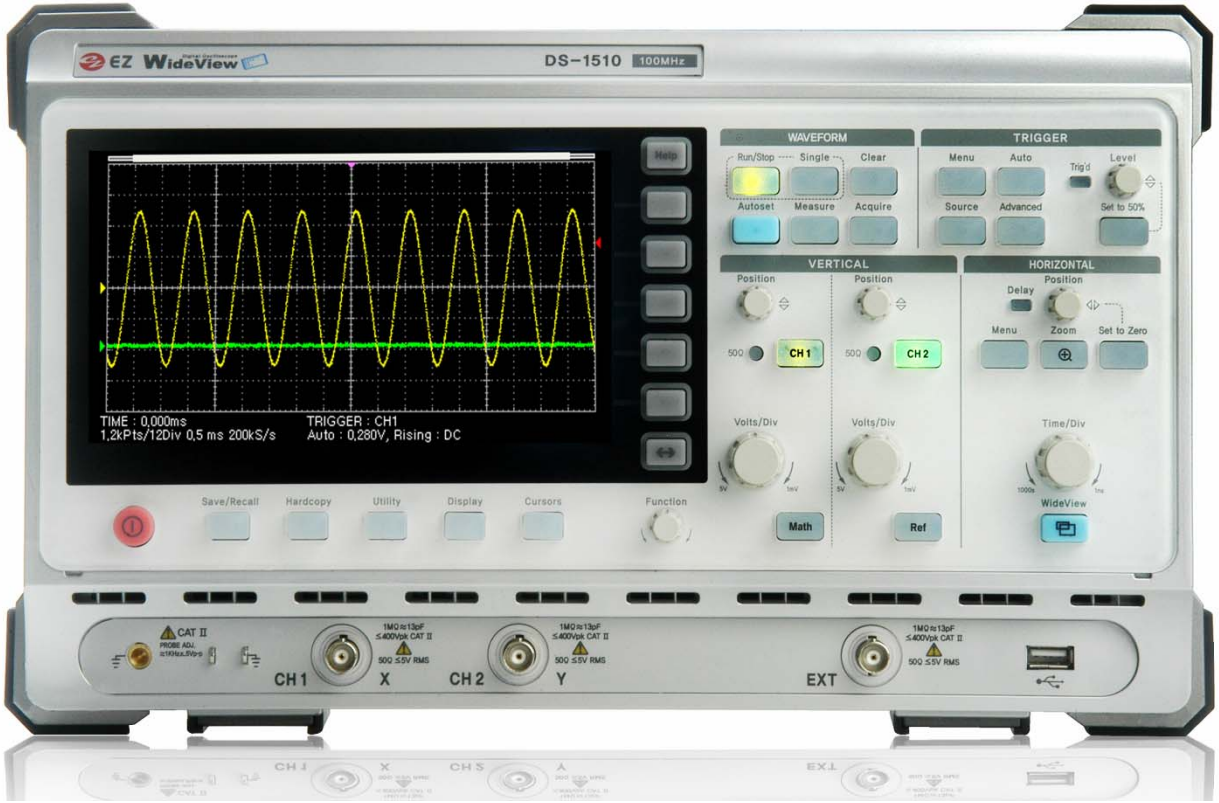
Product Design

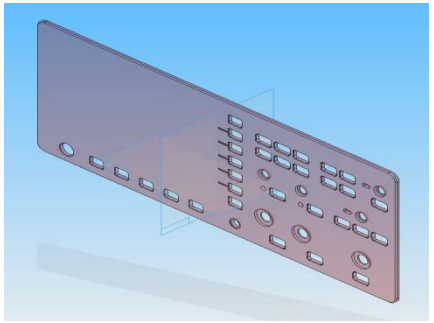
◇ World 1st for adopting 7” TFT Wide LCD with revolutionary design.

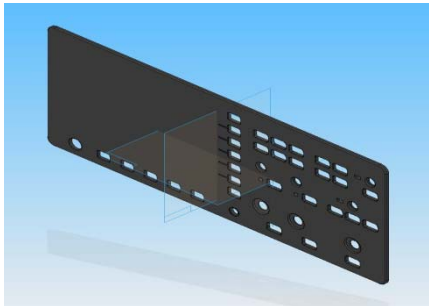
◇ Soft key-touch. Front keys are made of silicon material.

◇ Utility compartment at rear side, especially keeping scope probes.

◇ Choose your favorite color. We provide fashionable design. A variety of front color can be adopted for custom’s needs



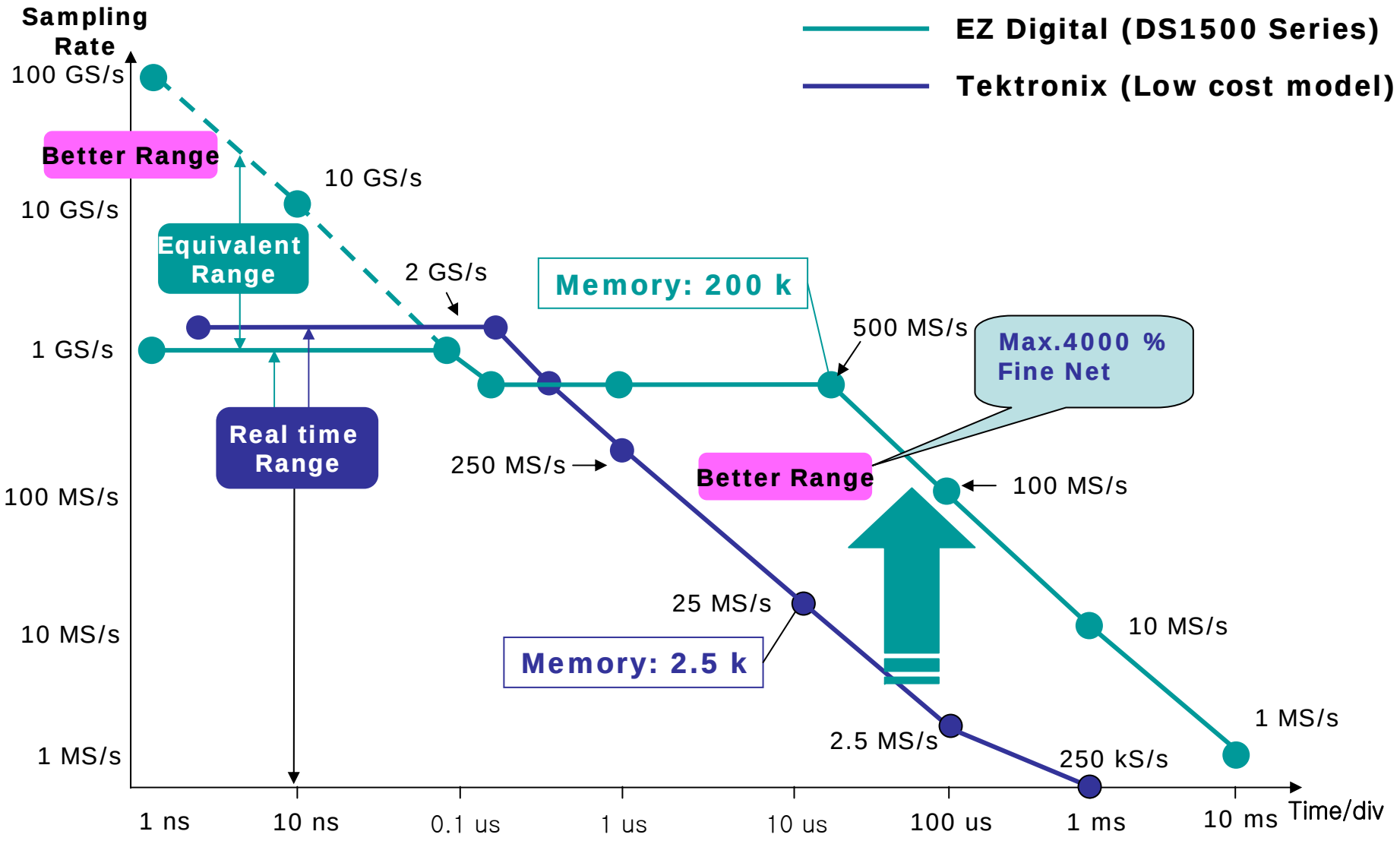




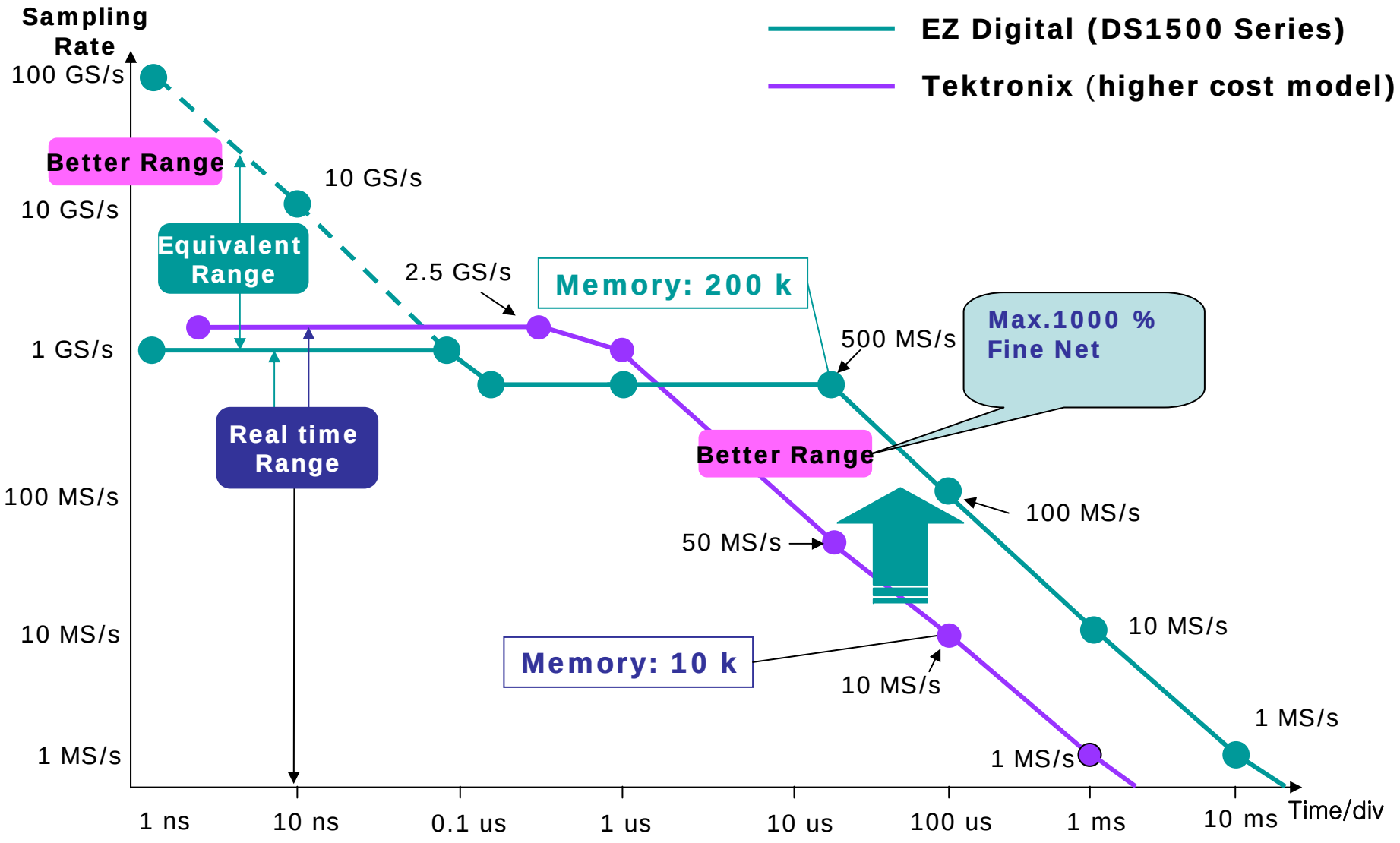
DSO Comparison Chart

Characteristics	DS1510/1520/1530 EZDIGITAL	TDS2012B/2022B TEKTRONIX	DSO3102A/3152A/3202A AGILENT	GDS2102/2202 GOOD WILL
Bandwidth	100/200/300 MHz	100/200 MHz	100/150/200 MHz	100/200 MHz
Sampling Rate	Real Time : 1GS/s Max. Equivalent : 100 GS/s Max.	2012B : 1GS/s each channel 2022B : 2GS/s each channel	Real Time : 1GS/s Max.	Real Time : 1GS/s Max. Equivalent : 25 GS/s Max.
Display	TFT LCD 7” Wide 480×234	Color, 1/4 VGA 320×240	Color, 1/4 VGA 320×240	TFT LCD 5.6” 320×234
Display Graticule	8×12 divisions ; 8×18 divisions (wide on)	8×10 divisions	8×10 divisions	8×10 divisions ; 8×12 divisions (menu off)
OS	Linux	Embedded	Embedded	Embedded
Channels	2	2	2	2
Vertical Resolution	8 bits	8 bits	8 bits	8 bits
Input Impedance	**1 MΩ, 50 Ω**	**1 MΩ**	**1 MΩ**	**1 MΩ**
Vertical Sensitivity	**1 mV ~ 5 V/div**	**2 mV ~ 5 V/div**	**2 mV ~ 5 V/div**	**2 mV ~ 5 V/div**
Time Base	**Normal : 1ns ~ 1000 s/div (Roll : 50ms ~ 1000 s/div)**	**2012B : 5 ns ~ 50 s/div 2022B : 2.5 ns ~ 50 s/div (Roll : 100ms ~ 50 s/div)**	**2 ns ~ 50 s/div**	**1 ns ~ 10 s/div (Roll : 250 ms ~ 10 s)**
Record Length	**200kpts per channel**	**2.5kpts per channel**	**4kpts per channel**	**25kpts maximum**
Acquisition Rate	**Max. 1500 waveforms/s with 32-level variable persistence @ 0.2 us/div**	**180 waveforms/s, Typical**	**Not announced**	**Not announced**
I/O Interface	- Standard : RS-232C, USB Host, USB Client - Option : Ethernet IEEE 802.3, USB Host	- Standard : USB Host 2.0 - Option : GPIB	- Standard : USB Host, USB Client - Option : GPIB, RS232w/N2861A	- Standard : RS-232C, USB Host 2.0, - Option : GPIB

Sampling Rate Comparison 1



Sampling Rate Comparison 2



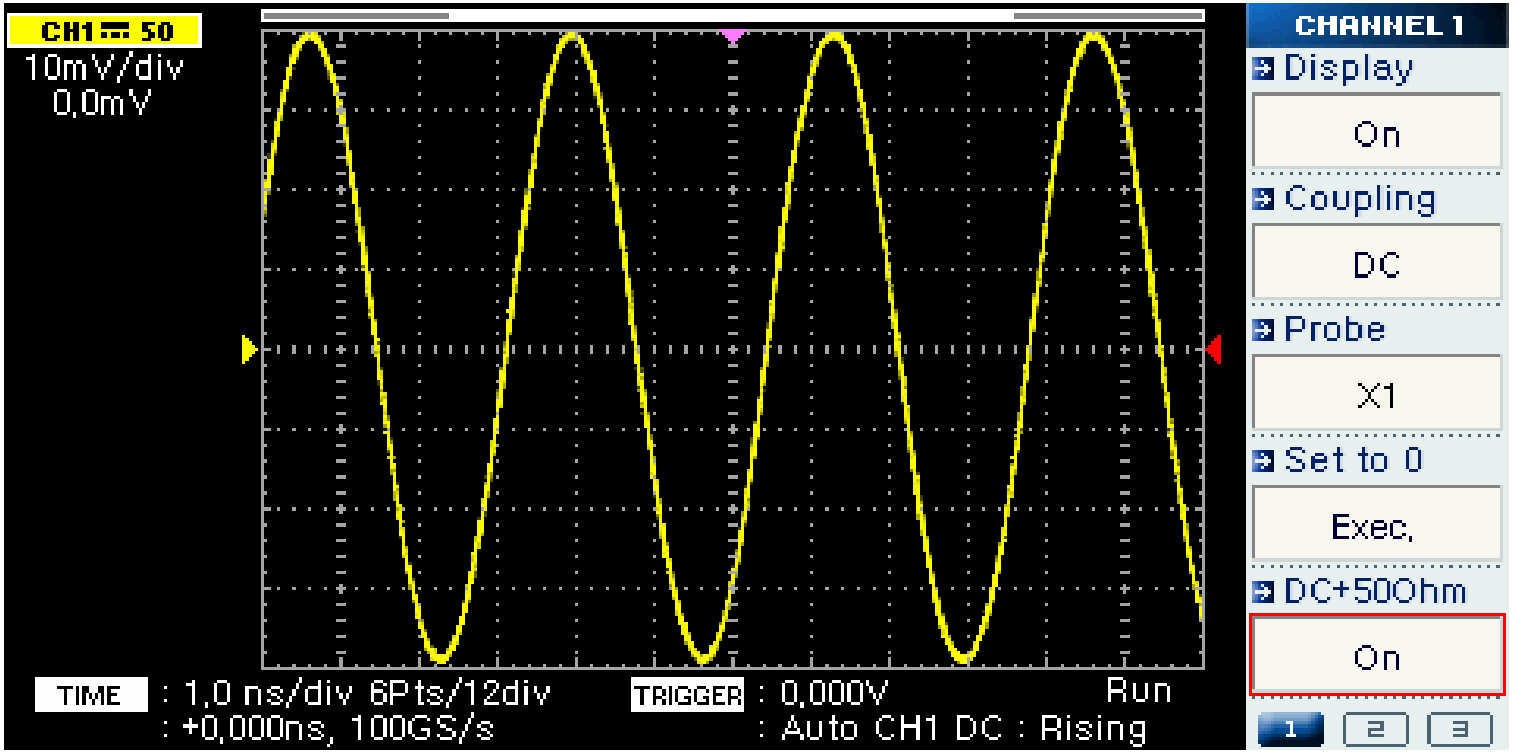
1MΩ, 50Ω Impedance Matching

◇ 1MΩ impedance matching: It's used for observing general signals by using oscilloscope probes

◇ 50Ω impedance matching: It's used for observing RF signals by using Coaxial cable.

1)When observing signals requiring 50Ω impedance matching, observation errors frequently occur if impedance matching is ambiguous. Also it's not easy for end-users to contrive another device for impedance matching.

2)Since 50Ω impedance matching is built in-side, DS-1500 provide the perfect solution for observation of RF signals.



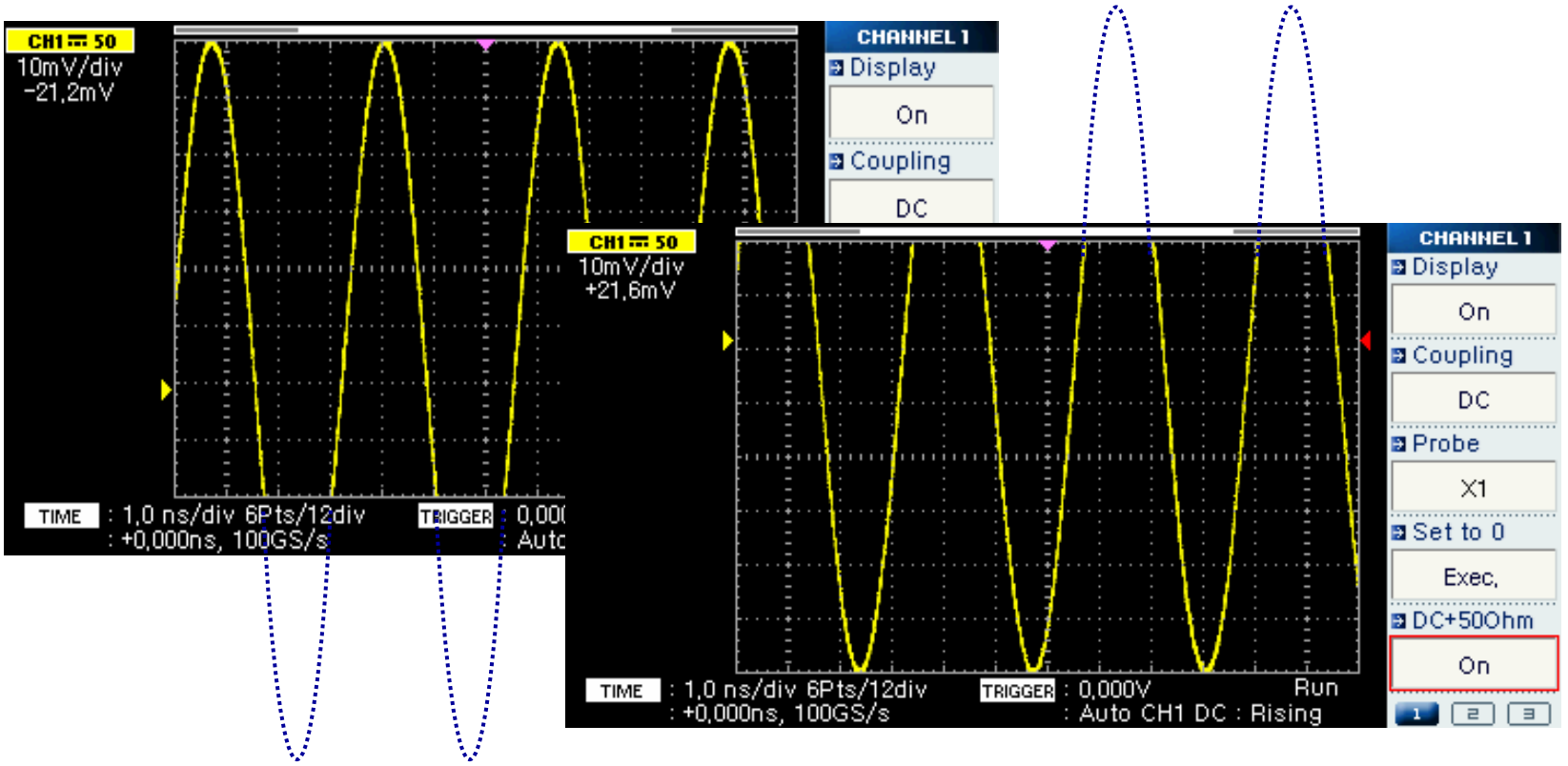
(50Ω impedance, 300 MHz Real Picture)

High Dynamic Range

Powerful Analog Performance

◇ At Maximum Bandwidth, DS-1500 series provides strong dynamic range along Vertical Axis more than 10 divisions.

◇ RF signal is well observed without any distortion and attenuation.



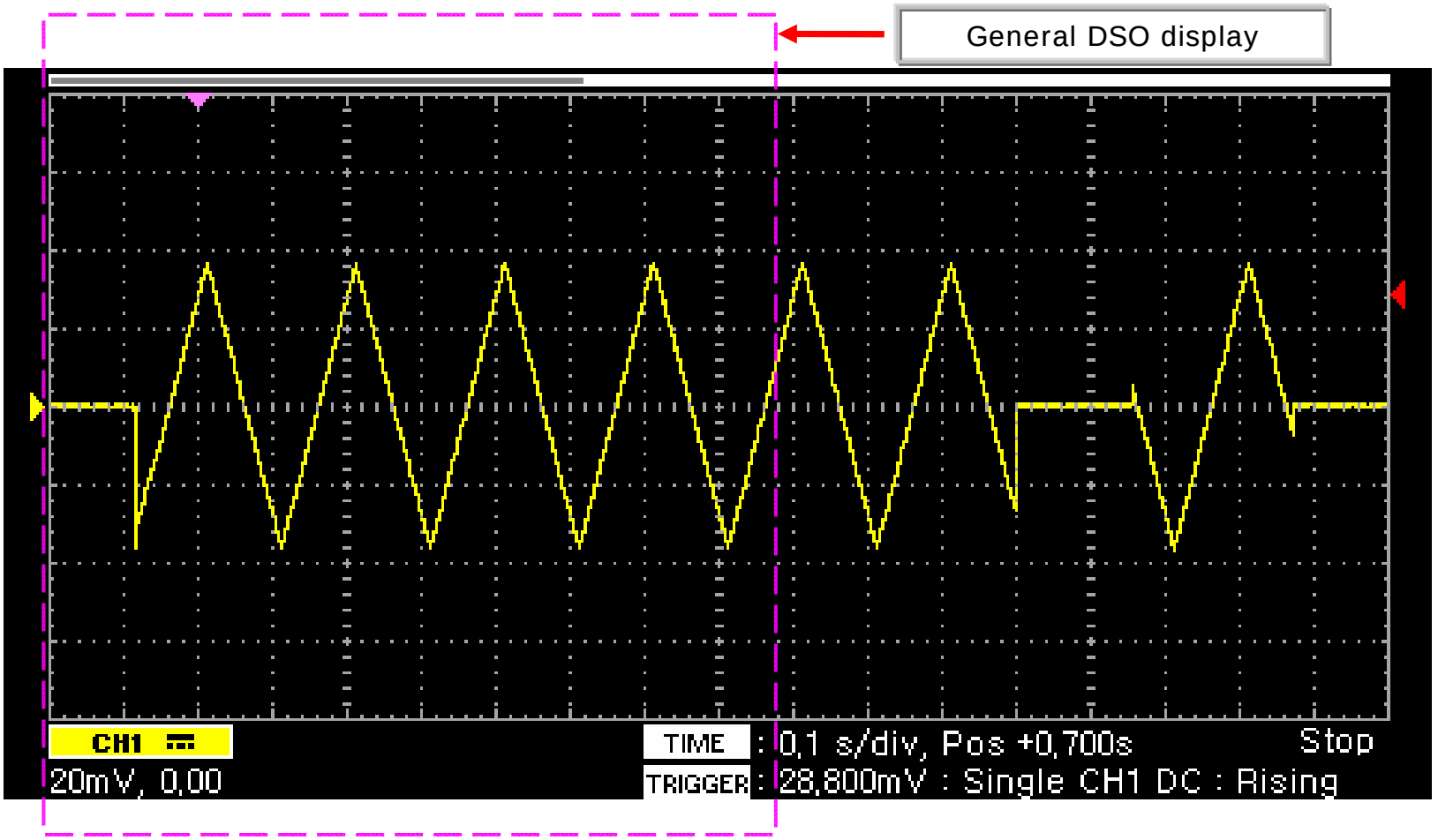
(at 300MHz & 12division, there is no signal distortion)

Explanation: From the marker(▷) reference point, waveform's symmetry between upper and lower sides is accurate perfectly

Single Shot Capture

Wide single shot capture

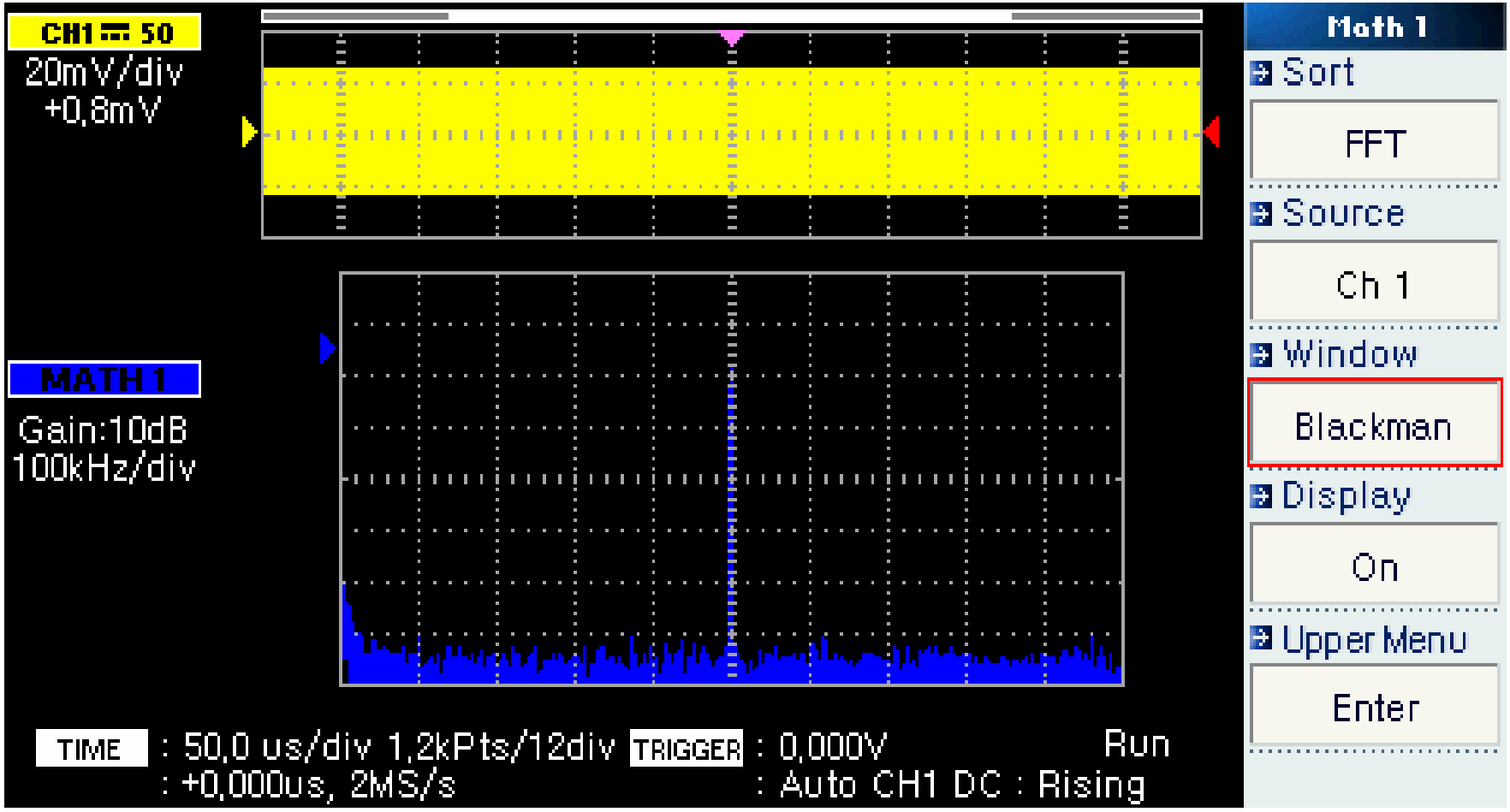
◇ Wide LCD enables to capture glitches through Max. 8 ×18 Divisions.



(Ex. Single shot capture with Wide-View)

FFT (Fast Fourier Transform)

◇ Advanced FFT function enables to analyze Frequency components like Spectrum Analyzer.



(500kHz sine-wave FFT)

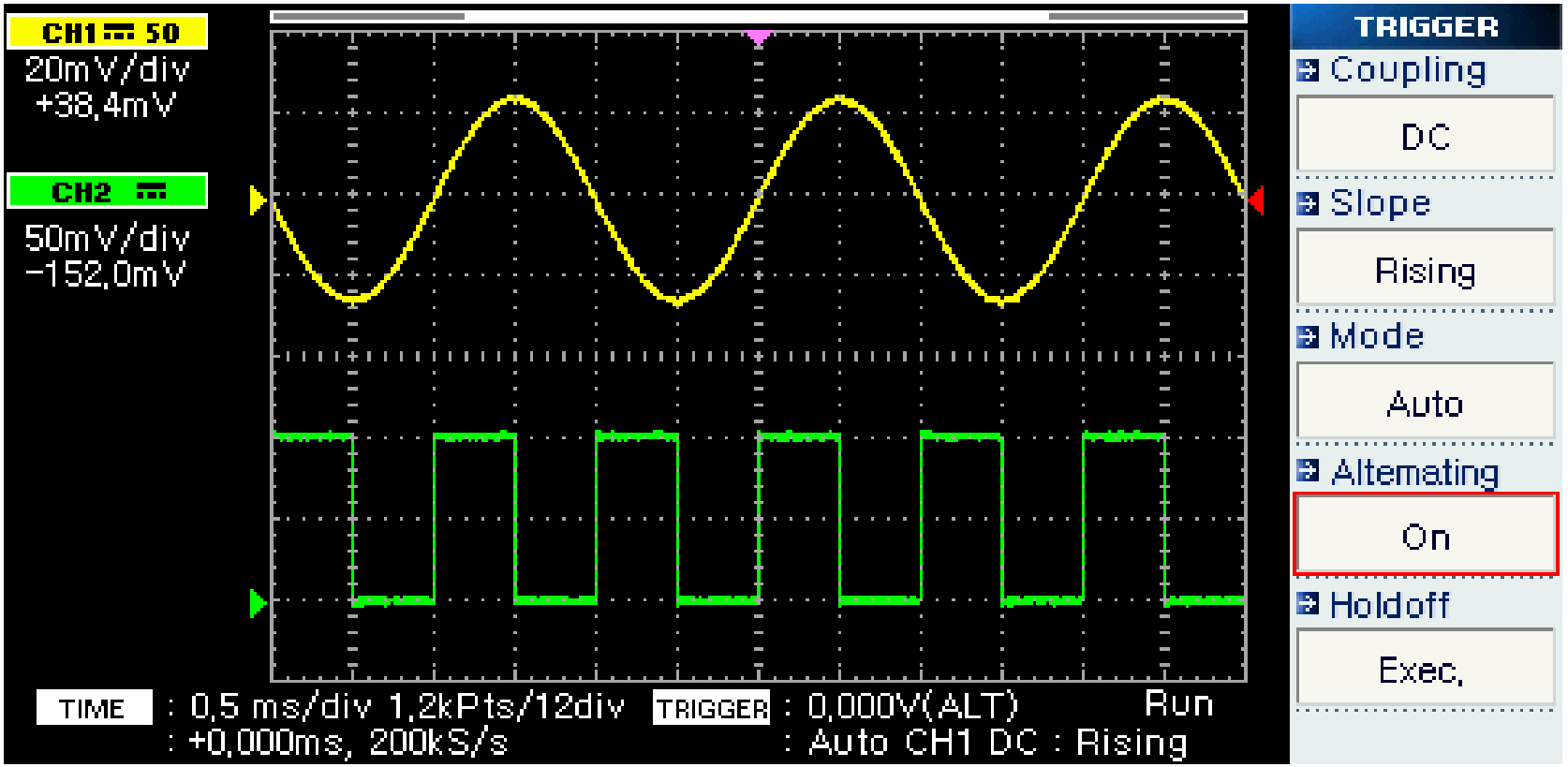
Alternate Trigger

Alternating Trigger.

◇ Alternating Trigger mode is able to display both signals of which the periods are totally different each other.

1) Alternating trigger mode is capable of generating trigger on each channel source alternately.

2) In the general trigger mode, it's actually difficult to observe both signals of which their periods are different.

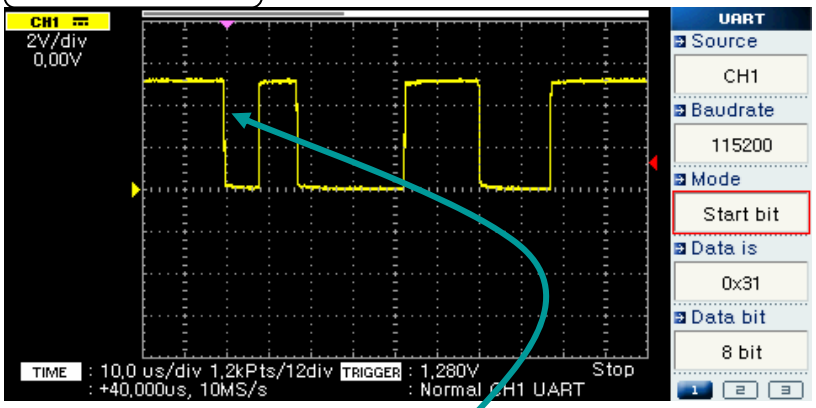


(Ex. Alternate Triggering)

UART Trigger Capture I

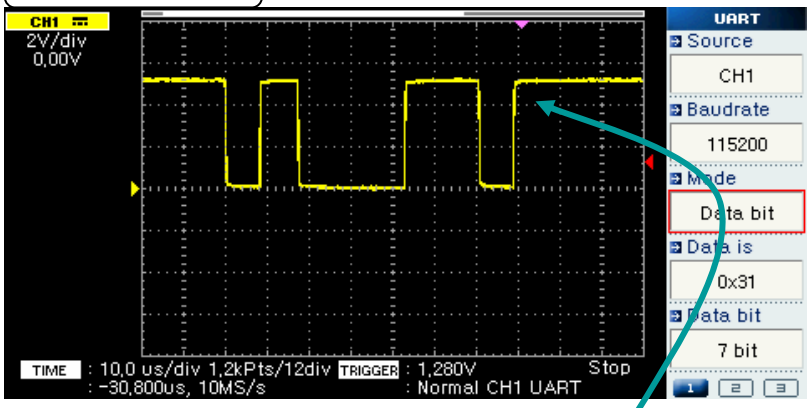
Baud Rate : 115200, Data : 0x31 is captured

Start bit



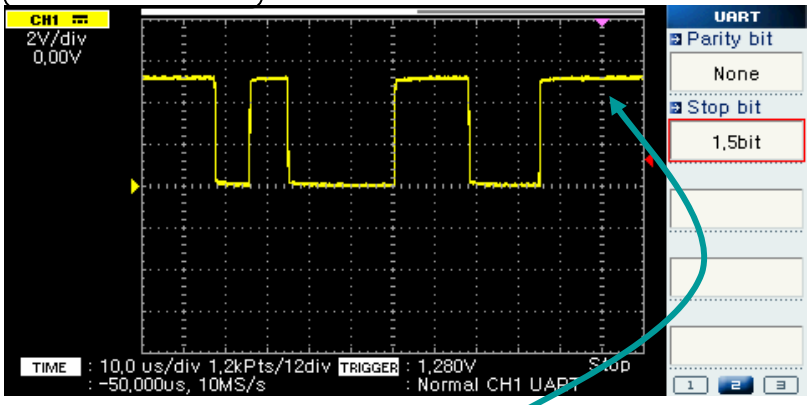
Triggering at Start bit

Data bit



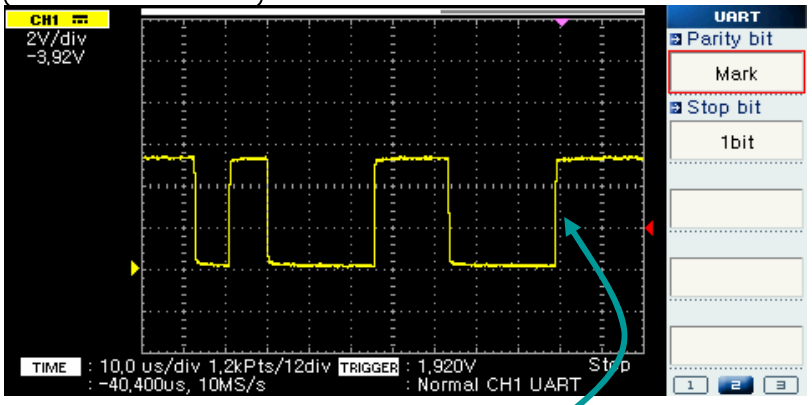
Triggering at Data bit (7 bit)

Stop bit



Triggering at Stop bit

Parity error bit

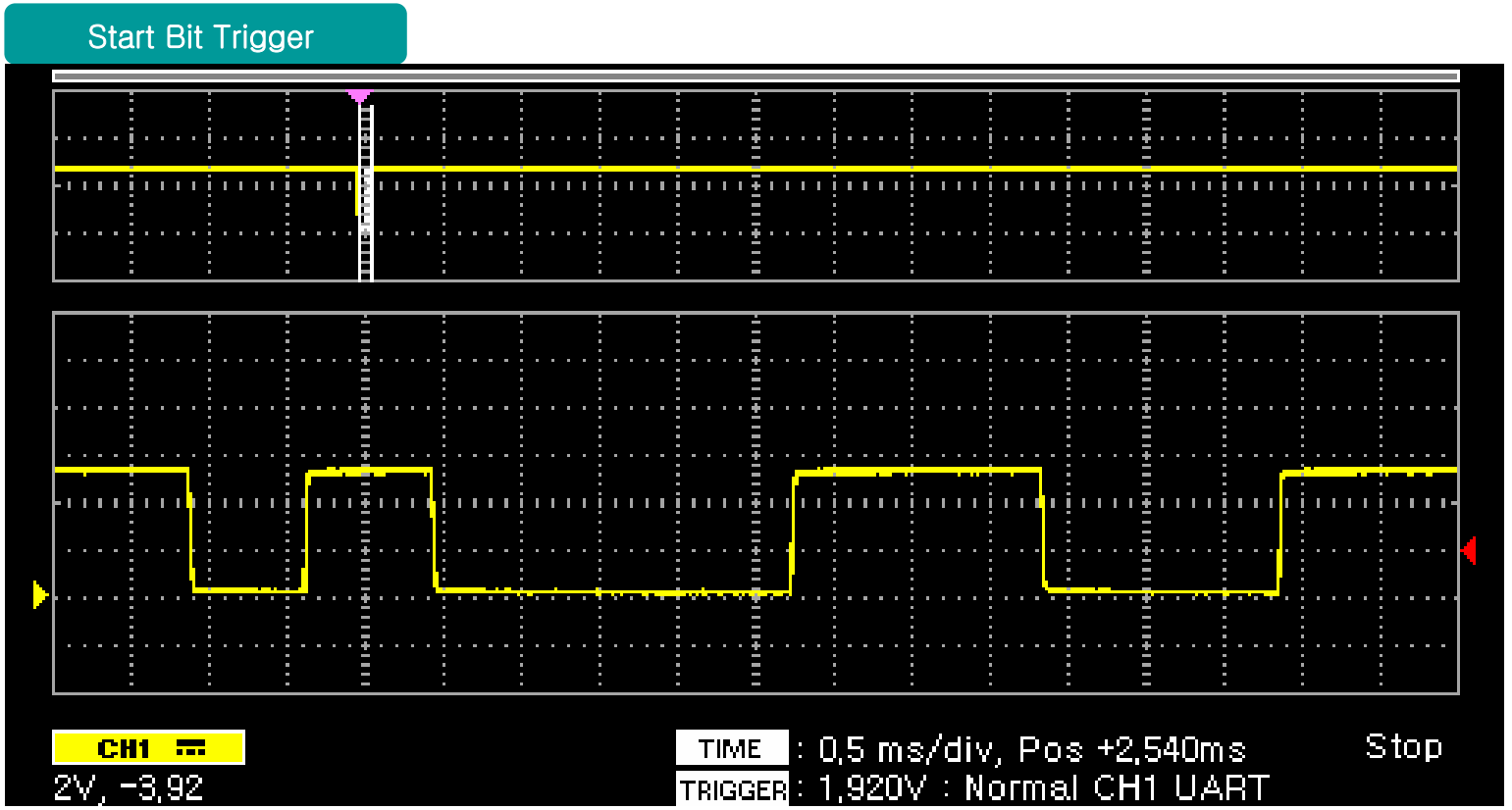


Triggering at Parity error bit

UART Trigger Capture II

Baud Rate : 115200, Data : 0x31 is captured

◇ Condition: Long Memory (200 KB), Zoom window, Wide mode (Time Division: 18 div), ×100 Meg



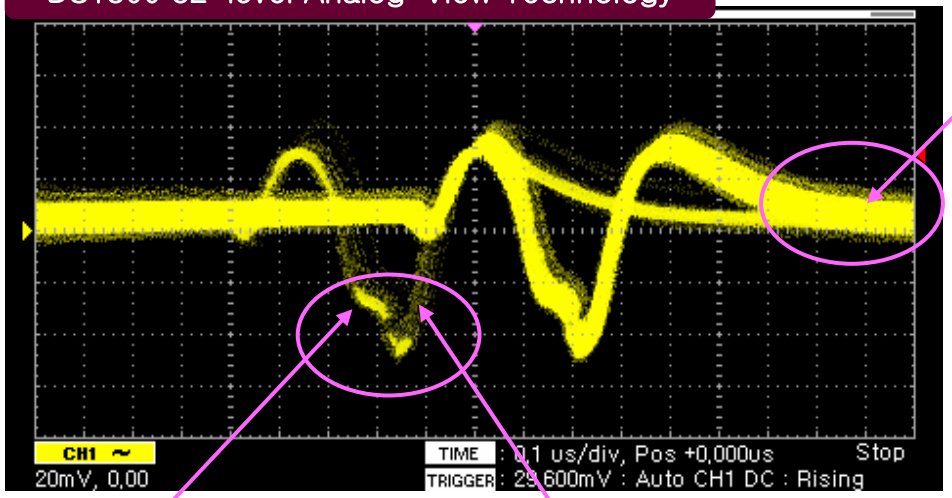
Waveform Update Rate & 32-level Analog-View Technology

◇ Powerful waveform update rate: It's much superior to competitor's one more than eight times.

◇ Built in Analog-View Technology: Among economic oscilloscope models in the world market, only DS-1500 series succeed in adopting Analog-View Technology enabling to display waveforms on LCD as if the waveforms are coming from Cathode-Ray Tube. Analog-View Technology built in DS-1500 series is able to display the persistence of vision of analog CRT on LCD, which show users waveform's cumulative frequency.

- **DS1500 series** : Max. **1,500 waveforms** per second **(32-level Analog-View Technology)**
- **Tek 1000/2000 series:** Max. **180 waveforms** per second **(Analog view persistence is not available)**
- **Tek 3000 series:** Max. **3,000 waveforms** per second, **(Analog view persistence is available)**

DS1500 32-level Analog-View Technology

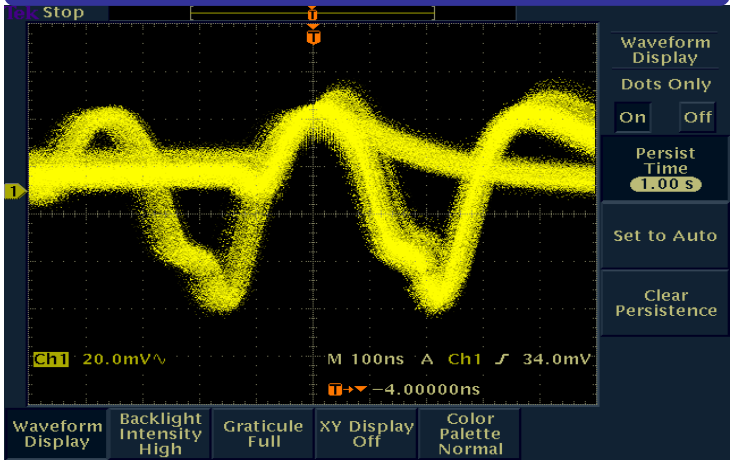


18 Time division display
It's capable of observing a hidden part of the waveform

Ex1. Waveform's cumulative frequency is low
(Display on LCD is dim like CRT)

Ex.2 Waveform's cumulative frequency is high.
(Display on LCD is bright)

Tek3000 DPO (Digital Phosphor Oscilloscope)



Working condition: Time/dive : 0.1 us, Volts/div : 20 mV

Wide Display: Find out a hidden waveform

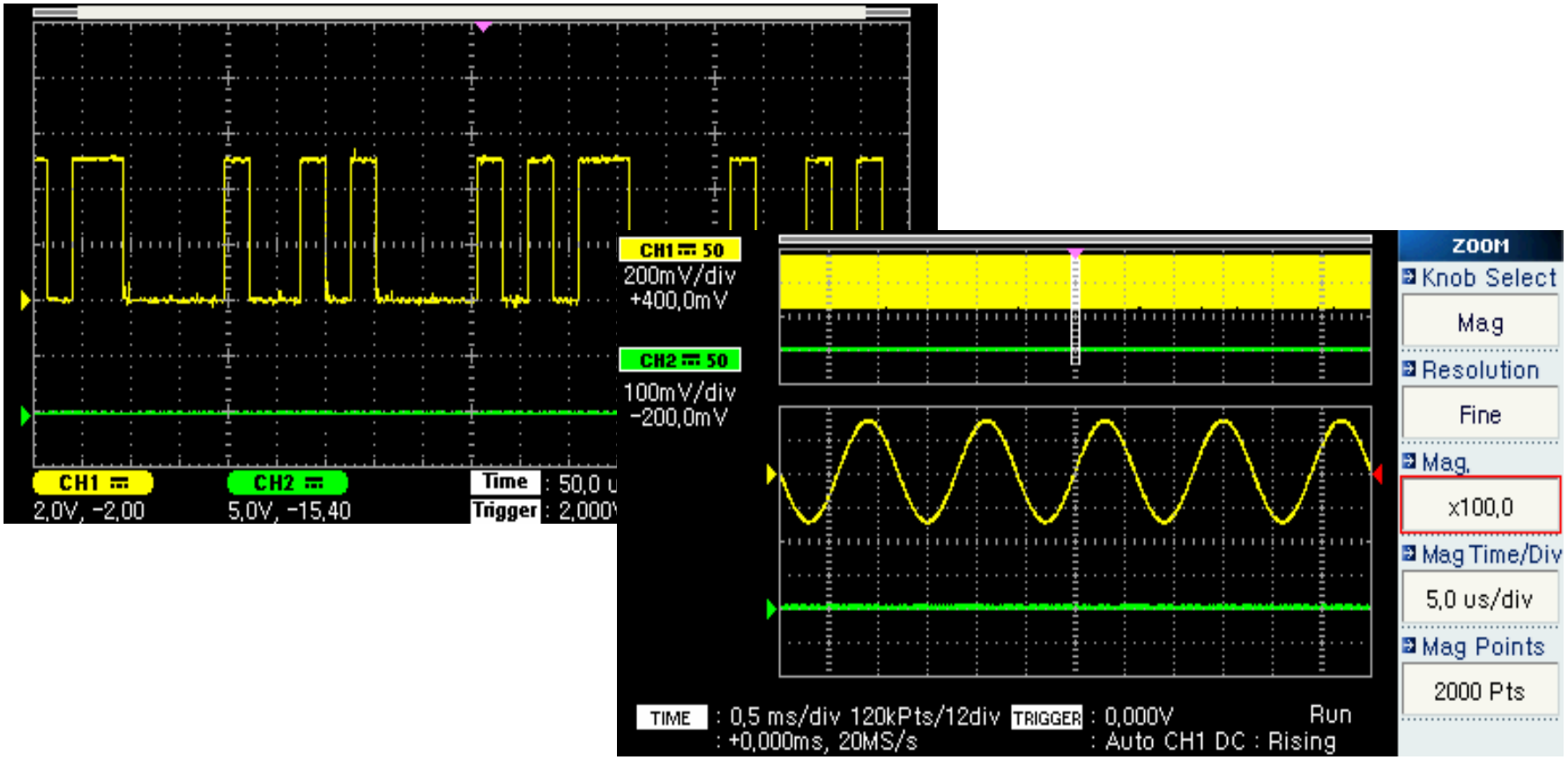
Wide-View

◇ Standard : 8 × 12 divisions, Wide : 8 × 18 divisions.

◇ Wide View is extremely efficient when analyzing signals having a complex period.

Super Zoom

◇ Dual window display with ×100 Mag super zoom.

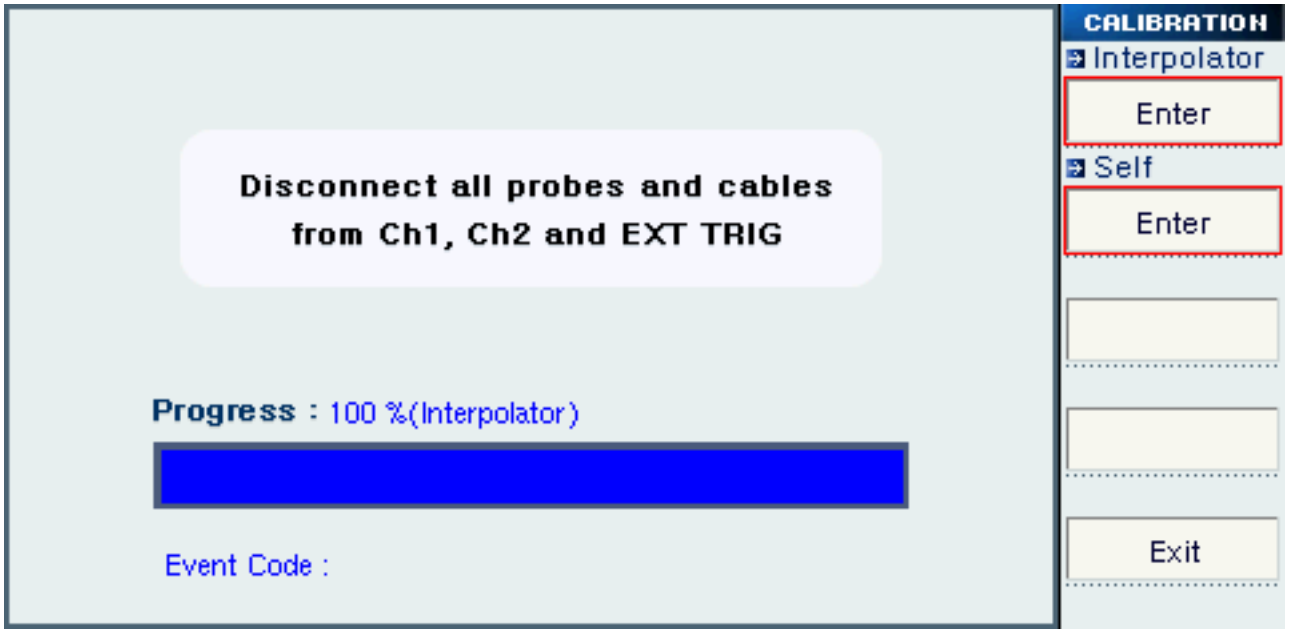


Self-CAL without an external signal

Self-Calibration

Without external signals, Self-Cal can be conducted for temperature compensation.

Oscilloscope is compensated for sudden environment change and it makes durability much longer

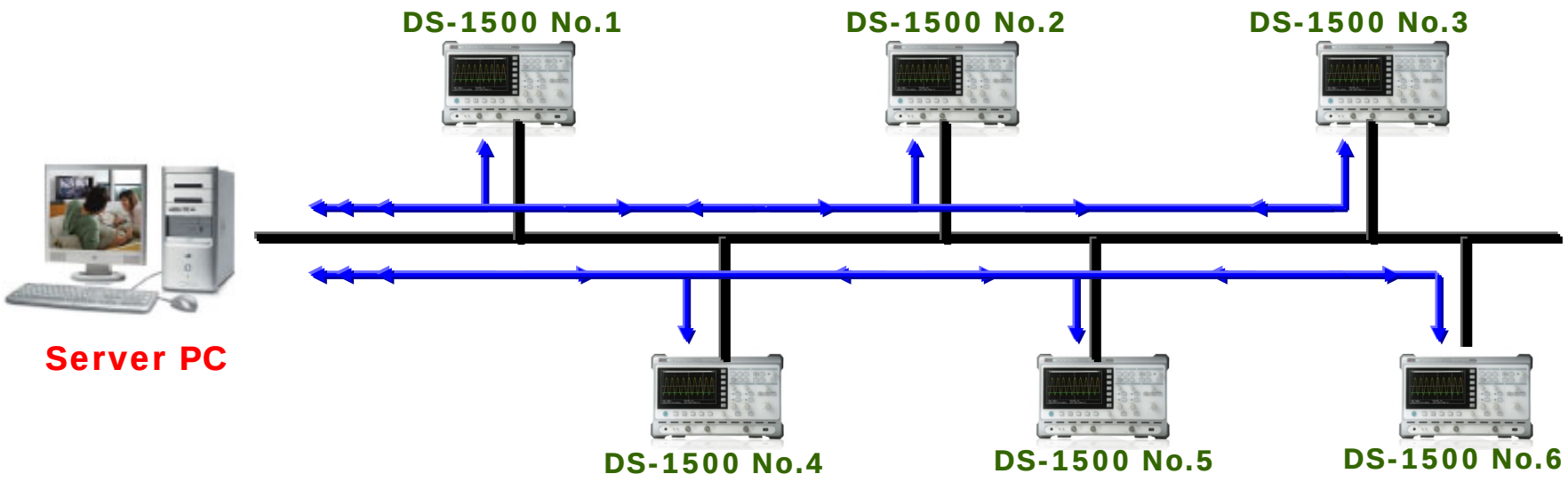


Enhanced Networking Performance

Ethernet Networking

◇ DS-1500 oscilloscopes are able to interchange their waveforms with a Server as long as they are located in the same network area. Up to 30 units are able to have access to the same network and transfer waveforms.

◇ This application is very useful for education sector especially, in the training room equipped with Ethernet network. Users don't need to save waveforms into USB memory and don't need to keep their waveforms. Once users save waveforms via Ethernet, user's folder in the server is created and the waveform is saved to the user's folder.



Soft-View 2.0

Features

◇ Full Screen: Basically display 20Time/Div, which is taking advance of Wide LCD feature

◇ Multi connection & Control: Up to 30sets of DS-1500 series can be controlled at remote site

◇ Data transfer via Ethernet Network