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Link do produktu: <https://www.gotronik.pl/fnirsi-dpox180h-oscyloskop-cyfrowy-skopometr-180mhz-p-10024.html>



FNIRSI-DPOX180H oscyloskop cyfrowy skopometr 180MHz

Cena brutto	575,00 zł
Cena netto	467,48 zł
Cena poprzednia	739,00 zł
Czas wysyłki	24 godziny
Numer katalogowy	FNIRSI-DPOX180H
Kod producenta	DPOX180H
Producent	FNIRSI

Opis produktu

FNIRSI DPOX180H oscyloskop cyfrowy 180MHz



Oscyloskop cyfrowy FNIRSI DPOX180H z technologią Digital Phosphore umożliwiającą pomiar sygnałów analogowych w zakresie częstotliwości do 180MHz z wykorzystaniem 2 kanałów. Częstotliwość próbkowania 500MSa/s pozwala na pomiar sygnału w czasie rzeczywistym. Urządzenie posiada wyświetlacz LCD 2,8" o rozdzielczości 320x240 z funkcją wyświetlania temperatury barwowej oraz w skali szarości. Urządzenie posiada trzy tryby wyzwalania: pojedynczy, normalny oraz automatyczny. Wbudowana pamięć zapewnia możliwość zapisu do 90 zrzutów ekranu oraz 250 grup zarejestrowanych przebiegów. Dzięki możliwości komunikacji z komputerem mamy możliwość skopiowania plików i dalsze ich wykorzystywanie. Wbudowany filtr 20MHz zapewnia zredukowanie wpływu wysokich częstotliwości przy pomiarze sygnałów o mniejszej częstotliwości. Dodatkowo oscyloskop posiada wbudowany generator umożliwiający generowanie 14 różnych przebiegów o amplitudzie 1,5Vpp regulowanej częstotliwości oraz offsecie. Urządzenie posiada złącze USB do ładowania wbudowanego, dużego akumulatora o pojemności 3000mAh. Podczas pracy ciągłej przy pełnym ładowaniu, oscyloskop może wykonywać pomiary do 3,5 godziny bez przerwy.

Parametry techniczne

- model: DPOX180H
- producent: FNIRSI
- liczba kanałów: 2
- szerokość pasma: 180MHz
- częstotliwość próbkowania: 500MSa/s
- sprzężenie: AC/DC
- czas narastania: 2,5ns
- długość rekordu pamięci: 120k
- impedancja wejściowa: 1M Ω 18pF
- czułość napięciowa 5mV - 10V (x1)

-
- podstawa czasu: 5ns - 50s
 - dokładność DC: +/-2%
 - dokładność czasu: +/-0,01%
 - cyfrowa detekcja triggera
 - tryb wyzwalania: auto/normal/single
 - wyzwalanie zboczem: opadającym/narastającym
 - tryb XY
 - zakres pomiaru napięcia: 40mV - 80V (1:1)
 - pomiar kursorami: częstotliwość, amplituda, okres
 - wbudowana pamięć na 90 zrzutów ekranu
 - wbudowana pamięć na 250 grup przebiegów
 - automatyczny pomiar 12 parametrów
 - wbudowany generator z 14 podstawowymi przebiegami (brak regulacji amplitudy- 1,5Vpp)
 - technologia Digital Phosphore
 - wyświetlanie temperatury barwowej
 - tryb rolowania
 - funkcja zoom podstawy czasu
 - wbudowany filtr 20MHz
 - regulowany automatyczny filtr
 - funkcja autosest
 - menadżer przebiegów
 - zabezpieczenie przed zbyt dużym napięciem
 - wyświetlacz: 2,8" o rozdzielczości 320x240
 - technologia wyświetlacza: IPS full view
 - transmisja danych przez USB
 - regulowany czas auto power off 5minut do 2 godzin
 - możliwość aktualizacji przez USB
 - napięcie ładowania 5V/2A
 - pojemność akumulatora: 3000mAh
 - czas pracy: 3,5h przy pełnym ładowaniu
 - wymiary: 135 x 90 x 40 mm

Zestaw zawiera

- 1x oscyloskop cyfrowy DPOX180H
- 2x sonda oscyloskopowa z dzielnikiem 1:1/1:10 200MHz
- 1x przewód USB
- 1x ładowarka USB

► TECHNOLOGY POPULARIZED TO THE END ◀

2im1

HANDHELD DUAL CHANNEL DIGITAL PHOSPHOR OSCILLOSCOPE

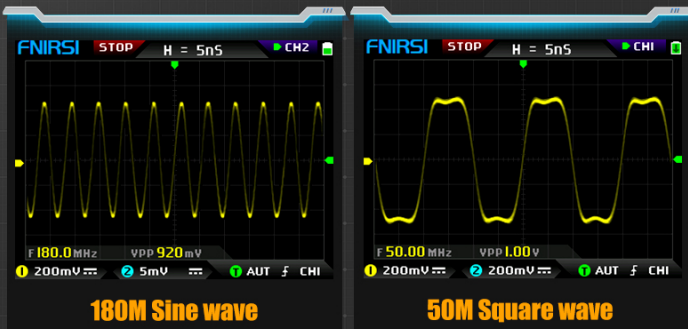
20M DDS Function Signal Generator

180MHz -3DB Analog Bandwidth

500MSPS Real-time Sampling Rate



180MHz BANDWIDTH AND 500MSPS REAL-TIME SAMPLING RATE



180M Sine wave

50M Square wave



ka!

UNIQUE

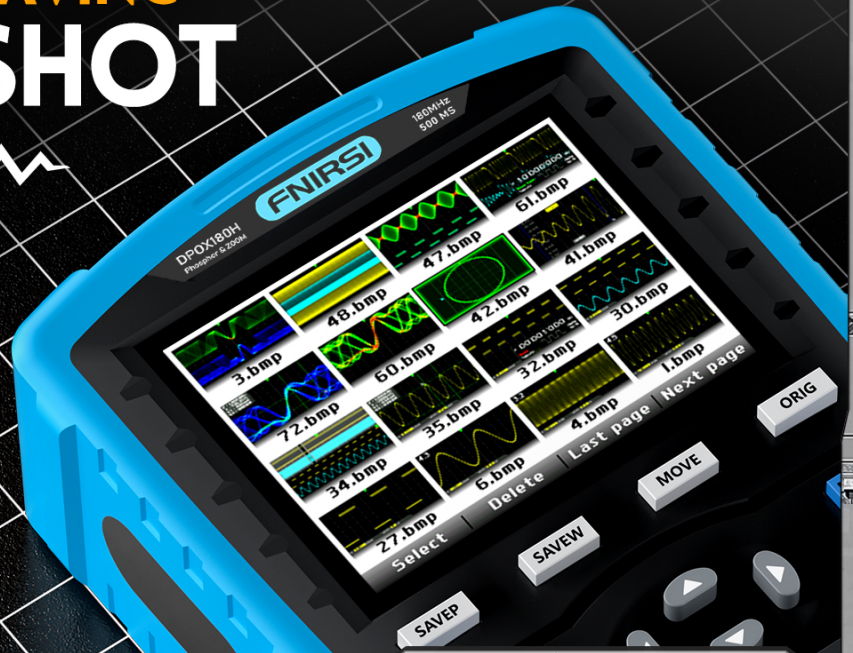
CHOPPING OUTPUT FUNCTION

Cut a part or the whole part of various signals measured by the oscilloscope as the output signal of the signal generator, and can store up to 500 customized signals.



WAVEFORM SAVING SCREENSHOT SAVING

Qualitative overview of the spectral content of the current signal

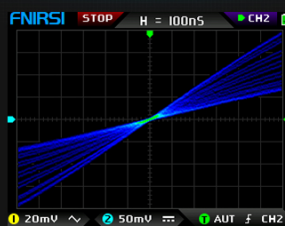


PARAMETERS



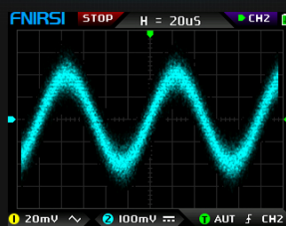
CURSOR MEASUREMENT	Frequency/Period/Amplitude
20M HARDWARE BANDWIDTH LIMITATION	supported
DIGITAL PHOSPHOR TECHNOLOGY	supported
COLOR TEMPERATURE DISPLAY	supported
ZOOM SCALING TIME BASE	supported
WAVEFORM OUTPUT	supported
ADJUSTABLE AUTOMATIC BANDWIDTH LIMITATION	supported

MODE	DPOX180H	ROLL MODE	supported
NUMBER OF CHANNELS	2	X-Y MODE	supported
ANALOG BANDWIDTH	180MHz	AUTO-ADJUSTMENT	supported
MAXIMUM SAMPLING RATE	500MSPS	WAVEFORM MANAGER	supported
INPUT COUPLING	DC/AC	HIGH-VOLTAGE BURNOUT PROTECTION	supported
RISE TIME	2.5ns	SCREEN SIZE	2.8 inches
STORAGE DEPTH	120Kpts	SCREEN RESOLUTION	320x240
INPUT IMPEDANCE	1M Ω -18PF	DISPLAY TECHNOLOGY	IPS full view
VERTICAL SENSITIVITY	5mV-10V(1X)	EXPANSION INTERFACE	USB transmission interface
TIME BASE RANGE	5nS-50S	AUTO POWER-OFF	5minutes-2hours
DC ACCURACY	\pm 2%	FIRMWARE UPGRADE	supported iso image upgrade
TIME ACCURACY	+0.01%	CHARGING REQUIREMENTS	5V 2A
TRIGGER DETECTION	Digital trigger	BATTERY CAPACITY	3000mAh
TRIGGER MODE	Auto/Single/Normal	STANDBY TIME	3.5 hours at full charge
TRIGGER EDGE	Rising/Falling	DIMENSIONS	135mmx90mm x40mm
MEASUREMENT RANGE	40mV-80V(1X)	SIGNAL GENERATOR	14 standard function signals
SCREENSHOT STORAGE	90	WAVEFORM STORAGE	250 groups
CAPTURE SIGNAL	500	PARAMETER MEASUREMENT	12 kinds
ACCESSORIES	200m probe x2, charger, usb data cable, manual.		



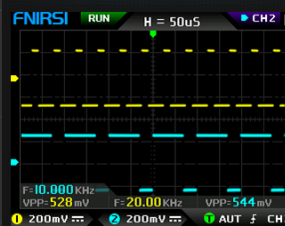
DIGITAL TRIGGER TECHNOLOGY

Oscilloscope triggers are mainly divided into analog trigger and digital trigger. Analog trigger has lower requirements for FPGA design, while digital trigger has higher requirements for FPGA design. These problems will not occur with digital triggers, and digital triggers have more advantages in comparison.



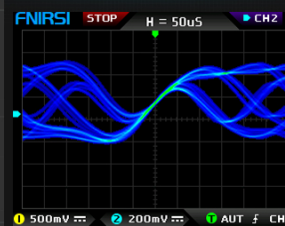
ORIGINAL ADAPTIVE ADJUSTABLE HIGH FREQUENCY REJECTION

The high-frequency suppression of conventional oscilloscopes does not know the frequency band and strength of the suppression. It only suppresses the signal of a specific frequency band with a specific strength. If the frequency is high or low, or the noise is too large, it cannot be suppressed to achieve stable triggering. The oscilloscope's adaptive adjustable trigger suppression technology can not only automatically trigger and suppress high-frequency components according to the waveform frequency characteristics, but also the intensity can be adjusted, that is, it can control all signals regardless of frequency or noise. Stable triggering, especially suitable for measurement and analysis of larger noise signals



DUAL CHANNEL INPUT

It has 2 input channels, and the input impedance is 1M ohm (18PF). It can measure 2 different sets of signals at the same time, and can compare the 2 sets of input signals to judge and analyze problems. Compared with single channel, it has wider applicability.



COMPLETE TRIGGER FUNCTION

It has three trigger modes: automatic, single and regular. In the automatic trigger mode, the waveform display will always be refreshed no matter whether the trigger condition is met or not. The single-shot trigger mode is designed to pause immediately once the trigger condition is met, mainly to test burst signals. Conventional trigger means that the display can only be refreshed after the trigger condition is met, mainly testing logic signals.

▶ **DDS FUNCTION SIGNAL GENERATOR** ◀

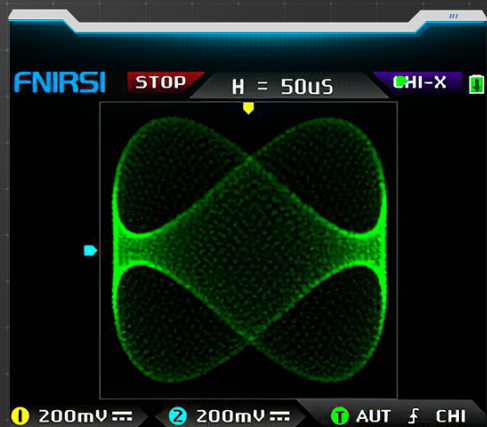
20M FUNCTION SIGNAL GENERATOR

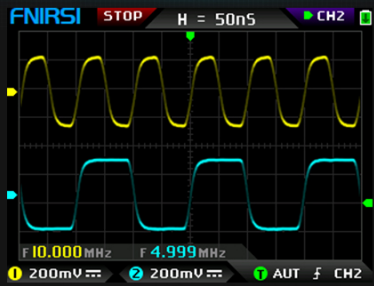
The analog front-end has a built-in switchable 20MHz hardware bandwidth limiting component, and the -3dB attenuation bandwidth is 20MHz after it is turned on



DIGITAL PHOSPHOR XY MODE

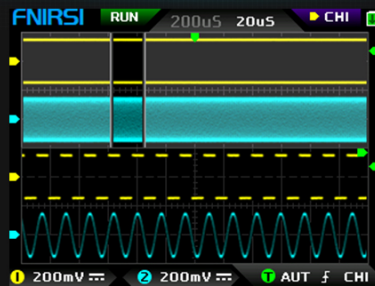
Support digital phosphor technology, a closed curve graph generated by dual channels can be used to compare the amplitude, frequency and phase of two groups of signals





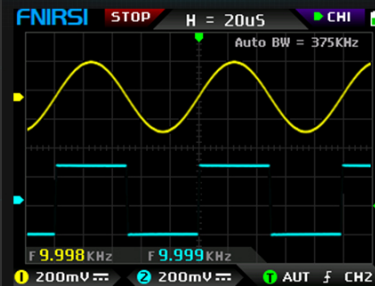
20M HARDWARE BANDWIDTH LIMIT

The analog front-end has a built-in switchable 20MHz hardware bandwidth limiting component. After it is turned on, the -3db attenuation bandwidth is 20MHz. Users can use this function to filter out high-frequency noise above 20MHz. Compared with digital filters, analog filters have more natural and smooth attenuation. The harmonic attenuation of the square wave is relatively uniform, and the distortion is smaller. If this function is combined with the adjustable automatic bandwidth limit, the effect of filtering noise will be more obvious.



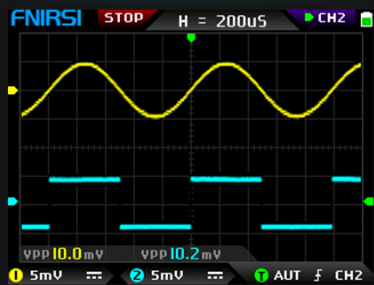
ZOOM TIME BASE

Provide an additional magnified time base, which can provide 2-1000 times magnified viewing effect in the running or paused state. After ZOOM is turned on, the time base is divided into 2 time bases, the top is the main time base, and the bottom is the ZOOM time base. When operating, it will automatically correspond to the ZOOM time base, while the above main time base keeps the parameters unchanged. This mode is especially suitable for analyzing digital logic signals such as communication timing or protocols. The main time base has a complete digital fluorescent display, so that the main time base can see the probability characteristics of the global signal distribution. The waveform of the ZOOM time base will reduce the gray level with the increase of the zoom ratio, and will gradually locate the specific position of the main time base more accurately.



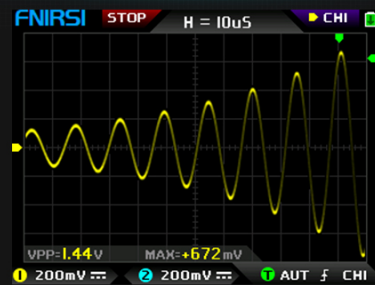
ORIGINAL ADJUSTABLE AUTOMATIC BANDWIDTH LIMITING

Adjustable automatic bandwidth limit means that the bandwidth will automatically limit the bandwidth according to the current time base gear, and the degree of limitation can be adjusted freely, and this function can be turned on or off. It is especially suitable for the measurement and analysis of signals containing noise. function plus adaptive adjustable trigger suppression, can make the noisy signal clean and stable. The traditional high-resolution mode requires the time base to be greater than a certain gear to work slowly, and the specific bandwidth value is also uncertain. Digital filtering can only manually set a certain bandwidth value, which is extremely inconvenient when debugging noise signals, and the distortion is large and time-consuming.



HIGH SENSITIVITY AS LOW AS 5MV/DIV

The final stage of the analog front-end adopts a 1.8GHz bandwidth, the slew rate is as high as 4500V/us, and it can also provide a high-speed operational amplifier with 500M bandwidth under the condition of AV=+10. The overall design makes the sensitivity reach 5mV high sensitivity. It still maintains a bandwidth of 180MHz at a high sensitivity of 5mV, and still maintains excellent flatness.



ULTRA-HIGH WAVEFORM SIGNAL-TO-NOISE RATIO

The signal-to-noise ratio does not refer to the specific noise floor, but the ratio of the signal amplitude to the noise amplitude. The higher the value, the cleaner and clearer the waveform. The analog front-end uses excellent shielding measures and a stable feedback system. All parts with interference sources are kept away from the analog front-end. The PCB uses a 4-layer immersion gold board. The terminal is also isolated by a shield to protect the signal from external interference in an all-round way.



50000WFM/S WAVEFORM REFRESH RATE

The ultra-high waveform refresh rate is often combined with digital phosphor technology to display it in grayscale or color temperature, and the abnormal waveforms with low probability will be displayed more clearly on the screen. A high-speed communication interface is used between ARM and FPGA. The original data is converted into digital fluorescent three-dimensional data by the FPGA. The design is very difficult, but the efficiency is very high. Compared with the ARM software algorithm processing, it is many times faster.

4 LANGUAGES CAN BE SWITCHED FREELY



RUSSIAN

FNIRSI RUN H = 20u5 CHI

- Функция настроек Яркость формы волны 50%
- Системные настройки Цветовая температура OFF
- Курсор измерения Режим X-Y OFF
- Параметр измерения Авто BW ограничение OFF
- Обзор данных Офсет калибровка
- Пленники Экспорт Системная калибровка
- Канал I настройки Vpp 0.0uV f 0.0mHz
- 200mV 200mV AUT f CHI

ENGLISH

FNIRSI RUN H = 20u5 CHI

- Function settings Waveform brightness 50%
- System settings Color temperature OFF
- Cursor measure X - Y curve option OFF
- Param measure Auto Band width limit OFF
- Data browser Baseline calibration
- Capture output System calibration
- Channel I options Vpp 0.0uV f 0.0mHz
- 200mV 200mV AUT f CHI

PORTUGUESE

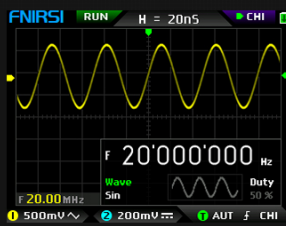
FNIRSI RUN H = 20u5 CHI

- Funcao opcao Brilho da forma de onda 50%
- Sistema opcao Temperatura de cor OFF
- Cursor medico Modo X-Y OFF
- Parametro medico Limite Banda AUTomatico OFF
- Navegacao de dados Calibracao base
- Capturar Saída Calibracao do sistema
- Canal I opcao Vpp 0.0uV f 0.0mHz
- 200mV 200mV AUT f CHI

CHINESE

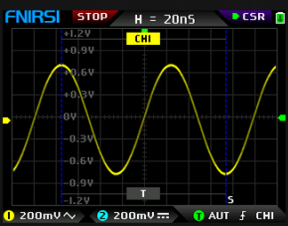
FNIRSI RUN H = 20u5 CHI

- 功能设置 波形亮度 50%
- 系统设置 色温显示 OFF
- 光标测量 X-Y模式 OFF
- 参数测量 自动带宽限制 OFF
- 数据查看 基线校准
- 数据输出 系统校准
- 通道 I 设置 Vpp 0.0uV f 0.0mHz
- 200mV 200mV AUT f CHI



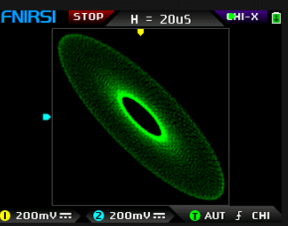
20M DDS FUNCTION SIGNAL GENERATOR

Built-in 20MHz DDS function signal generator with 14 standard function signals, namely sine wave, square wave, triangle wave, positive sawtooth, anti-sawtooth, staircase wave, half-wave rectification, full-wave rectification, exponential wave, logarithmic wave, For exponential, square root, multi-tone, and Sine pulse waves. The output amplitude is fixed at 1VPP, the frequency of sine waves is up to 20MHz, and



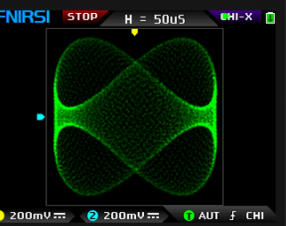
ORIGINAL CHOPPING OUTPUT

Cut wave output is to cut a part or whole part from various signals measured by the oscilloscope as the output signal of the signal generator. It can store up to 500 customized signals. It is different from the traditional arbitrary signal generator. Any signal occurs However, the intercepted waveform is very objective, completely consistent with the signal characteristics generated by the functional circuit module, and the maximum frequency can reach 10MHz. In many test and analysis occasions Played a greater role in helping, currently no oscilloscope and signal generator has this function.



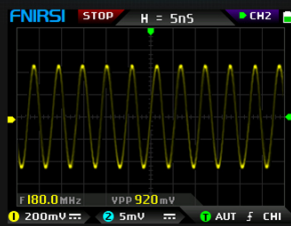
LARGE TIME BASE SCROLLING MODE

When the time base is greater than 50mS, it will automatically enter the scrolling mode. This mode is mainly used for real-time monitoring of slow level changes, such as battery charge and discharge curves, etc.



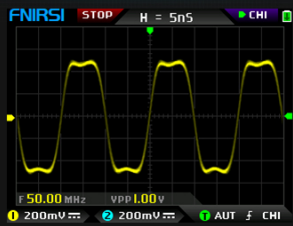
X-Y MODE DISPLAY WITH DIGITAL PHOSPHOR

In the X-Y mode, the signal of channel 1 is used as the X axis, and the signal of channel 2 is used as the Y axis to generate a closed curve graph, which can be used to compare the amplitude, frequency and phase of the two groups of signals. This mode also supports digital phosphor technology, and the X-Y mode of many digital phosphor oscilloscopes does not support fluorescent display.



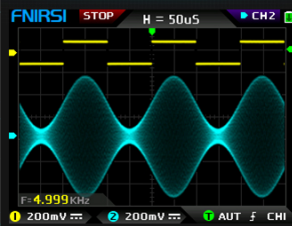
500MSPS REAL-TIME SAMPLING RATE

Four 125MSPS 8-bit high-speed ADC are interleaved and sampled internally. The clock phase of each group of ADC is strictly controlled to ensure that the clock phase error is less than 0.5 degrees. Combined with the vertical anti-aliasing balance algorithm of parallel processing inside the FPGA. The gain and bias characteristics of each ADC are exactly the same, which overcomes the embarrassing situation of the unsatisfactory combination effect of traditional multi-core ADC, and the actual performance is no different from that of a 500MSPS single-core ADC.



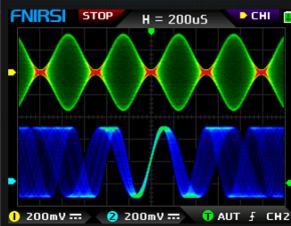
180MHZ ANALOG BANDWIDTH

The analog front-end bandwidth of each channel is 180MHz. Under the premise of ensuring excellent flatness, the strict test-3DB attenuation bandwidth is above 180MHz. When only one channel is turned on, the sampling rate of a single channel reaches 500MSPS, and the bandwidth is 180MHz. When two channels are turned on, the sampling rate of each channel is 250MSPS. Limited by the sampling rate, the bandwidth is limited to 90MHz.



DIGITAL PHOSPHOR TECHNOLOGY

Digital phosphor technology is the benchmark of modern high-quality oscilloscopes, and the cost and design difficulty are very high. Digital phosphor technology can not only overcome the severe glitches caused by the discrete noise of traditional oscilloscopes, but more importantly, it can further see the distribution and probability characteristics of the signal, and can further see the real situation of the signal. The probability of appearing in the brighter area is relatively high, and the probability of appearing in darker area is small. Not only that, but also the speed of the rise and fall of the step signal can be seen. The faster the rise time, the brightness of the edge will be darker, the brighter the edge brightness is if it is slower.



GRAY SCALE AND COLOR TEMPERATURE DISPLAY

With the support of the digital phosphor system, the color display of the waveform can be divided into two types: grayscale and color temperature. Grayscale refers to the distribution of the waveform and is represented by different brightnesses of the same color. Channel 1 is yellow and channel 2 is cyan. The temperature refers to the distribution of the waveform in different colors. The temperature range of channel 1 transitions from green to red, the green is the lowest, and the red is the highest. The temperature range of channel 2 transitions from blue to green, blue is the lowest, green is the highest.

► PERSPECTIVE EYE OF ELECTRONIC ENGINEERS ◀



Digital Phosphor
Technology



Dual
Channel



Signal
Generator



50000
wfm/s



X-Y
Mode



ZOOM Scaling
Time Base



20M Bandwidth
Limit



Cursor
Mode



Grayscale & Color
Temperature



FFT
Spectrum



Trigger
Inhibition



Intelligent
Anti-burning



Waveform
Saving



Chopping
Wave Output



Firmware
Upgrade

► HIGH PERFORMANCE ANALOG FRONT-END ◀

5MV HIGH SENSITIVITY

ULTRA-HIGH WAVEFORM SIGNAL-TO-NOISE RATIO

The analog front-end uses excellent shielding measures and a stable feedback system, and all parts with interference sources are far away from the analog front-end



Measure the waveform of 10mv weak signal

► COMPREHENSIVE LEVELING SYSTEM ◀

LARGE ► TIME BASE SCROLLING MODE

In scroll mode, Real-time
monitor the level changes



50000WFMS/S WAVEFORM REFRESHING RATE

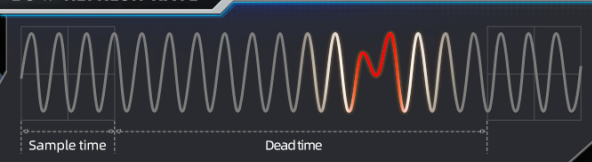
Making the abnormal
waveforms nowhere
to hide



HIGH REFRESH RATE



LOW REFRESH RATE



FFT SIMPLE SPECTRUM DISPLAY

Qualitative overview of the spectral content of the current signal



▶ 2.8-INCH IPS HD DISPLAY ◀



GRAYSCALE AND COLOR TEMPERATURE DISPLAY

Multi-level grayscale display
capability. Waveform changes clearly
reflected