FNIRSI

FNIRSI-1C15

Oscilloscope

FNIRSI-1C15 is a full-featured, practical, cost-effective handheld oscilloscope launched by FNIRSI.


110MHz
MENU
STOP
SINGLE
SAVE
SEL
MEAS
ACDC
REF
ATUO
50%

Product introduction

FNIRSI-1C15 is a full-featured, practical, cost-effective handheld oscilloscope launched by FNIRSI. 500M real-time sampling rate, 110MHzde analog bandwidth. In addition to all the functions of a conventional handheld oscilloscope, we have added a one-button fast Auto function on this basis, so you can grasp the waveform as easily as a desktop computer. Fast waveform storage function, can store up to 81 pictures. Reference waveform, you can pause to save the previous frame waveform to the screen at any time, and you can compare it with the currently refreshed waveform. Afterglow and scroll modes make it easier to detect and record waveforms. Built-in 3000mAH rechargeable battery, can work continuously for more than 10 hours when fully charged. The body is equipped with a high-quality silicone sleeve, which is non-slip and drop-resistant. The joystick replaces the original direction buttons, making operation easier and more efficient.

Product parameters

Model	FNIRSI-1C151	**Channel coupling**	AC/DC
Number ofchannels	1	**One-button automatic**	Stand by
Screen size	2.4 inches	**Waveform measurement**	14 types
Screen Resolution	320*240	**measurement accuracy**	±2%
Analog bandwidth	110M	**Reference waveform**	Stand by
Sampling Rate	500M	**Waveform save**	Stand by
Rise Time	<3ns	**Frequency accuracy**	±0.01%
Storage depth	240KB	**Input resistance**	1MΩ
Time base range	5ns-10s	**Single triggerc**	Stand by
Vertical sensitivity	10mv/div-10v/div	**50% (back to middle)**	Stand by
Trigger mode	Auto/Normal	**Operation method**	Button + joystick
Trigger type	Rising / Falling	**Waveform analysis**	Support drag / exp-and after stopping
Display mode	YT/ scroll	**Language**	Chinese / English
Afterglow time	None/1s/∞	**Appearance size**	115mm*75mm* 33mm
charging method	5V/800mA	**Battery capacity**	3000mAh
Voltage meas-urement range	± 40v (x1 file) ± 400v (x10 file)	**Accessories**	Box / probe / data cable/ manual

Panel introduction

:Switching through the SEL button, the joystick can be moved up and down to move the vertical offset,trigger position

:Normal display interface: Move the joystick left or right to move the horizontal time base

Coup:○ DC ◉ AC
Probe:◉ X1 ○ X10

:Press the MENU button to open the interface. The joystick moves up and down to switch the category. The left and right can select small items in the cate-gory. The OK butt -on can confirm the setting.

OK : confirm

50% : Back to center-press to select all, vertical offset, trigger position, trigger level, back to center

s : Increased horizontal time base

AUTO : Auto-center the measured unknown waveform with the appropriate time base

REF : Latch the current waveform to the screen background

X1X10 : Multiple switching

V : Increased vertical sensitivity- / voltage measurement range

ACDC : AC-DC switching

MENU : menu

STOP : stop

ns : Reduced horizontal time base

SINGLE : trigger

SAVE : Short press-save the current waveform
long press-you can view the saved waveform

SEL : Vertical position / trigger level switching adjustment

mV : Reduced vertical sensitivity + /voltage measurement range

MEAS : Turn all measurement parameters on / off

Operation Guide

1. Charging: The upper right corner of the oscilloscope displays the current remaining power. When the power is insufficient, use the provided USB cable to connect the 5V adapter for charging, and the charging current is about 800ma. Note that the maximum output current of the USB2.0 port of the computer is 500ma, and the battery may not be fully charged. The maximum charging voltage is 7V !!!, if you use a mobile phone to fast charge the charging head voltage may exceed this voltage, please do not use it.

2. Vertical / time base scale: Press the “mv” and “V” buttons to adjust the vertical scale. Press the "ns" and "s" buttons to adjust the horizontal time base scale.

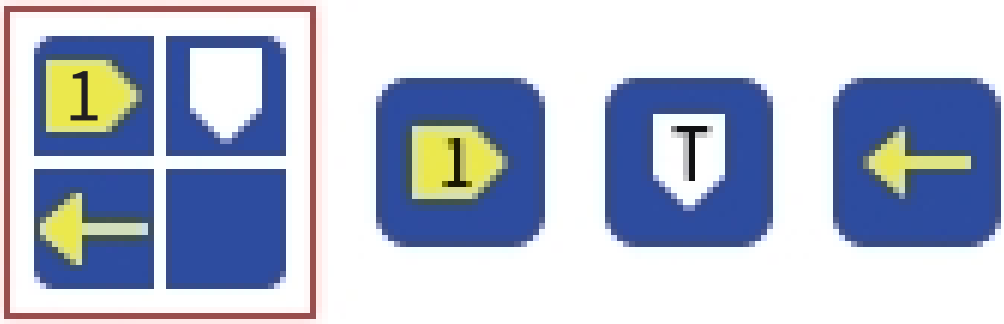
3. AUTO: One-button auto function is a more commonly used function in the oscilloscope. After the user presses the "Auto" key, the oscilloscope will automatically measure the amplitude and frequency of the

waveform and automatically adjust the horizontal and vertical scale The waveform is displayed in the middle of the screen.

4. Run / Stop: In the running state, click the "Stop" key in the keypad to stop the oscilloscope. After stopping, the oscilloscope no longer performs sampling, and the user can observe the last sampling data retained in the memory. At this time, click the “ns” and “s” keys to expand and contract the waveform. You can also move the waveform left or right by using the joystick. Click the "Stop" button in stop mode to make the oscilloscope enter the running state. Stop / run status can be identified by the green "run" and red "Stop" icons in the upper left corner of the screen. In the new version, "run" is displayed as "auto" or "normal", indicating that the current trigger mode is auto or normal.

5.50%: The function of 50% in the oscilloscope is to return to the center, including three vertical offset, trigger position, and trigger level. After clicking the

"50%" button, the oscilloscope pops up the menu box as shown below:



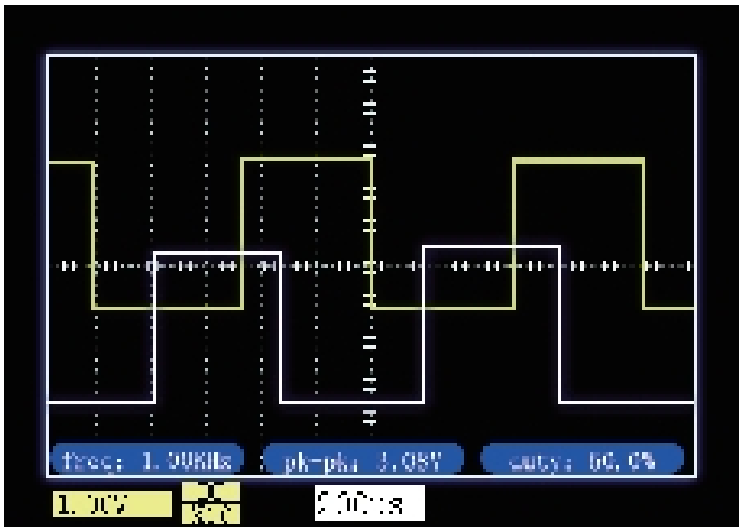
The first is all, followed by the vertical zero offset, the trigger horizontal position, and the trigger level. You can switch the four options by moving the joystick up / down / left / right, and click the “OK” button in the keypad to confirm. Then the oscilloscope will perform the operation according to the corresponding item.

6.Single (single trigger): Single trigger means that after pressing the button, the oscilloscope samples a frame of waveform and then stops. That is, only one frame of waveform is acquired per click. It is important to note that there must be a trigger for this sampling. If there is no trigger, the oscilloscope will display “wait” in the upper left corner, and this sampling will not be completed until a waveform trigger occurs.The key

corresponding to the single function is the "single" key on the oscilloscope keypad. The single-shot function is also a common function of the oscilloscope. For example, when you need to observe the power-on waveform of the crystal, if you do not use single, the collected power-on waveform will flash. If you want to analyze the power-on waveform, you need the oscilloscope to stop automatically after acquisition. The specific operation is: adjust the vertical scale of the oscilloscope, and then click single (the oscilloscope is in the "wait" state because there is no waveform at this time), and then power on the circuit under test, the waveform cross-domain trigger level generated by the crystal oscillator, After the oscilloscope triggers, it continues to complete a sample and then stops. At this point you can drag and expand the waveform for analysis. Of course, there are other applications besides these, which will not be listed here one by one.

7. Reference waveform: The reference waveform is the waveform displayed in the previous frame latched on the screen display, and the normal refreshed waveform is not affected. Unlike the desktop oscilloscope,the

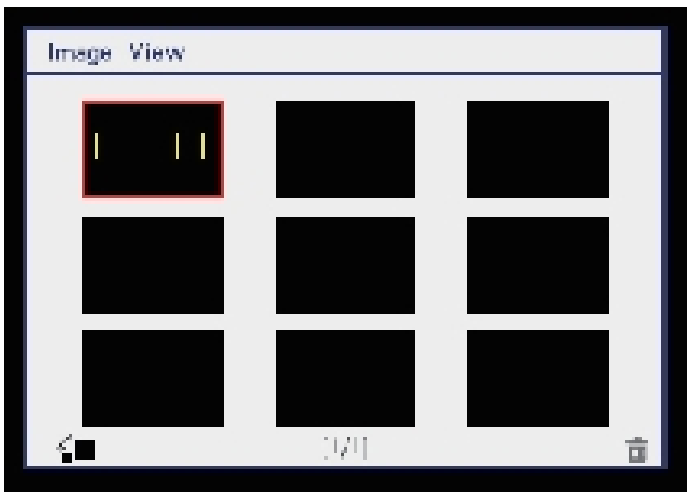
reference waveform of this unit does not support other operations such as expansion or measurement. The reference waveform is useful for a single-channel oscilloscope. For example, when you want to compare the driving waveforms of two Mos tubes, you can measure the waveform of one Mos tube first, then lock the waveform on the screen, and then move the probe to measure the other. Mos tube, so two driving waveforms can be displayed on the screen at the same time for easy comparison. In the “running” state, click the “REF” button to latch the current waveform. Click the button again to delete the latched reference waveform from the screen.



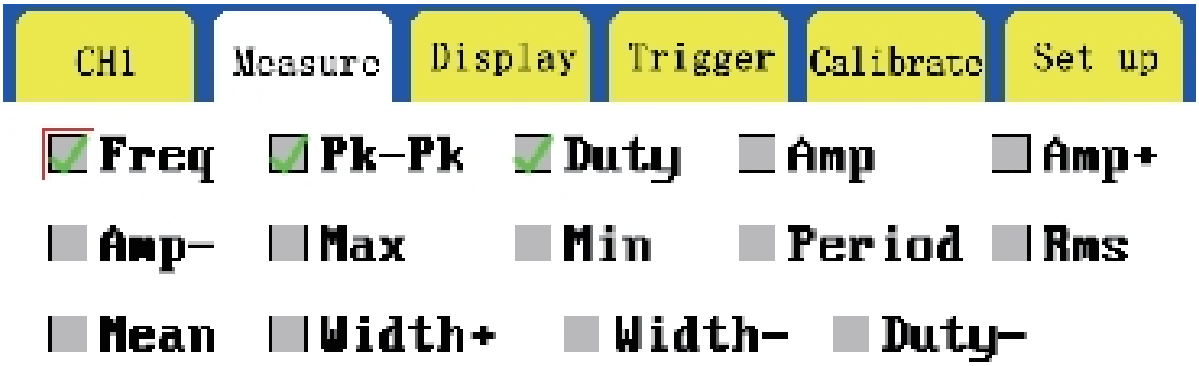
8. Waveform screenshot: Click the "Save" button in the keypad to capture the current screen and save it. You can save up to 81 screenshots (9 pages in total,

9 per page). If you exceed 81, the oldest one will be replaced. Delete unwanted images.

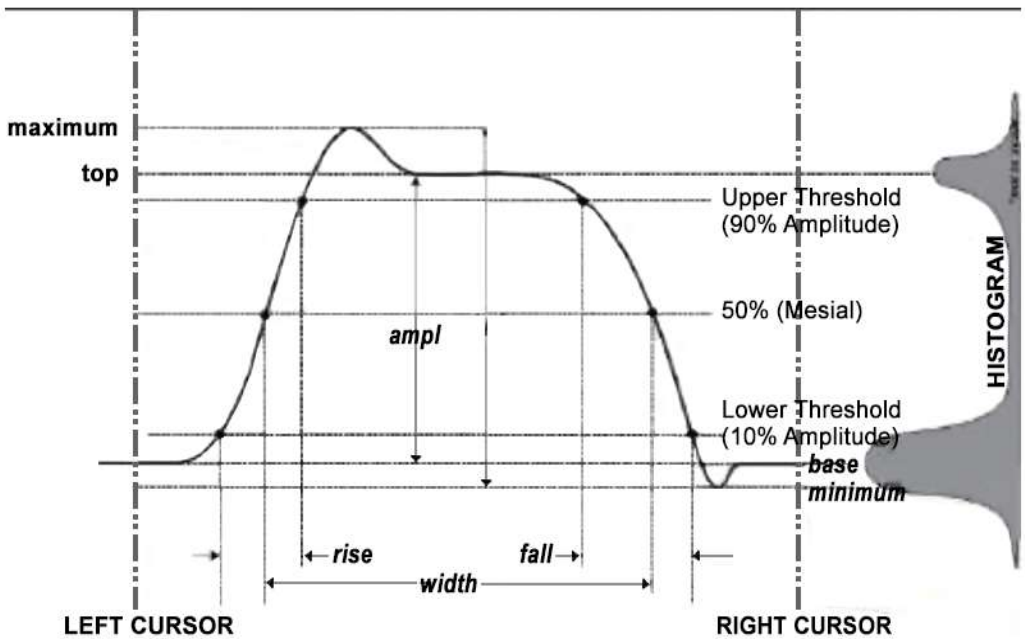
9. Browse screenshot: Long press the "Save" button in the key panel to enter the Image View interface. On this interface, click the button corresponding to the "trash bin" icon to delete the waveform graph selected by the red focus frame. Click the button (OK key) corresponding to the "Zoom In / Zoom Out" icon to zoom in the waveform selected by the red focus frame. After zooming in, click any key to return to the homepage. In the Image View homepage, move the joystick left or right to move the red focus frame on the current page. Turn the joystick up or down to “page turn”. In the Image View interface, click the “Save” button to return to the oscilloscope interface.



Introduction to measurement options



Frequency, peak-to-peak, positive duty cycle, amplitude, positive amplitude, negative amplitude, maximum, minimum, period, root mean square, average, positive pulse width, negative pulse width, negative duty cycle



Firmware upgrade

No matter how pure gold is, it is impossible to achieve 100% purity. No perfect person, no perfect product, but we have a team of responsible engineers.

This product supports firmware upgrades. We will collect customer feedback and suggestions to upgrade and optimize the product software. After that, we will release our latest firmware in our official store.

Upgrade method:

(1)Click the "SEL" button immediately after power on, the oscilloscope interface displays English letters

(2)U disk appears after connecting the USB cable, paste the downloaded firmware to the U disk

(3)Eject USB, unplug USB cable, click “OK” button to upgrade, shut down and restart after finishing.

Safety Precautions

Learn about the following safety precautions to avoid injury and prevent damage to this product or any products connected to it. To avoid possible danger, be sure to use this product as specified.

- **Only authorized personnel should perform maintenance procedures.**
- **Avoid fire and personal injury.** Use the probe correctly and make sure that the measured voltage does not exceed the maximum withstand voltage.
- **Connect the probe correctly.** Before measuring voltage greater than 40V, please switch the probe to the x10 position.
- **Do not operate the product if you suspect that the product is malfunctioning.** Should feedback with our company and return to the factory for repair.
- **Charge the battery correctly.** The ideal charging voltage is 5V, and the highest cannot be higher than 7V.

http://www.fnirsi.cn/