

Integrated Mount Tester

User Manual

(V1.0)



- Thank you for purchasing the Integrated Mount Tester. Please read the manual before using the Integrated Mount Tester and use properly.
- For using the Integrated Mount Tester safely, please first read the「Safety Information」carefully in the manual.
- The manual should be kept well in case of reference.
- Keep the S/N label for after-sale service within warranty period. Product without S/N label will be charged for repair service.
- If there is any question or problem while using the Integrated Mount Tester, or damages occurred on the product, please contact our technical Department.

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1 .Safety information

- ◆ The tester is intended to use in compliance with the local rules of the electrical usage and avoid to apply at the places which are inapplicable for the use of electrics such as hospital, gas station etc.
- ◆ To prevent the functional decline or failure, the product should not be sprinkled or damped.
- ◆ The exposed part of the tester should not be touched by the dust and liquid.
- ◆ During transportation and use, it is highly recommended to avoid the violent collision and vibration of the tester, lest damaging components and causing failure.
- ◆ Don't leave the tester alone while charging and recharging. If the battery is found severely hot, the tester should be powered off from the electric source at once. The tester should not be charged over 8 hours.
- ◆ Don't use the tester where the humidity is high. Once the tester is damp, power off immediately and move away other connected cables.
- ◆ The tester should not be used in the environment with the flammable gas.
- ◆ Do not disassemble the instrument since no component inside can be repaired by the user. If the disassembly is necessary indeed, please contact with the technician of our company.
- ◆ The instrument should not be used under the environment with strong electromagnetic interference.
- ◆ Don't touch the tester with wet hands or waterish things.
- ◆ Don't use the detergent to clean and the dry cloth is suggested to use. If the dirt is not easy to remove, the soft cloth with water or neutral detergent can be used. But the cloth should be tweaked sufficiently.

About Digital Multi-meter

- ◆ Before using, you must select the right input jack, function and range.
- ◆ Never exceed the protection limit values indicated in specifications for each range of measurement.
- ◆ When the tester is linked to a measurement circuit, do not touch unused terminals.
- ◆ Do not measure voltage if the voltage on the terminals exceeds 660V above earth ground.
- ◆ At the manual range, when the value scale to be measured is unknown beforehand, set the range selector at the highest position.
- ◆ Always be careful when working with voltages above DC 60V or AC 40V, keep fingers behind the probe barriers while measuring.
- ◆ Never connect the meter with any voltage source while the function switch is in the current,

resistance, capacitance, diode, continuity, otherwise it will damage the meter.

◆ Never perform capacitance measurements unless the capacitor to be measured has been discharged fully.

◆ Never measure any of resistance, capacitance, diode or continuity measurements on live circuits.

Visual laser sources

When you turn on visual laser sources, please don't stare at it, or will damage to eyes

When not using it, please turn it off and cover the protective cap .

2. Integrated Mount Tester Introduction

2.1 General

The 7 inch touch screen Integrated Mount Tester is designed for maintenance and installation of IP cameras, analog cameras, TVI, CVI AHD, SDI cameras, as well as testing 4K H.264 camera by mainstream. The 1920x1200 resolution enables it to display network HD cameras and analog cameras in high resolution. The unit supports many ONVIF PTZ and analog PTZ control. The combination of touch screen and key buttons make the Integrated Mount Tester very user- friendly.

The tester is also a great tool for Ethernet network testing. It can test PoE power voltage, PING, and IP address searching. You can use the blue cable tracer to locate individual connected cables from a bundle of cables. Test LAN cable for proper connection termination. Other functions include providing 24W PoE power to your camera, HDMI IN and out, CVBS loop test , testing IP and analog at the same time, LED Flashlight, DC 12V 2A power output and much more. Its portability, user-friendly design and many other functions make the tester an essential tool for all installers or technicians.

2.2 Features

- ✧ New 7 inch touch screen CCTV tester with retina display ,1920*1200 resolution
- ✧ H.264, 4K video display via mainstream
- ✧ In HDMI IN mode, It can converter *test* from analog to digital with dual test window IP & HDMI IN or Analog & HDMI IN
- ✧ RJ45 cable TDR test and cable quality test, to test cable pair status, length, attenuation reflectivity, impedance, skew and other parameters.
- ✧ Screen capture, long press the key “enter”, can capture screen interface and save it in any time
- ✧ 12V power input test
- ✧ “TesterPlay” app, support Tester, PC and mobile phone display at the same time. The android version mobile phone install “TesterPlay ” app, or install VLC player in the PC, can real-time receiving screen information from the tester.
- ✧ Screen management, change function’s icons order, create new directory.
- ✧ Themes: Lite and normal mode can select , change the icons and desktop background ,change sliding effect etc
- ✧ Built in Wi-Fi ,display image from the wireless camera , create WIFI hotspot

- ✧ Rapid video, auto scan the IP camera address, via one key to view the image.
- ✧ Screen lock : password lock and pattern lock are optional
- ✧ Office, quick office app (support excel, word, ppt format) doc. Editable
- ✧ Rapid IP scan , auto scan whole network or other network device 's IP address
- ✧ CVBS loop test , tester can receive and send the color bar generator ,to check BNC cable
- ✧ Traffic monitoring of the tester "LAN port", display network port or WIFI connection real-time upload and download speeds and other network parameters.
- ✧ Shortcut button, drop-down menu ,PoE power switch ,IP setting, WLAN switch , HDMI IN functions etc screen lock, password lock screen or pattern lock.
- ✧ IP discovery, do not need to know the first two digits of camera's IP address , it can auto-scan the whole network segment IP, and auto-modify tester's IP address.
- ✧ Rapid ONVIF, search camera quickly, auto log in and display image from the camera, activate camera.
- ✧ Hik test tool app is design for activating and debugging Hikvision camera, can auto-identify unactivated hikvision camera, also can display image from the Hikvision camera.
- ✧ DH test tool app is design for Dahua Camera test, and modify IP, user name and password parameters etc.
- ✧ ONVIF camera test, support 2592x1520
It is used unique hardware decoding, display image from the 4 MP camera via mainstream.
You can select sub-stream to test higher resolution (such as 5MP...) camera
- ✧ ONVIF IP camera video testing.
- ✧ Compatible with H.264/MPEG4/MJPEG IP cameras, such as Dahua, HIKVISION, and ACTI
Customized service is available.
- ✧ Built in Wi-Fi, can receive image from wireless camera, as well as ONVIF and customized IP cameras.
- ✧ SDI/EX-SDI Digital camera image display, record and screen snapshot
- ✧ HD CVI camera image display, 4X zoom, video record and playback ,Coaxial PTZ control and call camera OSD menu
- ✧ HD TVI camera image display, 4X zoom, video record and playback ,Coaxial PTZ control and

call camera OSD menu

- ✧ AHD camera image display, 4Xzoom, video record and playback, Coaxial PTZ control and call camera OSD menu
- ✧ HDMI signal output, supports up to 1080P.
- ✧ Analog camera image display, auto adapt and display the video format of NTSC/PAL
- ✧ Support more than 30 protocols, such as PELCO-P, PELCO-D, SAMSUNG etc
- ✧ Video image digital zoom to view the image in greater detail.
- ✧ Snapshot function allows you to save the current image as a JPG file in the tester.
- ✧ Built in enhanced color bar generator, send the color, pure blue and black image, test monitor transmission channel and debug display device, observe whether there are light spots or black spots on the monitor.
- ✧ LED Flashlight.
- ✧ LCD screen brightness/contrast/color Saturation adjustable.
- ✧ Visual fault locator, to test fiber's bending and breakage
- ✧ Optical power meter, test fiber loss and value
- ✧ Digital Multi-meter , DC and AC voltage measurement, Resistance measurement Continuity test, Diode measurements, Capacitance measurement
- ✧ PEAK video signal level, SYNC signal level, Color burst chroma level measurement, test video signal attenuation.
- ✧ Cable tracer, by sending the audio signal, enables the blue cable tracer tester to find the connected cable from mess cables.
- ✧ Ping test, PING is the most conventional network debugging tools, it is used for testing if the connected IP camera or other network equipment's Ethernet port is working normally and the IP address is correct.
- ✧ In digital IP surveillance applications, if the IP camera's IP address is not known, the device cannot be used. An IP address scan can quickly search for the connected IP camera or other network device's IP address.
- ✧ The PoE voltage test can test for PoE voltage when a POE switch is supplying POE power to an IP camera.
- ✧ TDR cable test, test cable open circuit and short-circuit

- ✧ Cable test , Test LAN cable or telephone cable,UTP cable etc ,cable type and the sequence of wires will be displayed
- ✧ Support RS485,rate 600 ~ 115200bps adjustable
- ✧ PTZ protocol analysis, control protocol command displays to check RS485 transmission whether is normal, easy to find the fault device.
- ✧ PTZ control. Pan/tilts the P/T unit, zooms in/out the lens, adjusts the focus, aperture and sets and the preset position.
- ✧ DC5V 2A power output for USB charging (No USB data exchange, voltage only).
- ✧ PoE power output, supply temporary power for PoE camera.
- ✧ DC5V 2A power output, as a power bank.
- ✧ Audio input and output, test and output the audio signal.
- ✧ 7.4V 37Wh Battery. Remaining battery charge indicator, Lithium Ion Polymer Battery can last 10 hours for normal use after charging for 5-6 hours.

2.3 Function

2.3.1 4K mainstream test

With the new hardware decoding, display the image from the 4 K camera.

2.3.2 Retina display and touch screen operation

7 inch touch screen cctv tester with retina display, 1920*1200 resolution.

2.3.3 Intelligent interface

You can select “Lite mode ”or “Normal mode”. In normal mode, self-define desktop, press function icons to enter screen management status. You can move the icon to any pages,self-define the number of icons in any page. Make interface sample and individuality.

2.3.4 HDMI digital signal input

HDMI digital input , support resolution 720×480p /720×576p /1280×720p /1920×1080p /1024×768p/1280×1024p /1280×900p /1440×900p. Digital video recorder and other devices can display images of the tester through the HDMI input.

2.3.5 RJ45 cable TDR test

RJ45 cable TDR test and cable quality test, to test cable pair status, length, attenuation reflectivity, impedance, skew and other parameters.

2.3.6 Screen capture

Screen capture, long press the key “enter”, can capture screen interface and save it in any time.

2.3.7 12V power input test

Show the current adaptor input voltage and power.

2.3.8 TesterPlay

“TesterPlay” app, support Tester, PC and mobile phone display at the same time. The android version mobile phone install “TesterPlay ” app, or install VLC player in the PC, can real-time receiving screen information from the tester

2.3.9 It can converter test from analog to digital with dual test window IP & CVBS.

2.3.10 Dual test window ,IP & HDMI IN or Analog & HDMI IN.

2.3.11 It can converter test from analog to digital with dual test window IP & CVBS.

2.3.12 Theme

Set function apps background, you can select 4 different colors at the same time. Set the desktop and application interface background, you can choose pure colors or custom pictures. You also can change RGB to set color. When you choose sliding effect, "three-dimensional, folding, left and right folding, rotation, ombre effect" are optional.

2.3.13 Rapid video

Auto scans whole network IP address, by one key to detect all network cameras and auto display the images.

2.3.14 Wireless WIFI

Built in Wi-Fi, can receive WIFI network camera images (ONVIF or customized camera) or network data, etc. you can create Wi-Fi hotspot.

2.3.15 Screen lock

You can choose password Lock screen, pattern Lock screen or “NO”.

2.3.16 Office Software

Built in Quick office app can edit the documents, spreadsheets, and presentations etc.

2.3.17 Speed IP exploration

Search IP address of the connected IP camera or other network equipments in whole network segment.

2.3.18 Traffic monitoring

Traffic monitoring of the tester "Lan port", display network port or WIFI connection real-time upload and download speeds and other network parameters.

2.3.19 Drop-down menu

Press and slide at right top right corner twice to open shortcut menu. The shortcut menu includes POE power output, IP settings, Wi-Fi, HDMI IN, CVBS, Video OUT, LAN, Brightness, settings etc.

2.3.20 CVBS loop test

“TV out” testing app, it can send and receive color bar generator through the tester’s video out and video in”.

2.3.21 IP discovery

IP discovery, do not need to know the first two digits of camera’s IP address , it can auto-scan the whole network segment IP, and auto-modify tester’s IP address.

2.3.22 Rapid ONVIF

Rapid ONVIF, search camera quickly, auto log in and display image from the camera, activate Hikvision camera.

2.3.23 Hik test tool

Hik test tool app is design for activating and debugging Hikvision camera, can auto-identify unactivated hikvision camera, also can display image from the Hikvision camera.

2.3.24 DH test tool

DH test tool app is design for Dahua Camera image test, modify IP, user name and password parameters etc.

2.3.25 IP camera test

The device is designed for ONVIF IP camera testing. It can display the image from an IP camera and change the IP address.

The 7 inch 1024x600 screen display allows the user to view the image with a sufficient screen size.

With the ONVIF tool, you can display the image from an IP camera and use the PTZ functions.

2.3.26 Analog camera test

Displays an analog camera image on the 7 inch 1920x1200 Retina screen display. Supports PAL & NTSC formats. The LCD screen's back light brightness, video image brightness, contrast and color saturation are all adjustable.

2.3.27 Video level meter

Perform NTSC and PAL video amplitude signal measurements for PEAK to PEAK , SYNC levels, and COLOR BURST chroma level.

Video signal PEAK to PEAK level:

For NTSC format, the video signal level is $140 \pm 15 \text{IRE}$

For PAL format, the video signal level is $1000 \pm 200 \text{mV}$

If the level is too low, it will cause the image to lose quality and limit the distance it will travel over cable. If the level is too high, it will lead to wash out of the image

SYNC level: Testing the amplitude of the video sync pulse to verify if the video level is correct.

For NTSC format, the SYNC level is $40 \pm 5 \text{IRE}$

For PAL format, the SYNC level is $300 \pm 35 \text{mV}$

If the level is too low, it will cause the image to not frame out properly. If the level is too high, it will lead to a poor quality

COLOR BURST level: Testing the color burst level will determine if the burst signal is sufficient to trigger the displays color producing circuit. Burst will diminish in amplitude over longer cable runs and can get fall below the threshold for the video display to show a color image.

For NTSC format, the Chroma standard level is 40 IRE

For PAL format, the Chroma standard level is 280mV

If the Chroma level is too low, the color will not be as deep, and some details of the image will get washed out. If the Chroma level is too high, there will be spots on the image. If the coaxial cable is too long, it will reduce the chroma level

2.3.28 PTZ controller

Displays and allows for analysis of analog video and controls Pan/tilt/zoom function of PTZ analog cameras. For PTZ testing, setup the controlling parameters from the meter to match those of the camera: e.g. PTZ protocol (PELCO-D, etc.), communication port (RS-485, etc.), baud rate, PTZ camera ID and pan/tilt speed.

2.3.29 DC 12V 2A power output port and DC 5V 2A USB power port

The unit can power a camera with its DC 12V 2A power output. Also included is a built in DC 5V 2A power output port used to charge USB devices. NOTE: This USB port is for charging only and has no ability to transfer data.

2.3.30 Audio testing

Test the audio from mic level input devices. Connect the tester and mic level device with the audio cable. Supports audio recording and output. to monitor and / or record audio.

2.3.31 Cable tester

Test LAN cable or telephone cable.

Connect LAN cable or telephone cable with the tester and cable tester. And then the connecting status, cable type and the sequence of wires will be displayed, as well as display the serial number of the cable tester kit.

2.3.32 PTZ data analysis

Search the Control protocol code from Multifunction keyboard or DVR by RS485 interface, test the PTZ control command data whether received anomaly and RS485 data transmission.

Screen displays 16 hexadecimal codes such as

PELCO-P:A0 00 (Add) xx xxxxxx AF xx

PELCO-D:FF 01 (Add) xx xxxxxxxx

2.3.33 Digital Image zoom on the monitor

Set image zoom up to 4X to get a closer look at all the image detail. Supports analog and many IP cameras.

2.3.34 Video screenshot, record and playback

Capture the video image displayed and save as a JPEG file. You can also record and save the current video in the tester. The recorded files can play directly via Media player or under the function of “Playback”.

2.3.35 Improvement color bar generator

Video generating, the PAL/NTSC multi-system color bar video generator and pure blue /black colorful imagines, by receiving the video color bar to test the video channel whether transmit normally. And judge whether the color is different, because of the transmission loss or interference, it suitable for video transmission of the field tests, such as optical video transmitter and receiver, video cable etc.

The new function color bar can test the image whether shift.

The color bar (red, green, blue, white, black) test the monitor whether have white or black dot etc.

2.3.36 DHCP dynamic address assignment

Built in DHCP server: Dynamically assign IP address for the IP camera or network device.

2.3.37 Access the dynamic IP address

The tester can directly access a dynamic IP address assigned from its DHCP server and use it as the tester's IP address. No need to set a IP address manually.

2.3.38 Multiple network IP Cameras Test

Supports Multi- segmented Static IP address setting which can simultaneously test different segments of IP network Cameras.

2.3.39 IP address scan

The IP address scan can quickly search for connected IP cameras or another network device IP address.

2.3.40 PING Test

PING is the most conventional network debugging tool, it is used for testing if the connected IP camera or other network equipment is working normally and the IP address is correct.

2.3.41 Port Finder

The tester will send signals to make the connected PoE port flicker at a set frequency. This will enable the installer to easily and quickly find the connected port for an Ethernet cable.

2.3.42 PoE Test

Test the PoE voltage from a PoE switch. The unit will clearly display the voltage for each wire in an Ethernet cable.

2.3.43 Digital Multi-meter

The tester has built in highly stable and reliable 33/4 digit (6600) digital multi-meter. It is used for the DC and AC voltage measurement, AC and DC current measurement, Resistance measurement, Continuity test, Diode measurements, Capacitance measurement, Auto/Manual measuring range switching, relative value measurement and locking. It is easy operation and professionally accurate.

2.3.44 Visual fault locator

Visual Fault Locator with 650nm wavelength can emit red laser sources to test multi-mode and single mode fiber's bending and breakage, and Continuous light-emitting and 1Hz, 2Hz modulating light output. It is indispensable tool in fiber project constructing, fiber net-work maintaining, optical component manufacture and research.

2.3.45 Optical Power Meter

The Integrated Mount Tester adopts the most advanced handheld instrument specific integrated chip , achieve ultra-low power operation, with the 7 Retina High-definition screen display ,five wavelength calibration points 1625nm,1550nm ,1490nm , 1310nm , 1300nm , 850nm.Linear or nonlinear optical power display, it can measure the optical power value, and also be used for Relative measurement of optical fiber link loss. It is necessary tool for fibre-optic communication, cable television system and security system maintenance.

2.3.46 LED Flashlight

Press the LED On/Off button to use the LED flashlight.

2.3.47 TDR cable test

TDR cable testing, accurately measure BNC cable, network cable, controls cable's open circuit and short-circuits location, it greatly improves working efficiency.

2.3.48 WIFI

With built in WIFI, you can view the video from a wireless camera (ONVIF or customized camera) or connect to a Wireless network.

2.3.49 SDI/EX-SDI camera test

HD SDI/EX-SDI camera test, support 1080P 50/60 FPS digital camera image test and video image zoom, record, snapshot, photo viewer and video playback.

2.3.50 CVI camera test

Support 2560x1440P 25F/30F, 4xzoom, video record and playback, coaxial PTZ control and call camera OSD menu.

2.3.51 TVI camera test

Support 2560x1944P 12.5FPS, 4xzoom, video record and playback, coaxial PTZ control and call camera OSD menu.

2.3.52 AHD camera test

Support 2560x1440P 15F/25F/30F, 4xzoom, video record and playback, coaxial PTZ control and call camera OSD menu.

2.3.53 PoE power supply

Supports PoE 802.3at power at 48V and up to 24W.

2.3.54 HDMI signal output

The HDMI output port supports up to a 1080p 60Hz resolution output.

2.3.55 Network bandwidth testing

The network bandwidth test needs two tester meters to test bandwidth: one as a transmitter, the other as a receiver.

2.3.56 Cable Tracer (cable search)

Cable identification by use of an audio signal. This function enables the blue cable tracer to find the connected cable from a bundle of cables with an audio tone.

2.3.57 Screen image rotates 180 degrees

You can manually rotate the display 180 degrees using the settings.

2.3.58 FTP Server

Start the tester's Wi-Fi or connect the tester's LAN port to the network. Once the tester is online, start its FTP Server and directly access files from the tester. This also allows for the user to upgrade the tester firmware.

2.4 Packing list

- 1). Tester
 - 2). Adaptor DC12V 2A
 - 3) Network cable tester
 - 4) Polymer lithium ion battery (7.4V DC 5000mAh)
 - 5). BNC cable
 - 6). RS485 cable
 - 7). SC,ST connector
 - 8). Multi-meter test leads one pair of red and black
 - 9). Output Power cable
 - 10). Audio cable
 - 11). TDR alligator clamp
 - 12). Safety cord
 - 13). Tool bag
 - 14). Manual
- (NOTICE : SD card is not default accessory, please purchase separately if necessary.)

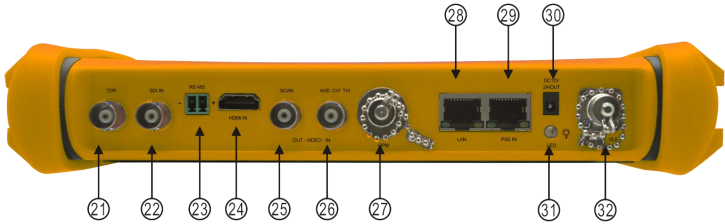
2.5 Function interface



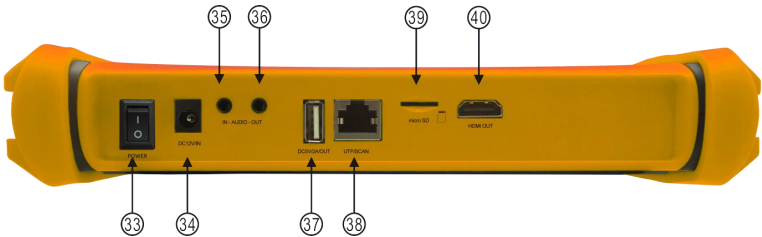
1		Press more than 2 seconds, turn on or off the device ,short press to turn on or off the menu display
2		Menu key
3		4xzoom the image displays.
4		Far focus: Focus the image faraway
5		Near focus: Focus the image nearby
6		TELE: zoom in the image
7		WIDE: zoom out the image
8		Open/set ,Confirm the setting of parameters, open or enlarge the aperture
9		
10		Upward, set function or add parameter. Tilt the PTZ upward
11		Rightward, select the parameter whose value will be changed. Add the value of the parameter. Pan the PTZ right
12		Leftward, select the parameter whose value will be changed
13		Downward, set function or reduce the value of the parameter. Tilt the PTZ

		downward
14	ENTER	Confirm key
15	RETYRN	Return/Close : Return or cancel while setting parameters of the menu, close or decrease the aperture
16		Multimeter interface
17		The charge indicator: it lights red while the battery is being charged. As the charging is complete, the indicator turns off automatically
18		The RS485 data transmission indicator: it lights red while the data is being transmitted
19		The data received indicator: it lights red while the data is being received
20		The power indicator: it lights green while the tester is powered on by the adapter

Top interface



Bottom interface



21 TDR cable test interface

22 SDI input (BNC interface)

23	RS485 Interface: RS485communication for the PTZ
24	HDMI IN
25	Video signal output (BNC interface) / cable tracer interface
26	CVBS input /AHD /TVI/CVI Coaxial interface
27	Optical power meter interface
28	PoE power supply output or LAN test port (Use to test PoE or non-PoE IP camera)
29	PSE power sourcing equipment. Tests PoE voltage
30	DC 12V 2A power output , for provisional DC power supply
31	LED lamp
32	Visible red laser source emits Interface
33	Power
34	DC 12V 2A charging interface
35	Audio input
36	Audio output and earphone interface
37	USB 5V 2A power output (used only for power, not data)
38	UTP cable port: UTP cable tester port/ Cable tracer port
39	Micro SD card moveable
40	HDMI output interface

3. Operation

3.1 Installing the Battery

The tester has built-in lithium ion polymer rechargeable battery. The battery cable inside battery cabin should be disconnected for safety during transportation!

Prior to the use of the instrument, the battery cables inside the battery cabin should be well connected.

Usually it doesn't need to disconnect the cable at the normal use

Pressing the key  continuously can power on or off the tester.



Notice:Pls use the original adaptor and connected cable of the device!



When the battery icon is full or the charge indicator turns off automatically, indicate the battery charging is completed



Notice: When the Charge Indicator  turns off, the battery is approximately 90% charged. The charging time can be extended for about 1 hour and the charging time within 12 hours will not damage the battery.



Notice :Press the key  several seconds to restore the default settings when the instrument works abnormally.

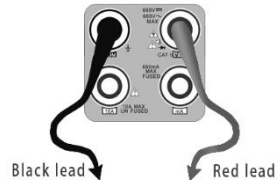
Multi-meter: the red and black multi-meter pen must insert the corresponding port.



Warnings:Instrument communication port is not permitted access circuit voltage over 6V, otherwise damage the tester.



Warnings:Not allow insert multi-meter pen in the current terminal to measure voltage.



3.2 Instrument connection

3.2.1 IP camera connection

Power an IP camera with an independent power supply, then connect the IP camera to the tester's LAN port, if the link indicator of the tester's LAN port is green and the data indicator flickers, it means the IP camera and the tester are communicating. If the two indicators don't flicker, check if the IP camera is powered on or the network cable is not functioning properly.



Note:1) If the IP camera requires PoE power, then connect the IP camera to the tester's LAN port. The tester will supply PoE Power for the IP camera. Click on the icon labeled POE to turn the PoE Power off or on.

2) If use the tester's menu to turn off the tester's PoE power supply, the PoE switch and the power sourcing equipment are allowed to connect to the tester's PSE port, and the PoE power will be supplied to the IP camera by the tester's LAN port. On this condition, the tester cannot receive data from IP camera, but the computer connected to the PoE switch can receive the data via the tester.



Warning: PoE switch or PSE power sourcing equipment only can be connected to tester "PSE IN" port, otherwise will damage the tester.

3.2.2 Analog camera connection



- (1) Connect the camera's video output to the tester's VIDEO IN. The image will display on the tester after pushing the PTZ icon.
- (2) Tester's "VIDEO OUT" interface connect to the Video input of monitor and optical video transmitter and receiver, the image display on the tester and monitor.
- (3) Connect the camera or the speed dome RS485 controller cable to the tester RS485 interface ,(Note: positive and negative connection of the cable).

3.2.3 HD Coaxial camera connection

SDI/EX-SDI, CVI, TVI, AHD camera are classified as HD coaxial cameras. Hereby the following instruction of how to connect SDI camera to the tester is also applied to CVI, TVI, and AHD camera.



- (1) Connect the SDI camera's video output to the tester's "SDI IN" interface, the image will display on the tester. The tester only come with SDI input interface. There is no SDI output interface.
- (2) Connect the SDI camera or the speed dome RS485 controller cable to the tester RS485 interface, (Note: positive and negative connection of the cable).

3.2.4 HDMI IN



DVR or other device's HDMI in port connect to tester's HDMI in port, the meter will display input image.

3.3 OSD menu

Press the key  2 seconds to turn on

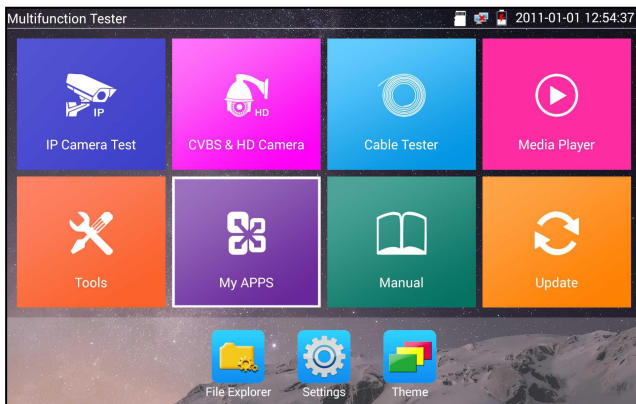
Press the key  again to turn off

short press the key  to enter sleep mode, press it again to test.

If tester works abnormally and cannot be turned off , Press the key  several seconds to turn off, the tester reset.

3. 3. 1 Lite mode & Normal mode

- **Lite mode:** You can easy find corresponding apps



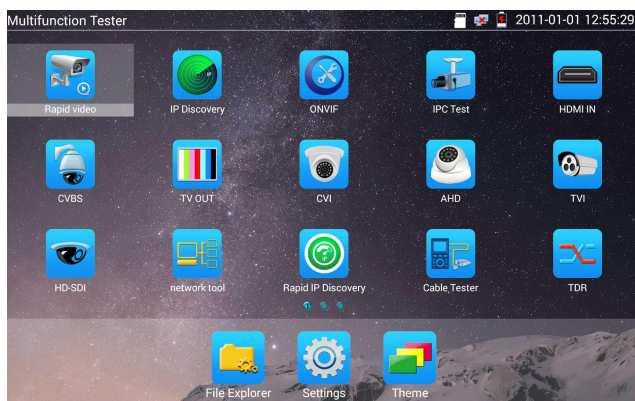
- In Lite mode, Press the icon several seconds, can move the icon to other apps.



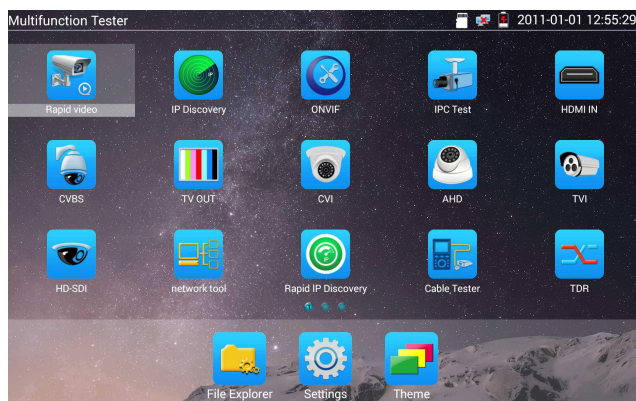
- In lite mode, click the finger icon in the lower right corner to release lock icon, move icons and change function icons sequence.

Normal mode

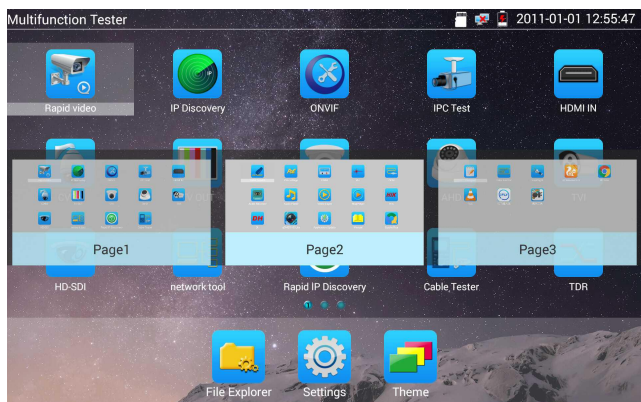
- Tap the screen and slide left or right to change menu.



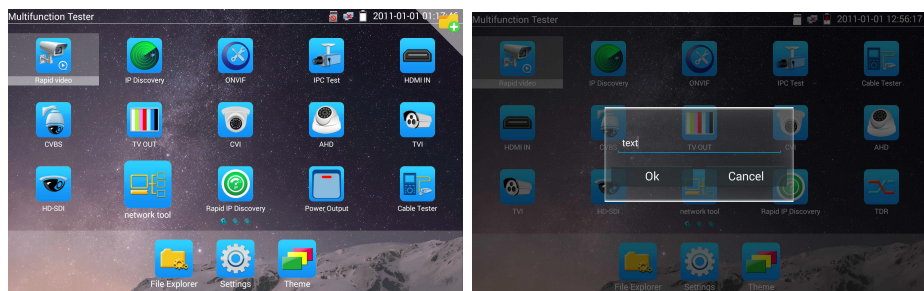
In normal mode, press icon several seconds, go screen management status. Change icons sequence and move it to common tools bar.



You can move the icon to any pages, self-define the number of icons in any page. Make interface sample and individuality.



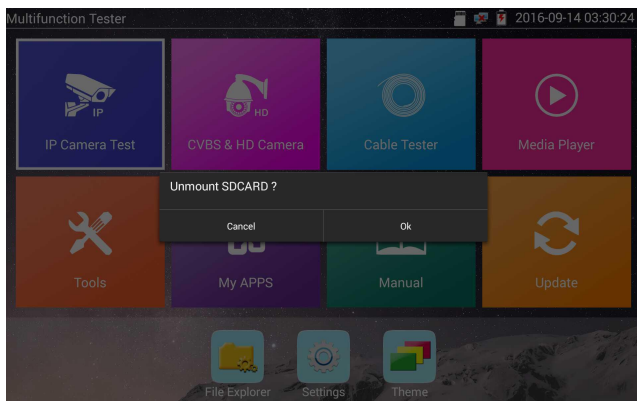
Create New Folder: Drag the icon to the folder in top right corner, enter the folder name, icon will be auto placed in the new named folder.



Press the folder several seconds, to change the folder name, you can move the icon out of folder, the folder will be auto deleted until move out all icons.

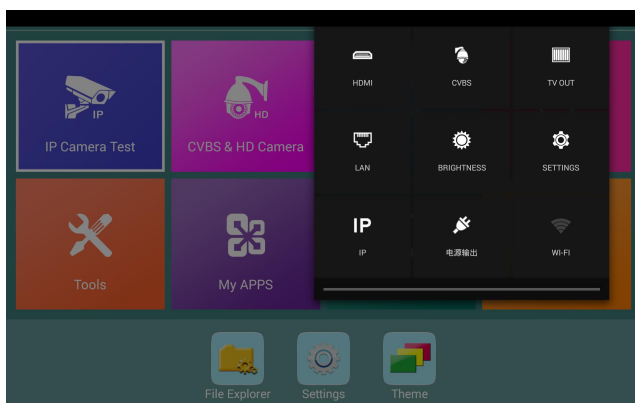
Select Icons to enter, if quit, please click 

Click SD card, install or remove SD card. (NOTICE: SD card is not default accessory, please purchase separately if necessary.)



3. 3. 2 Drop-down Menu

Press and slide at right top right corner twice to open shortcut menu. The shortcut menu includes POE power output, IP settings, Wi-Fi, HDMI IN, CVBS, Video OUT, LAN, Brightness, settings etc.



HDMI: Click HDMI IN to enter , in HDMI IN mode, It can converter test from analog to digital with dual test window IP & HDMI IN or Analog & HDMI IN

CVBS: Click icon “CVBS “to enter, you can test IP and analog camera at the same time

Video OUT: Click Video OUT to enter floating window, connecting the BNC cable to tester and appears analog video monitor interface, it can test circuit and BNC cable whether normal.

LAN: display network port or WIFI connection real-time upload and download speeds and other network parameters.

Brightness: Set brightness

Settings: Enter settings interface.

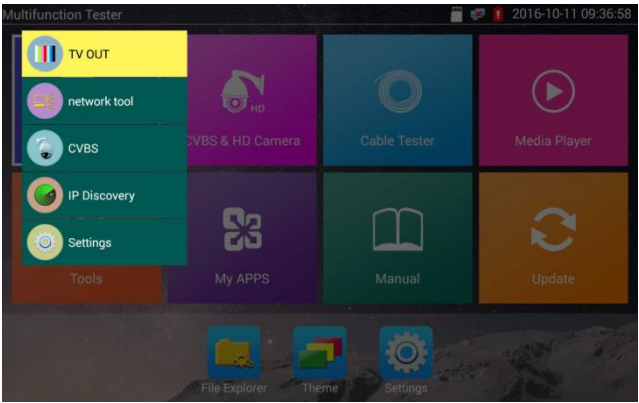
IP: Enter IP Settings interface.

PoE power output: Turn on or off the tester “PoE power “app

WLAN: Turn on WLAN net and displays current WLAN status.

3.3.3 Short cut-menu

You can call shortcut menu by press tester’s “menu” key, you can self- define shortcut menu.



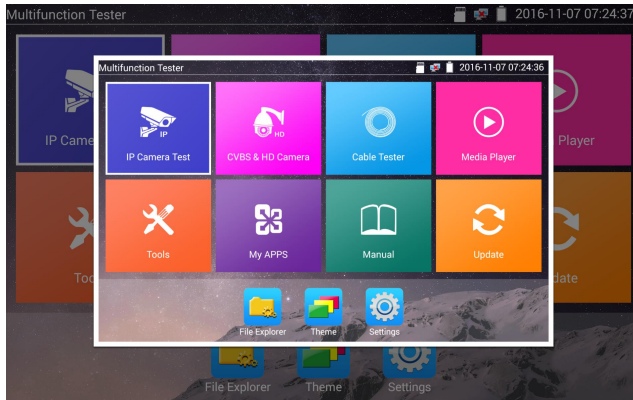
Press the key“  ”, you can turn on it, and switch functions, then press  to enter app, tap other area on the screen, to exit the menu.



Short cut-menu setting, you can long press any app in the all applications list ,it will auto move to shortcut menu . If delete any app in the shortcut menu ,please select a app and press several seconds ,it will be deleted.

3. 3. 4 Screen capture

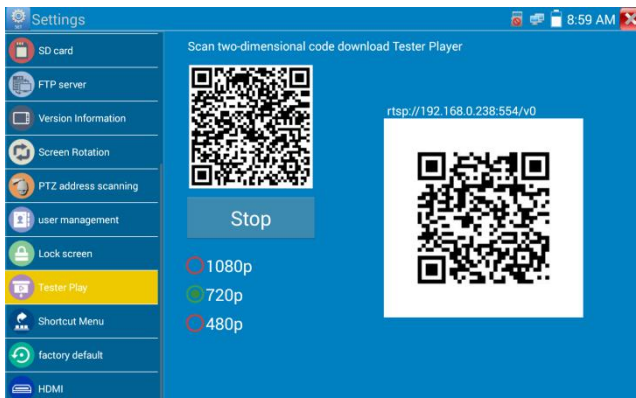
Long press the key “enter”, can capture screen interface and save it in any time.



3. 3. 5 TesterPlay

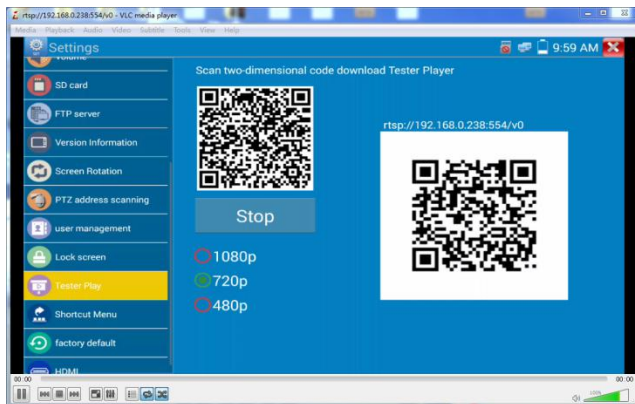
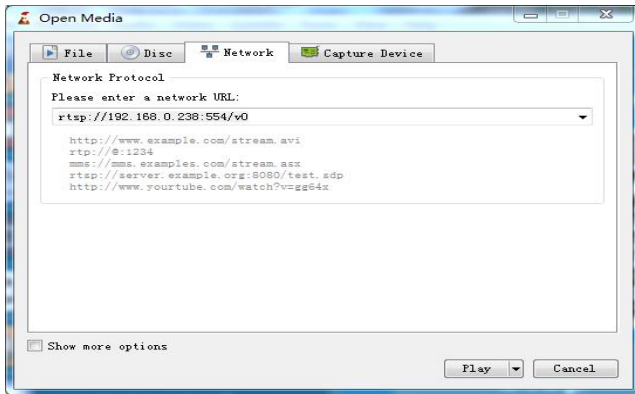
Mobile screen projection (Only for android version)

The meter creates WIFI hotspot, connect mobile phone to the tester’s WIFI hotspot, or the tester and mobile phone connect to the same Wi-fi network. Tap icon “”, then select “TesterPlay” app to enter, the meter generates two-dimensional code, Please use mobile phone scan it, then download and install the client software, you can view the screen real-time projection.



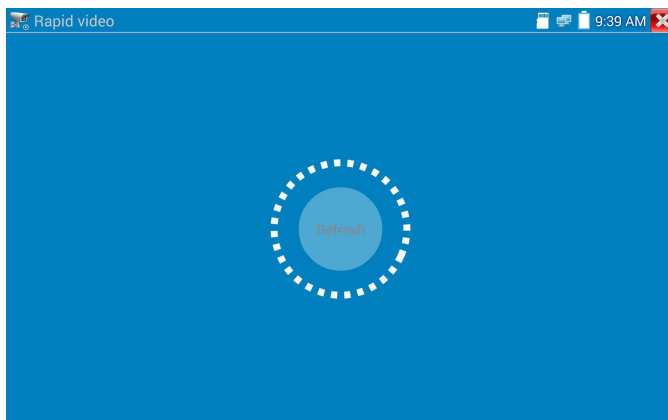
PC screen projection:

Install VLC player in the PC, turn on the VLC player "Media - Open Network Streaming", and input the RTSP address of on the top instrument two-dimensional code, click "play" to view the screen real-time projection. (you also can install "VLC player" in the mobile phone , tester and mobile phone display at the same time)



3.3.6 Rapid video

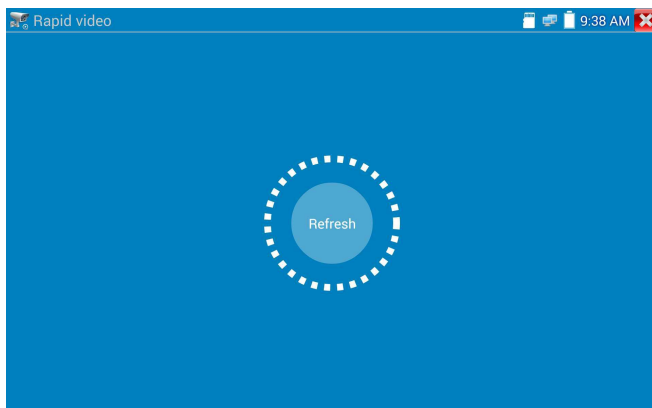
Press  enter function, One key to detect all network cameras and auto play the images.



Auto log in and display camera image. Detailed operation refer to ONVIF function.

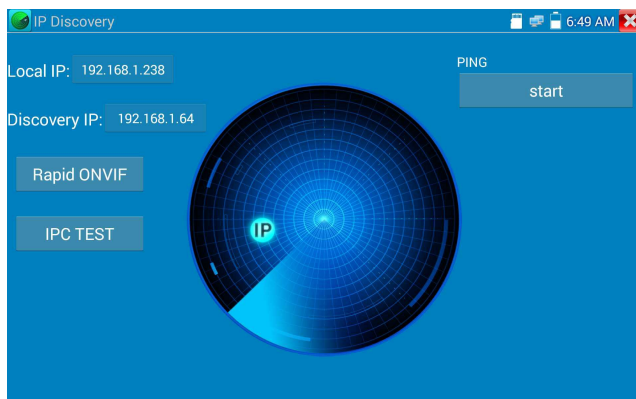


After exit ONVIF app, Click Refresh to search ip address.



3. 3. 7 IP discovery

Press IP discovery , tester auto-scan the whole network segment IP, as well as auto-modify the tester's IP to the same network segment with the scanned camera's IP.



Local IP: Tester's IP address, Tester can auto-modify the tester's IP to the same network segment with the scanned camera's IP.

Discovery IP: Connected tester equipment's IP address. If the camera connected to the tester directly, tester will display the camera's IP address, if tester connects to Local Area Network, it displays the current IP address.

Temp IIP: after searching IP address, the modified tester's IP address will not be saved, if you do not select "Temp IP," the modified tester's IP address will auto-save after searching.

Start: PING function, Click "Start", can PING camera's IP.

Rapid ONVIF: Rapid ONVIF Quick link

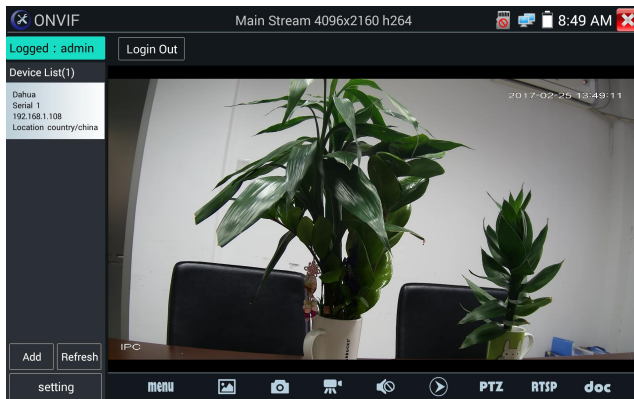
IPC TEST: IPC TEST Quick link

Applicability: Using IP discovery app ,you don't need to know the first two digits of camera's IP address , it can auto-scan the whole network segment IP, and auto-modify tester's IP address , greatly improved engineering efficiency.

3. 3. 8 Rapid ONVIF test

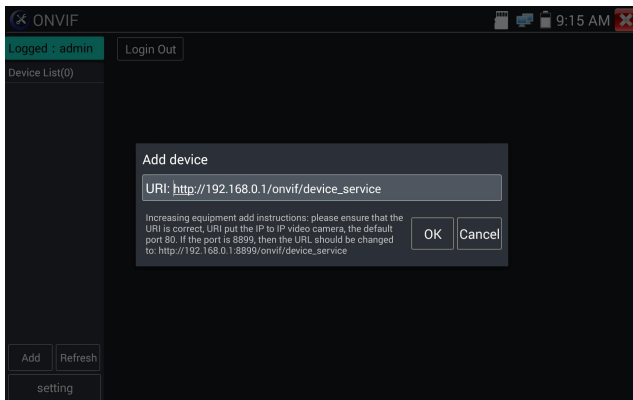
Rapid ONVIF can display 4K H.264 camera image by tester mainstream, one key to activate Dahua camera.

Press  enter ONVIF function, the meter auto scan all ONVIF cameras in different network



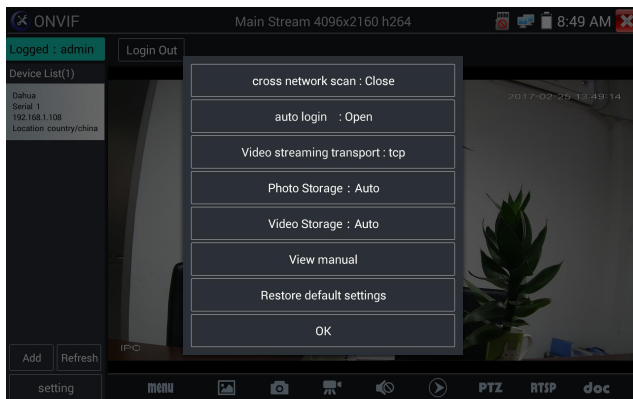
segments. It lists cameras name and IP address on the Left of screen. Tester can auto login camera and display camera image. Factory default use admin password to auto login, if you modified the password, then default use the modified password to log in.

If you select ONVIF Rapid mode, the meter automatically scan different network segments for ONVIF cameras. It lists the camera name and IP address on the Device List. Tester can auto login camera and display camera image.



Click the button “Refresh”, tester will scan the ONVIF camera again. Click the newly displayed ONVIF camera on the “Device List”. The tester will show the IP camera’s relative information and settings.

Pop-up settings menu when click the “ONVIF setting ”icon in the upper left corner



Across network segments scan: After open this function , enter “Setting - IP Settings - Advanced”to add other network segments IP, Rapid ONVIF function can across network segments to scan camera’s IP.

Auto Login : After open this function, tester can auto login camera and display camera image. (The login password is the same with last time, the first time using password is the default password "admin")

Video transmission protocol: UTP and TCP protocol.

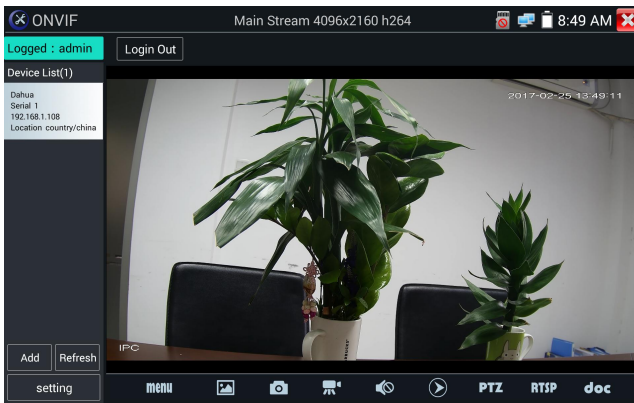
Open password cracker : Cracks password of cameras.

View manual : Open Manual.

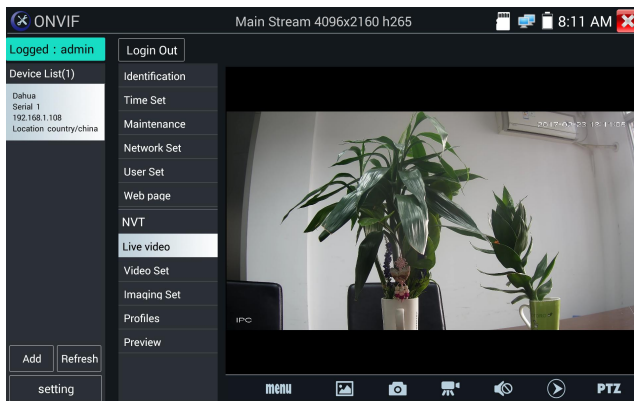
Restore Defaults: Revert “Rapid ONVIF” to default settings.

Confirm : Save the modified parameters.

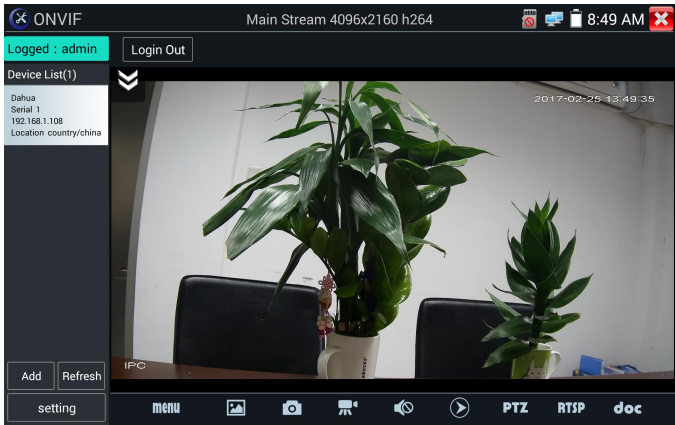
Click “MENU”icon to open camera setting .



While in the “Live video” menu, click “Video Menu” at the top right of the image to access the following tools: Snapshot, Record, Photo, Playback, PTZ and Settings.



ONVIF PTZ control: Tap the image in the direction you want the PTZ camera to move. Tap the left side of the image to move left, right to go right, up to go up and down to go down. Compatible IP PTZ cameras will rotate accordingly. PTZ rotation direction is displayed on top left corner of the image.



IP camera video settings: Click “Video Set” to enter the IP camera’s encoder and resolution settings. Make the desired changes and click “OK “to save.

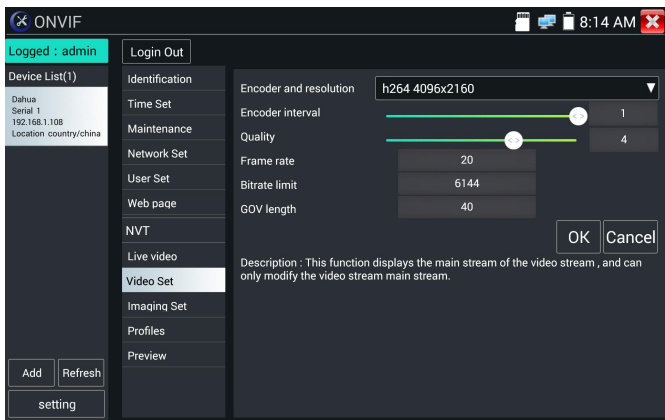
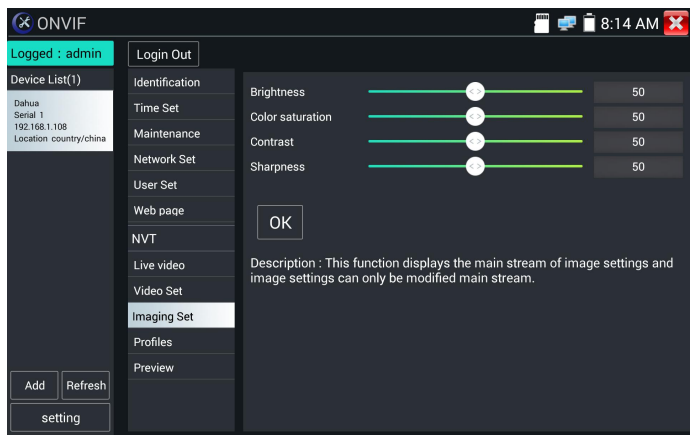
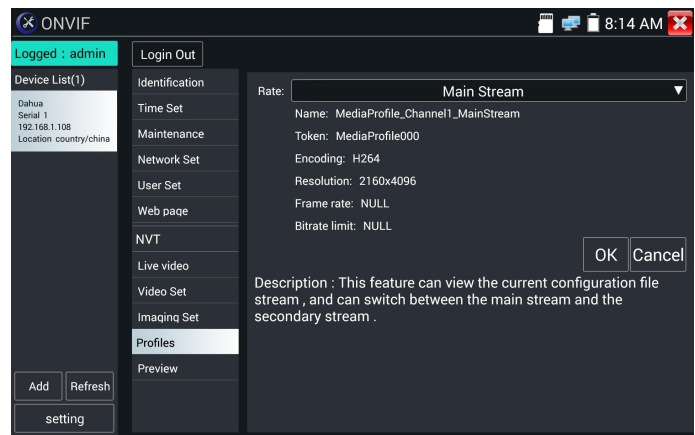


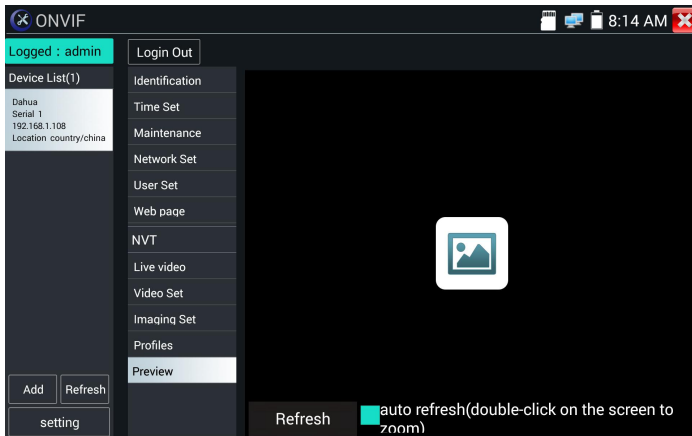
Image setting: Click “Imaging Set” to adjust image brightness, saturation, contrast, sharpness and backlight compensation mode.



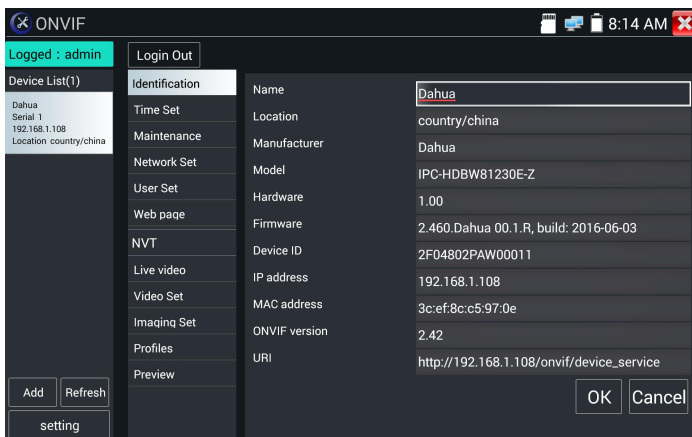
Profiles : Click “profiles” , can view video streaming current configuration files, as well as switch between Major stream and minor stream.



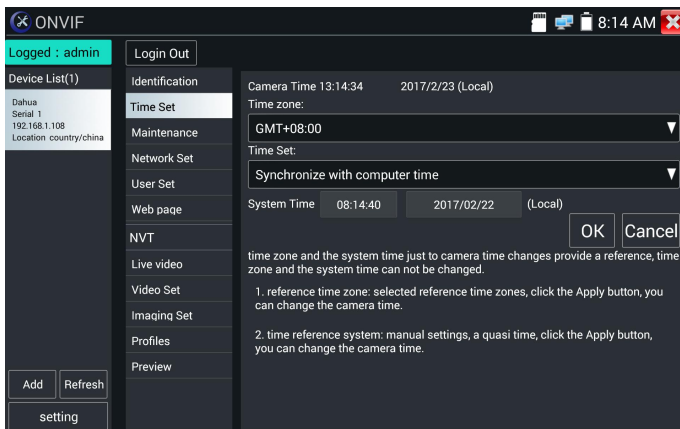
Preview pictures : Quickly preview and zoom in or out pictures, automatically and manual refresh.



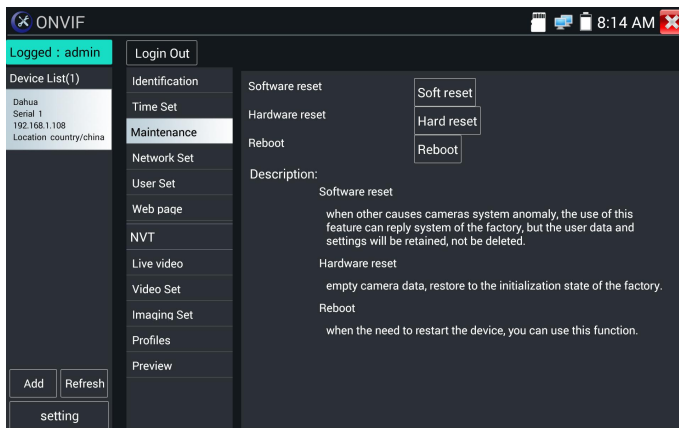
Identification: click “Identification” to view information of the camera.



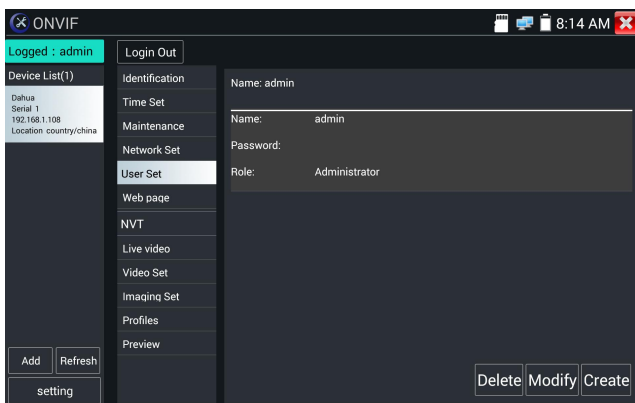
Time set: click “Time set”, Select " Manual set" to set up the time of camera.



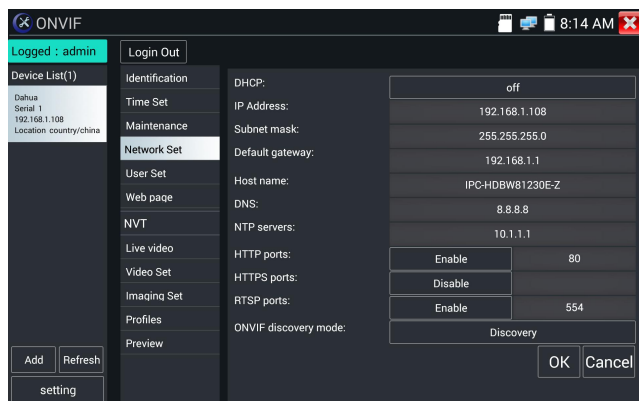
Maintenance: For camera software reset or restore to factory settings.



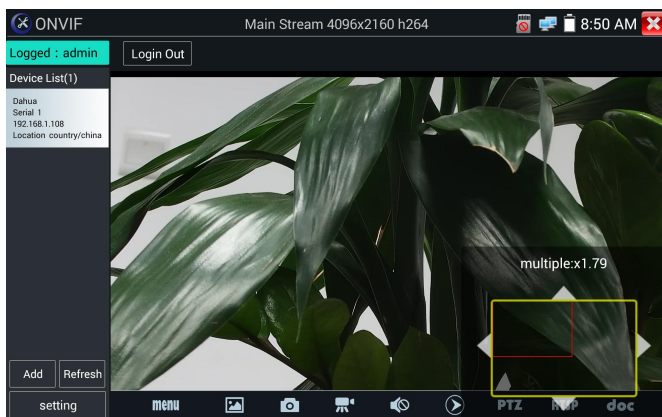
User Set: Modify camera user name ,password etc parameters.



Network setting : Click “Network Set “to change the IP address. Some cameras cannot support change IP address, so there is no change after saving.



Zoom in image :press the  key to enter the zoom mode. Press it again to exit zoom mode. When the image is enlarged tap left, right, up or down on the image to move the whole image on the screen.

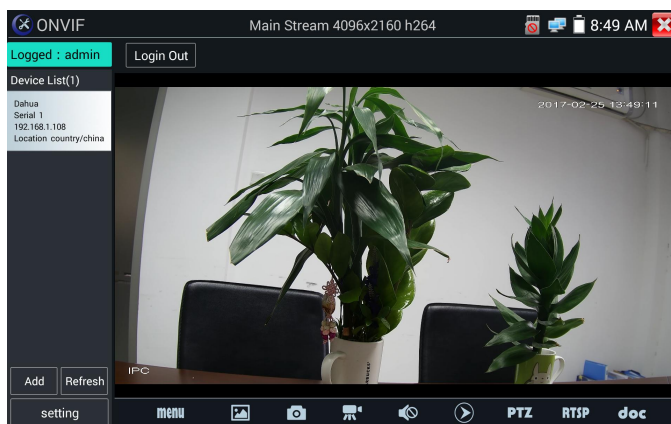


When the image is enlarged, if not operate on touch screen, it can operate by the keyboard ,press the key **TELE+** to zoom in , press the key **WIDE-** to zoom out ,press upward and downward key to move image.

If it is network video input to the tester, as the tester supports resolution up to 1080p, the input image will be very clear after it is enlarged. This is greatly helpful for the installers to ensure the IP camera's video coverage and decide the IP camera's install site.

Image can only be enlarged on SD mode (The icon "ONVIF" is SD mode.)

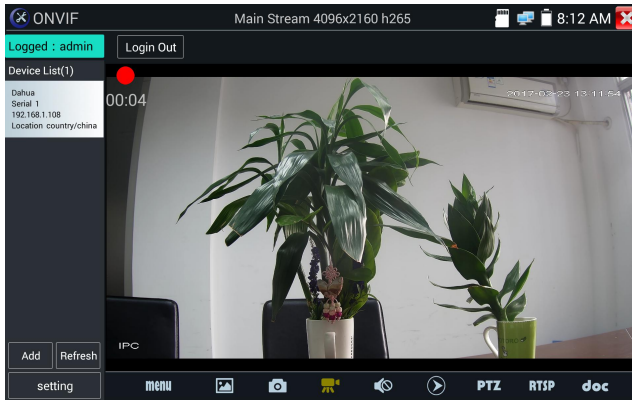
Select relative function on the bottom Toolbar to operate, "Snapshot", "Record", "Photos", "Video playback", "Storage set", "PTZ control" etc.



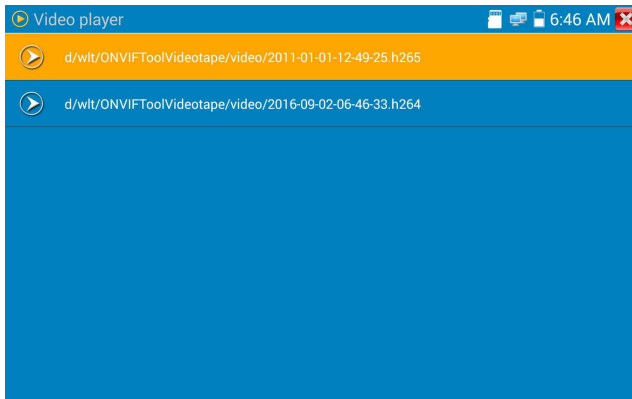
Snapshot : Click bottom“snapshot” to screenshot the image and store it in the tester.

if select manual storage, appears dialog box “Input Name” , user-defined the files name(by Chinese character, English letter or digit) to save in the tester, if select “Auto- storage”,the tester auto stores the files after snapshot.

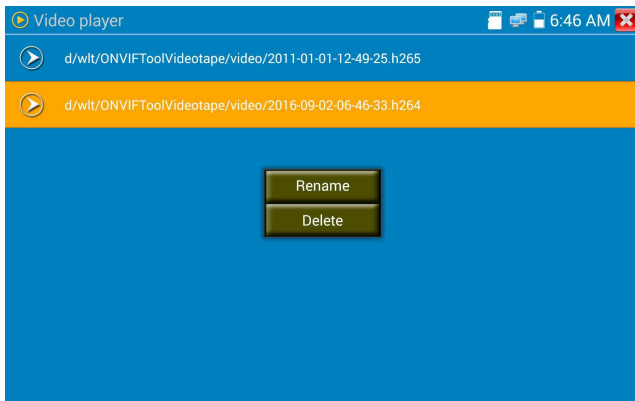
Record :When you click bottom the “Record” icon, video starts recording. A red recording icon appears on the screen and begins to flash and a timer appears indicating the time elapsed for the video. Click on the “Stop” icon to stop recording and save the video file in the tester.



Playback : Click the “Playback” icon to view saved videos. Double click the video you want to play. Click to return to the last menu.



To rename or delete a photo, click and hold on the file until this screen appears:



Video files can play in the Video player on the main menu.

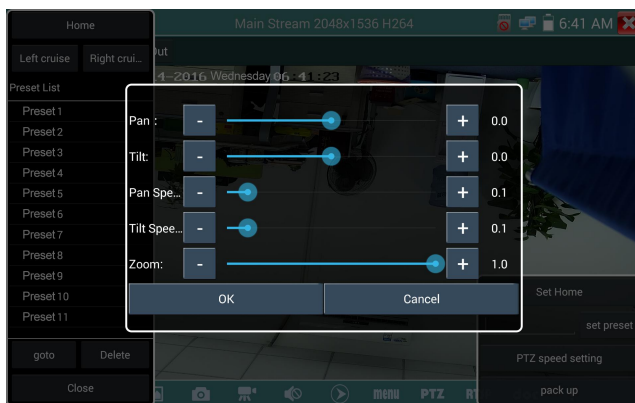
PTZ

Set preset position :Move the camera to preset position, enter the preset number on the Bottom right corner to complete position preset.

Call the preset position : Select the preset number on the left, click "Call"to call preset.

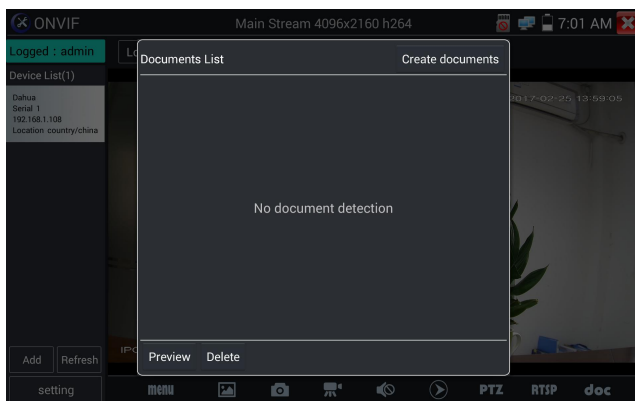


PTZ Speed set : Horizontal and Vertical Speed set.

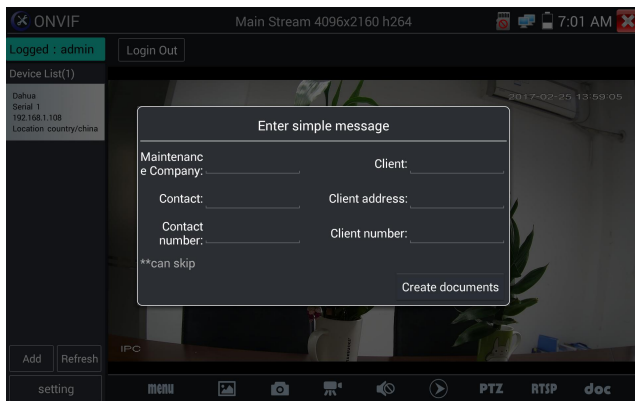


RTSP: Get RTSP address of the current camera.

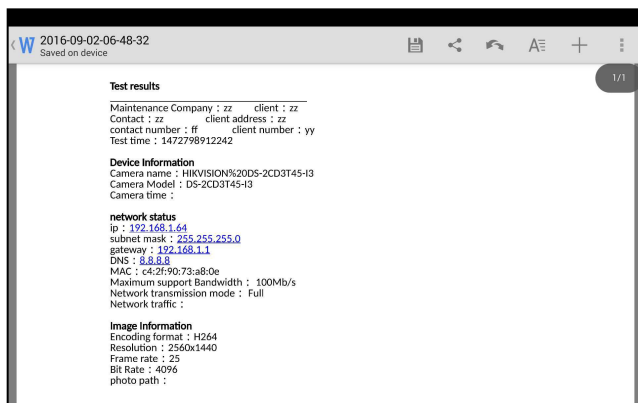
Doc: Auto create testing reports document of camera, click "Create document". Click Preview to view the report document.



Enter the camera test information, click "Create Document" to complete the report.



Click “Doc” menu again, you can preview the report document.



Icons description: the description of function icons on the bottom toolbar.

3. 3. 9 IP camera test

Display image from the 4K camera by main stream

Click icon  to enter IP camera test



Note: Currently, the Test App only supports some brands' specific IP cameras, these include specific models made by ACTI, AXIS, Dahua, Hikvision, Samsung, and many more. If the camera is

not fully integrated, please use the ONVIF or RTSP apps.

IPC test interface

The screenshot shows the 'IPC Test' application window. It has a blue header bar with the title 'IPC Test' and system icons on the right. The main area contains several input fields with corresponding labels on the left: 'Local IP' (192.168.1.238), 'IP camera type' (HIKVISION_DS-2CD864-E13), 'IPC Cameras IP' (192.168.1.64), 'IPC User Name' (admin), 'IPC Password' (admin123), and 'IPC Port' (554). To the right of each field is a button: 'Edit' for Local IP, 'Manual' for IP camera type, 'search' for IPC Cameras IP, 'Hide' for IPC Password, and no button for IPC Port. At the bottom, there are four buttons: 'Enter', 'Reset', 'Restore', and 'Rate'.

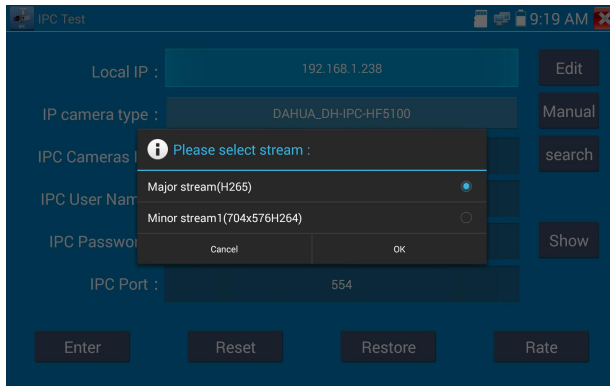
Local IP: This is the tester’s IP address. Click “Edit” to enter “IP setting“ and change the tester ‘s IP address settings.

IP camera type : Click on the IP Camera type to select the Manufacturer and model number of the integrated IP camera.

“Manual”: Click IP camera type, list Honeywell , Kodak,Tiandy, Aipu-waton, ACTi,WoshiDA IP camera etc. If the brand has offered official original protocols, pls select camera type, input IP camera address ,user name and password ,click” official” to enter the camera image display interface(Currently, only support DAHUA official protocols).

This screenshot shows the same 'IPC Test' application window, but with the 'IP camera type' dropdown menu open. The dropdown list shows 'DAHUA' as the selected category. Below it, several camera models are listed: 'DH-IPC-HFW2100P', 'DH-IPC-HF5100' (which is highlighted), 'KS-DC200N', 'DOZENY', 'DVO', and 'DVSONE'. The other configuration fields and buttons remain the same as in the previous screenshot.

Stream code: When test camera via RTSP, you can select mainstream or sub stream to test (if camera's RTSP have not been start or without, it will tip "auto match fail, please witch to manually selecting.



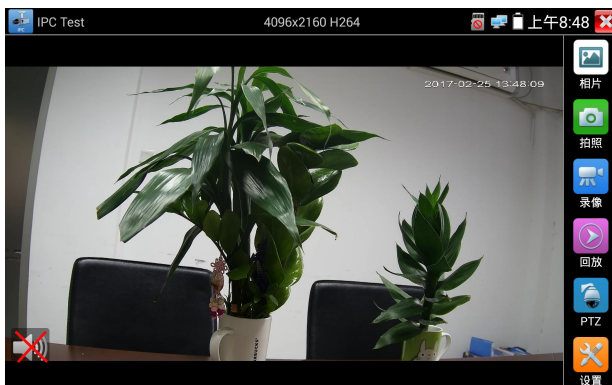
IP Camera's IP: Enter the IP camera's IP address manually or click "Search" to auto-scan for the IP camera's IP address. It is better to directly connect the IP camera to the tester so the search results will only display the camera's IP address. If the tester is connected to a PoE switch, it will find and display several IP address.

IPC User Name: Enter IP camera's user name.

IPC Password: Enter IP camera's login password.

IPC Port : When you select the IP camera type, it will default the camera's port number and doesn't need to be changed.

After all settings are completed, click "Enter" to view the live video.



If IP address setting has error or IP camera is not connected.. The tester prompts “Network Error”.

Click  to quit from image display and return to the Tester interface.



Once you are viewing video on the Tester app, you will see the “Video Menu” icon on the top right. This button will give you access to Snapshot, Record, Photo, Playback, PTZ, and Set. Please refer to the ONVIF section to use these functions.

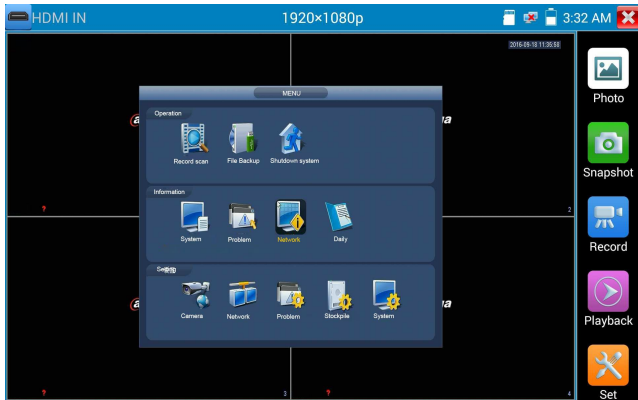
3. 3. 10 HDMI IN

HDMI in HD signal test, Tap icon “”to enter

When tester receives HDMI in image, the top tool bar shows the resolution of this image. You can select “resolution” to set resolution in the setting menu .Tap screen by twice, full image display.

Support resolution below

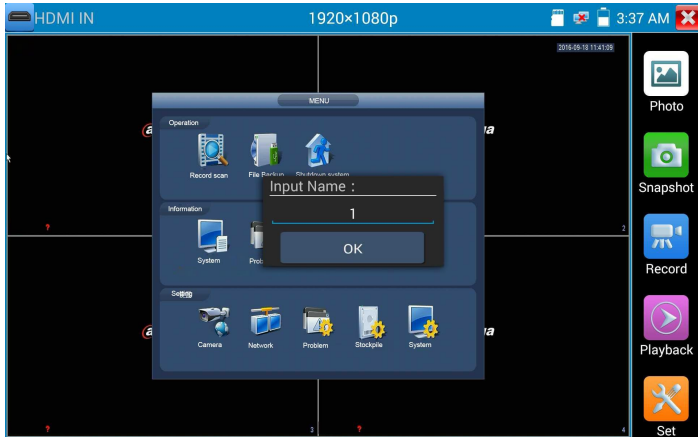
720×480p /720×576p /1280×720p /1920×1080p /1024×768p/1280×1024p /1280×900p /1440×900p



(1) Snapshot

Click the icon “Snapshot “, when the video in, to take a picture and save the current video frame in the tester as JPEG file.

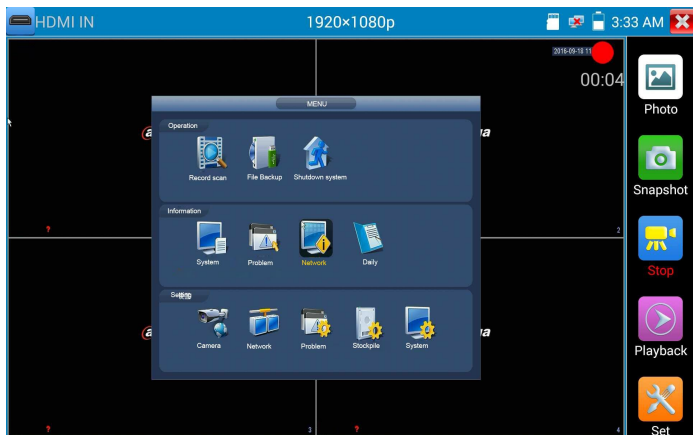
If the unit is set to the manual mode an “Input Name” pop up box will appear and you can enter a title for the snapshot. If the unit is set up to automatically set file names, this box will not pop up.



(2) Video record

When you click the “Record” icon, video starts recording. A red recording icon appears on the screen and begins to flash and a timer appears indicating the time elapsed for the video. Click on the “Record” icon again to stop recording and save the video file in the tester.

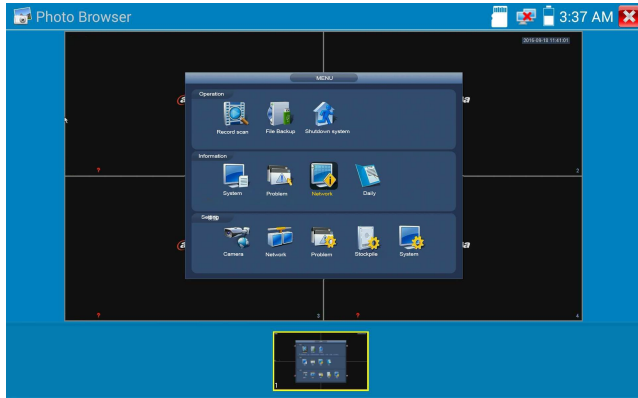
If select manual storage, before recording begins ,appears dialog box “Input Name” ,user-defined the files name(by Chinese character, English letter ,or digit) to store in the tester , tester will hereby store the files after recording .



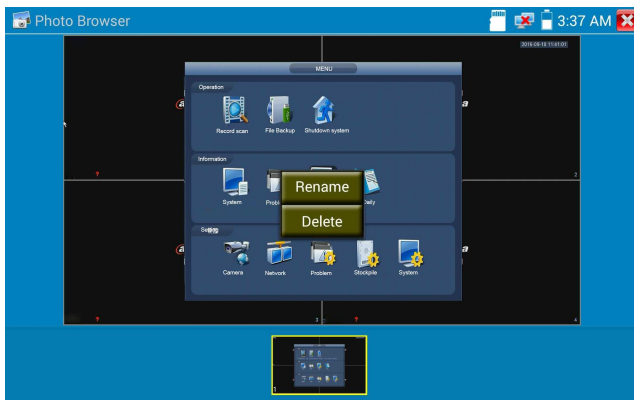
(3)Photo

Click the icon “photo” to enter, click the selected thumbnail photo to display it on the screen.

Double-tap the image can view full screen. Double-click again the photo to return.



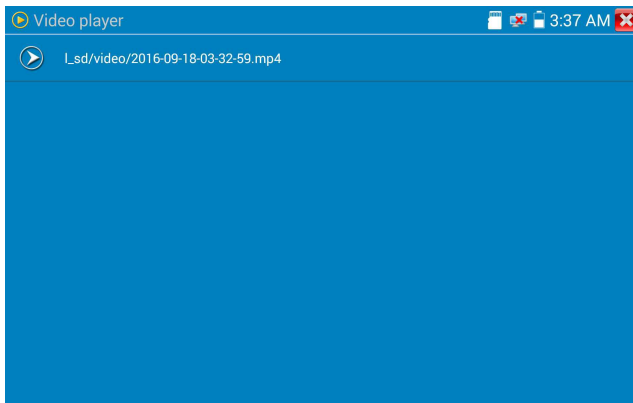
To rename or delete an image, click and hold on the file until this screen below appears



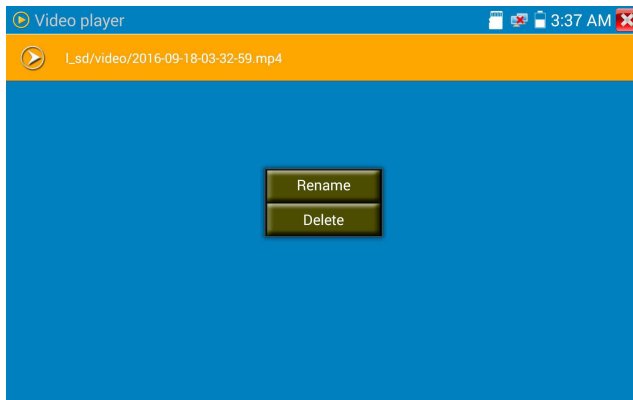
Click  to close and return to PTZ controller.

(4) Recorded video playback

Click the “Playback” icon to view your recorded videos. Tap on the video file image you want to watch.



To rename or delete a video, click and hold on the file until this screen appears:



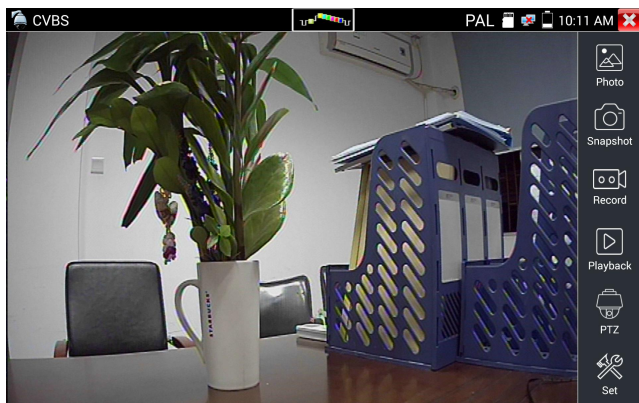
Video files also can play in the main menu “Video Player”.

3. 3. 11 Video monitor test

Analog camera test and PTZ control, click icon



to enter



Display the input video image, click the top menu bar icon  to enter video level meter (PEAK level, SYNC level, COLOR BURST measurement)

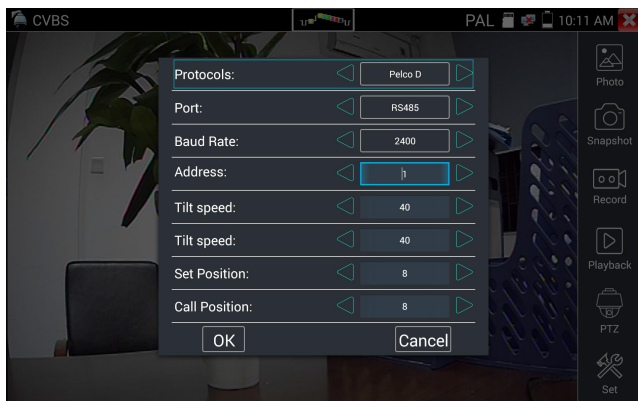
Select relative function on the right side Toolbar to operate , functions including “Photos”, “Snapshot”, “Record”, “Playback”, “PTZ”, “Set”,

Click  , or press  to quit.

Click the screen twice quickly, can be full zoom in on the touch screen.

(1) PTZ controller parameter setting

Select and click icon “PTZ” to enter PTZ setting:



A. Protocol

Use the up and down arrow keys to move the yellow cursor to the “protocol”, set corresponding Protocol and support more than thirty PTZ protocols. Such as Pelco-D, Samsung, Yaan, LiLin, CSR600, Panasonic, Sony-EVI etc.

B. Port

Click and move, to “port” Select the communication port for the PTZ camera controlling (RS485)

C. Baud

Move the yellow cursor to “Baud”, Select the baud rate according to baud rate of the PTZ camera.(150/300/600/1200/2400/4800/9600/19200/57600/115200)

D. Address

Set the ID according to the ID of PTZ camera (0~254), the setting address data must be consistent the speed dome address.

E. Pan speed: Set the pan speed of PTZ camera (0~63)

F. Tilt speed: Set the tilt speed of PTZ camera (0~63)

G. Set preset position (Set PS)

Click and select “Set PS”, set and save preset position number(1~128).

H. Call the preset position (Go ps)

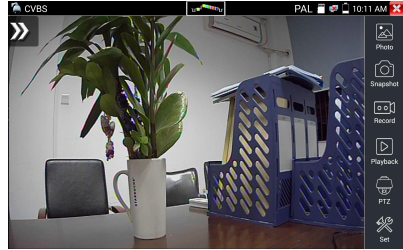
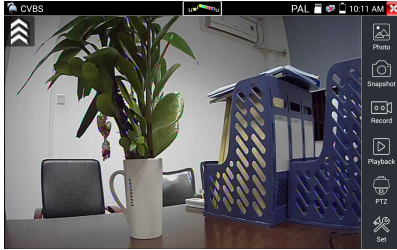
Click and select “Set PS”, set and save preset position number (1~128), click “sure” to save, Call some special preset number, can call the dome camera menu.



Check and set the protocols, address, interface and baud, all must be consistent with the dome camera, then the tester can test .After setting the parameter, the tester can control the PTZ and lens.

To control PTZ by screen touch:

Tap left, right, upward and downward on the touch screen to control the PTZ rotation direction. By two fingers move outward and inward on the touch screen to zoom in and out the PTZ.



Press the key     control the PTZ direction of rotation

Press the key  or  , to switch on or turn off the aperture.

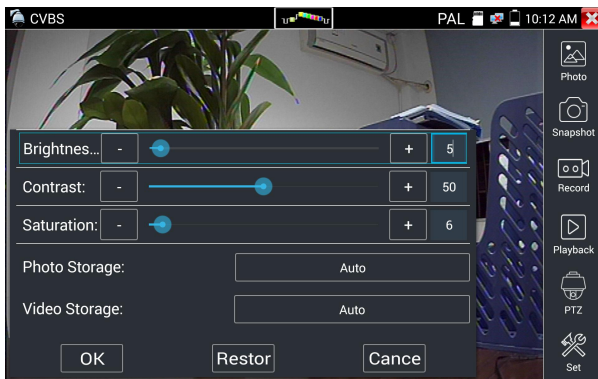
Press the key  or  , adjust the focus manually

Press the key  or  , manually adjust the zoom

(2) Video and storage setting

Click icon “set”,to enter and set analog video image brightness , contrast, color saturation, as well as the file storage way after snapshot and recording, support auto-storage and manual storage.

When select manual storage, user can name and store the files.



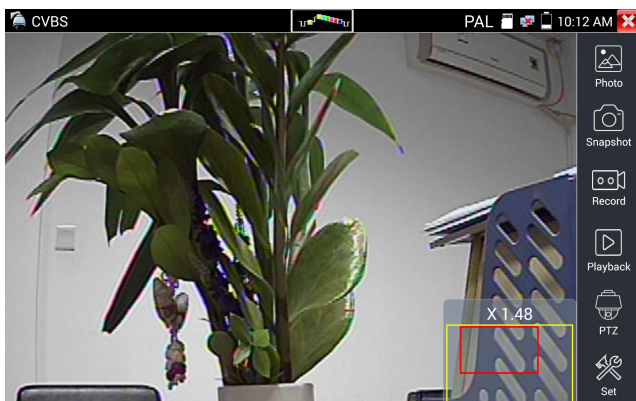
(3) 4 x zoom image display and Video out

When image input, press  to enter “zoom”, press it again to quit.

Using the touch screen to control PTZ camera movement:

Tap left, right, upward or downward on the video image to move the PTZ camera in a desired direction.

Stretch two fingers outward or inward on the touch screen to zoom the image in or out.



If not use touch screen to operate, press the key **TELE+** to zoom out , press the key **WIDE-** to zoom in, press upward and downward key to move the image.

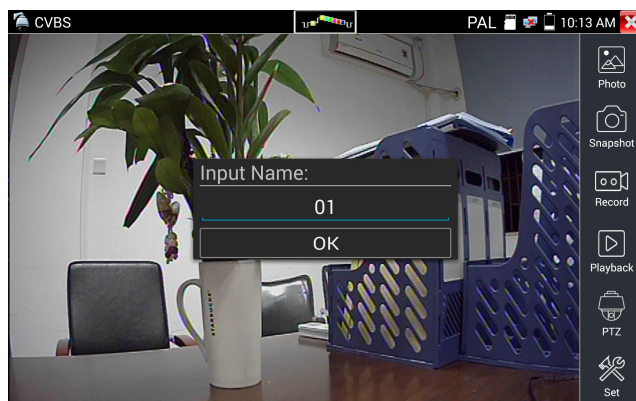


For analog video input, as the resolution is 720*480, it is normal that the zoom in image is not clear. But for network digital video input, as it supports resolution up to 1280*960, the zoom in image is still very clear. This is very helpful for IP camera installation.

(4) Snapshot

Click the icon “Snapshot”, when the video in, to take a picture and save the current video frame in the tester as JPEG file.

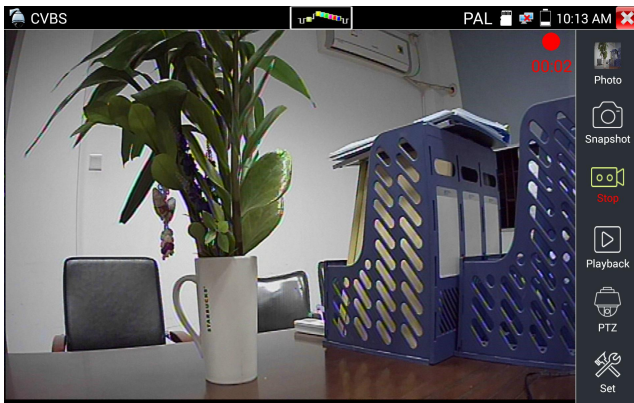
If the unit is set to the manual mode an “Input Name” pop up box will appear and you can enter a title for the snapshot. If the unit is set up to automatically set file names, this box will not pop up.



(5) Video record

When you click the “Record” icon, video starts recording. A red recording icon appears on the screen and begins to flash and a timer appears indicating the time elapsed for the video. Click on the “Record” icon again to stop recording and save the video file in the tester.

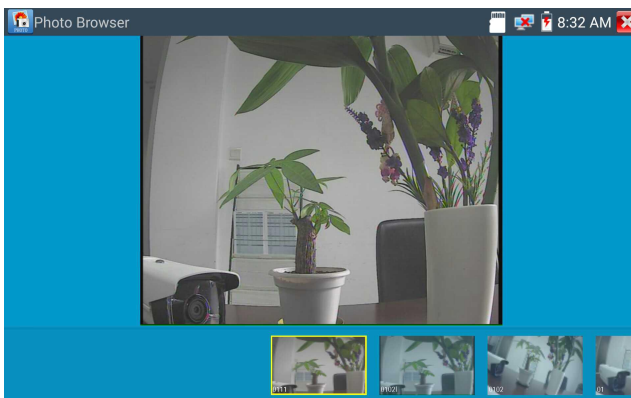
If select manual storage, before recording begins ,appears dialog box “Input Name”, user-defined the files name(by Chinese character, English letter ,or digit) to store in the tester, tester will hereby store the files in the tester after recording . if select “Auto-storage ,tester will auto store the files in the tester after recording.



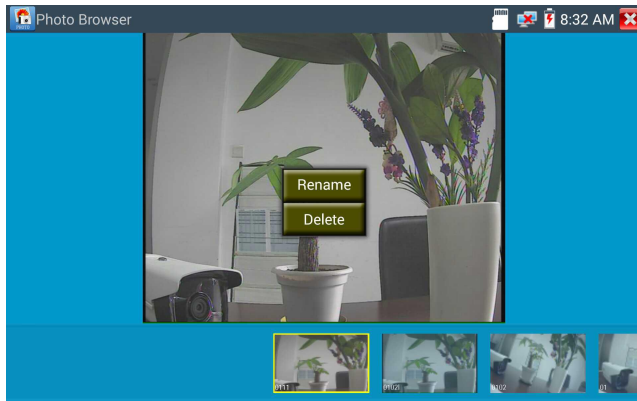
(6)Photo

Click the icon “photo” to enter, click the selected thumbnail photo to display it on the screen.

Double-tap the image you want to view to make it full screen. Double-click again the photo to return.



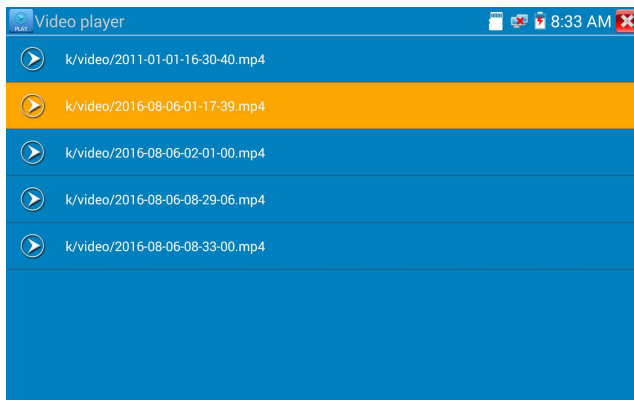
To rename or delete an image, click and hold on the file until this screen below appears



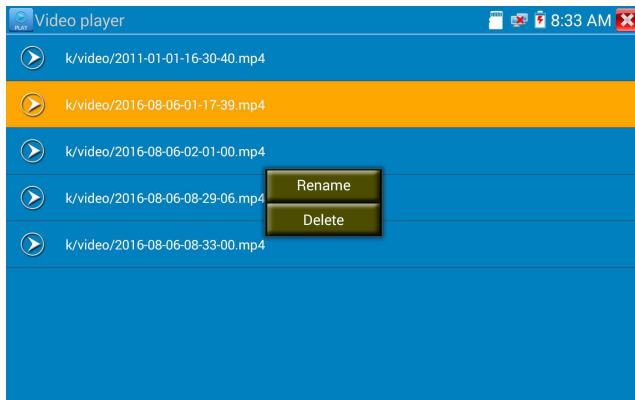
Click  to close and return to PTZ controller.

(7) Recorded video playback

Click the "Playback" icon to view your recorded videos. Tap on the video file image you want to watch.



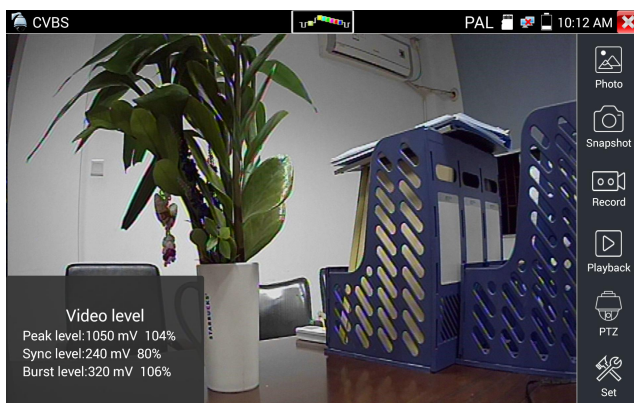
To rename or delete a video, click and hold on the file until this screen appears:



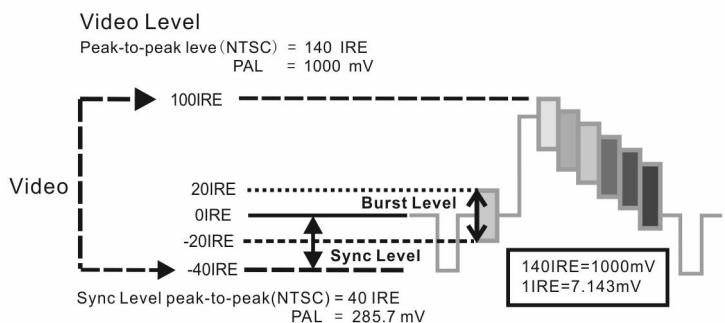
Video files also can play in the main menu “Video Player”.

(8) Video level meter

Click the icon  to enter, the Integrated Mount Tester has adopted hardware high-speed sampling and processing technology, can perform both NTSC and PAL video amplitude signal measurements for PEAK to PEAK, SYNC levels and COLOR BURST chroma level. When an analog signal is fed into the meter, the tester displays the measurements on the bottom left corner of the screen



While in PAL format, the unit will be mV, While in NTSC format, it will be IRE.



NTSC	Video signal level	140±15IRE
	Chroma level(COLOR BURST)	40±5IRE
	SYNC signal level	40±5IRE
PAL	Video signal level	1000±200mV
	Chroma level(COLOR BURST)	300±35mV
	SYNC signal level	300±35mV

Video signal PEAK to PEAK level:

For NTSC format, the video signal level is 140±15IRE

For PAL format, the video signal level is 1000±200mV

If the level is too low, it will cause the image to lose quality and limit the distance it will travel over cable. If the level is too high, it will distort the image.

SYNC level: Tests the amplitude of the video sync pulse to verify if the video level is correct.

For NTSC format, the SYNC level is 40 ± 5IRE

For PAL format, the SYNC level is 300 ± 35mV

If the level is too low, it will cause the image to not frame out properly. If the level is too high, it will lead to a poor quality image.

COLOR BURST level: Testing the color burst level will determine if the burst signal is sufficient to trigger the displays color producing circuit. Burst will diminish in amplitude over longer cable runs and can get fall below the threshold for the video display to show a color image.

For NTSC format, the Chroma standard level is 40 IRE

For PAL format, the Chroma standard level is 280mV

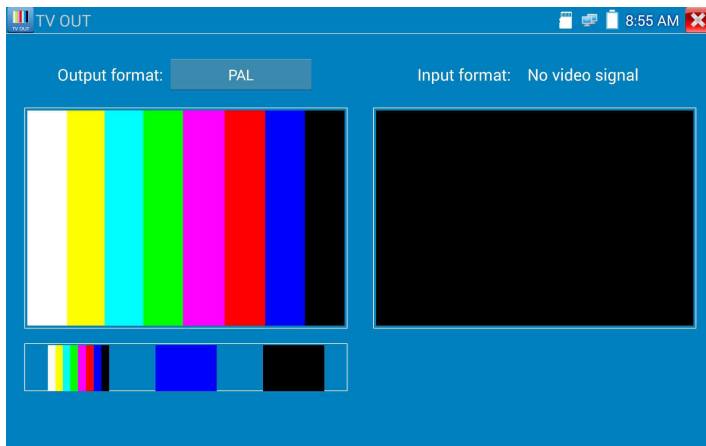
If the Chroma level is too low, the color will not be as deep, and some details of the image will become

lighter. If the Chroma level is too high, there will be distortions on the image. If the coaxial cable is too long, it will reduce the chroma level.

Image loop test: Test video optical transmitter and receiver and video cable, connect one end to the tester “VIDEO OUT” port ,and the other end connected to “VIDEO IN” port , the signal send via “VIDEO OUT” port ,and received via “VIDEO IN” port , If the testing is ok, the tester displays several gradually dwindling photos on the desktop.

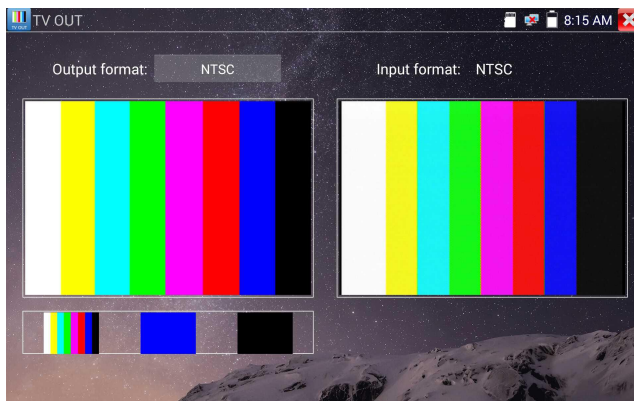
3. 3. 12 Color-bar generator (TV OUT)

Click  to enter, the tester sends the color bars from the “Video out” port ,Click the icon “PAL”, select “PAL/NTSC” output formats



Click the selected color-bars, testing image or single bar (red, green, blue, white or black). Double click to full display on the screen and output, click  to return main menu.

Application



BNC loop test: Tester can send and receive color bar generator through the tester’s “video out and video in” port, it is for testing transmission channels, such as video Optical, video cables etc. The tester “VIDEO OUT” port to connect optical terminal’s sending port, and “VIDEO IN” Port to optical terminal’ s connect its receiving port.

A. When maintaining the dome camera, the tester sends out the color bar by its BNC output to the monitor at the monitoring center. If the monitor receive the color bar, it means the video transmit channel works normally. Meanwhile on the basis of the received color bar, the monitoring center can judge if transmission has loss or interference.

B. The tester sends out the pure color bar (such as white and black color), to test the monitor whether has bright or black dots

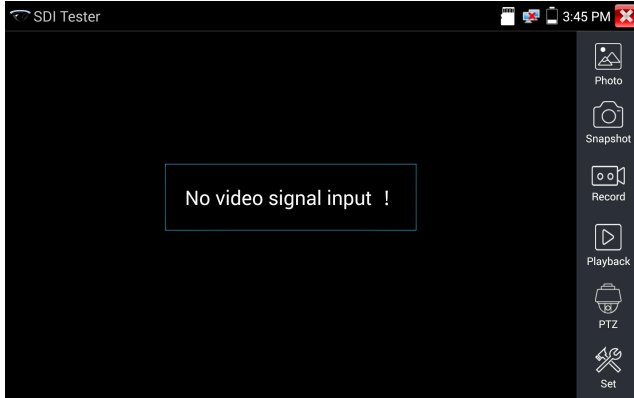
C. The tester sends out video signal image to test if the image received by the monitor has excursion.

3. 3. 13 SDI/EX-SDI Camera Test

SDI camera test, Dome camera test and PTZ control, click icon



to enter.



When tester receives SDI camera image, it will display the image data.

Double-taps on the screen to make the image displayed full screen.

The tester supports resolution as follows:

1280x720P 25Hz

1280x720P 30Hz

1280x720P 50Hz

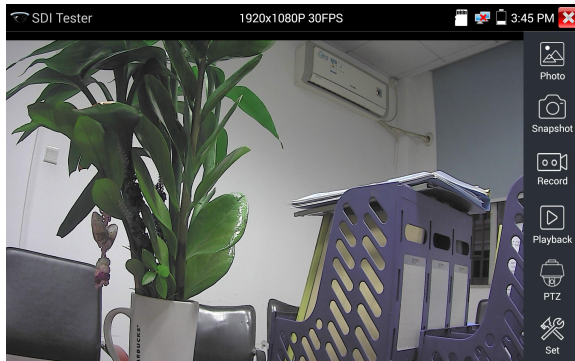
1280x720P 60Hz

1920x1080P 25Hz

1920x1080P 30Hz

1920x1080I 50Hz

1920x1080I 60Hz



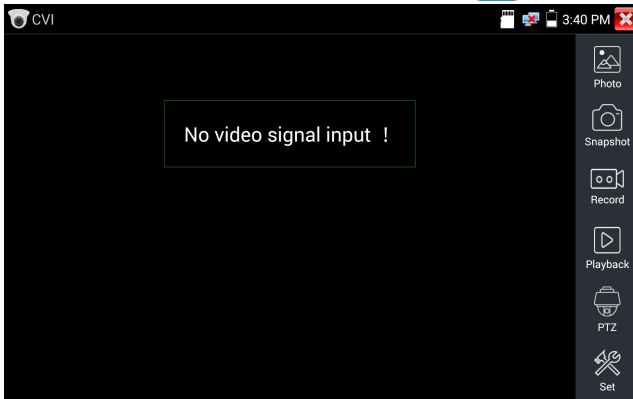
The tester's HDMI output port can be used as SDI to HDMI converter, output HD SDI image to HD TV monitor.

Select relative function on the right side Toolbar to operate, “Snapshot“, “Record“, “Photos”, “Video playback“, “PTZ control”, “Video Brightness and Storage set”, the operation is the same to the video monitor function, please refer to the relevant instructions “3.3.1” in the manual.

Click , or press  to quit.

3. 3. 14 CVI camera test

HD CVI camera, CVI dome camera test and PTZ control, click icon  to enter

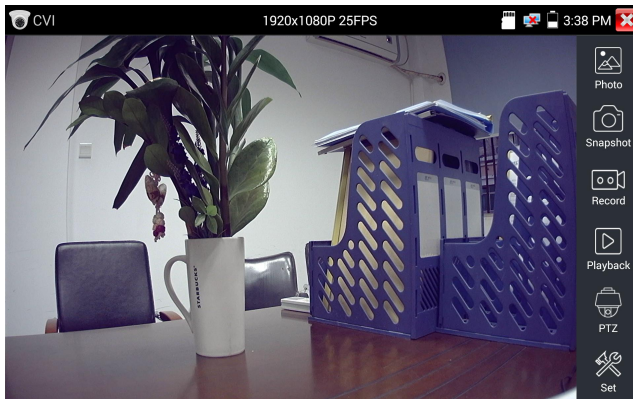


When HD CVI signal input, the tester will display the image resolution on the top bar. Double-taps on the screen to make the image displayed full screen.

The tester supports resolution as follows

1280x720P 25FPS / 1280x720P 30FPS / 1280x720P 50FPS / 1280x720P 60FPS

1920x1080P 25FPS / 1920x1080P 30FPS/2560x1440P 25FPS/30FPS.

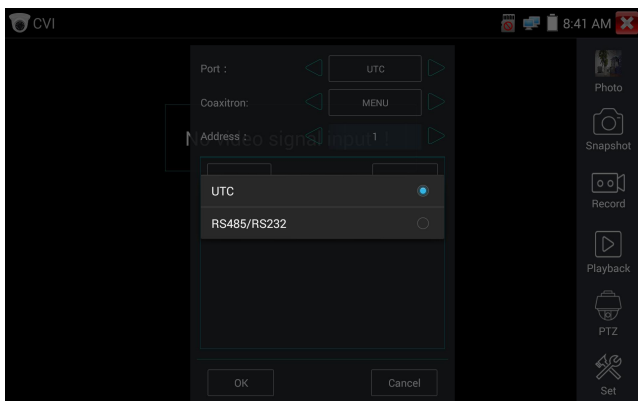


(1) PTZ control

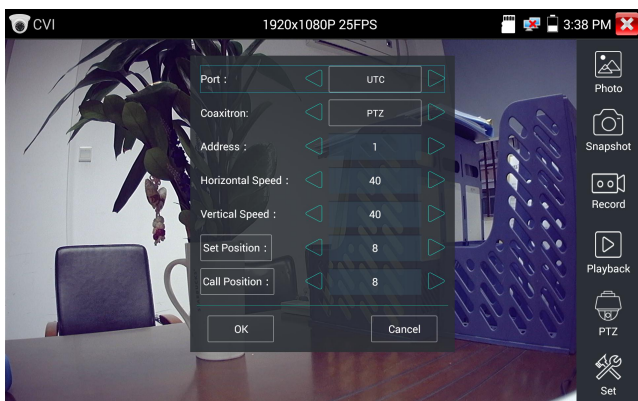
1.1 Coaxial PTZ control

Click the icon“PTZ”on the right toolbar to do the corresponding setting.

“Port”: select coaxial control



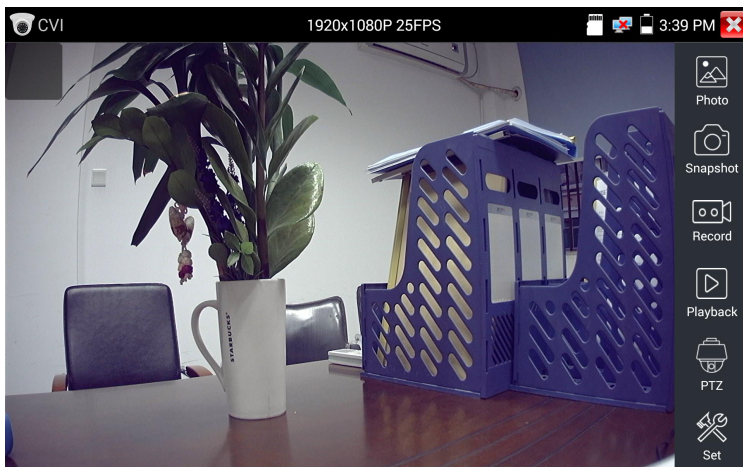
Enter PTZ address to perform parameters setting.



Operation instructions, please refer to “3.3.1 PTZ (1) Video monitor test”.



The PTZ address in the tester must be consistent with the dome camera or decoder, then the tester can test .After setting the parameter, the tester can control the PTZ and lens.



To control PTZ by screen touch:

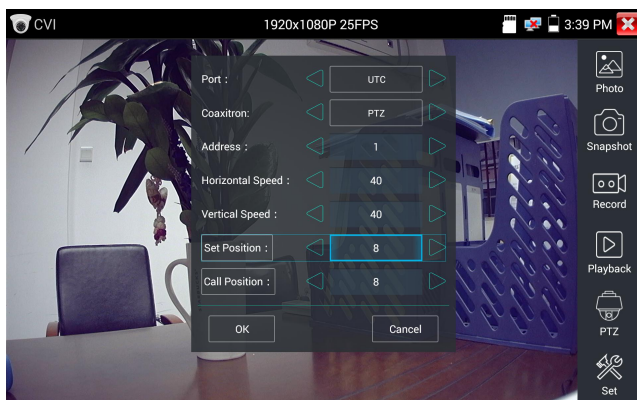
Tap left, right, upward and downward on the touch screen to control the PTZ rotation direction, PTZ cameras will rotate accordingly. By two fingers move outward and inward on the touch screen to zoom in and out the PTZ.

To control PTZ by key buttons

- ◆ Press arrow keys to control     to control the PTZ direction of rotation
- ◆ Press the key   to switch on or turn off the aperture.
- ◆ Press the key   , adjust the focus manually
- ◆ Press the key   , manually adjust the zoom

Set preset position

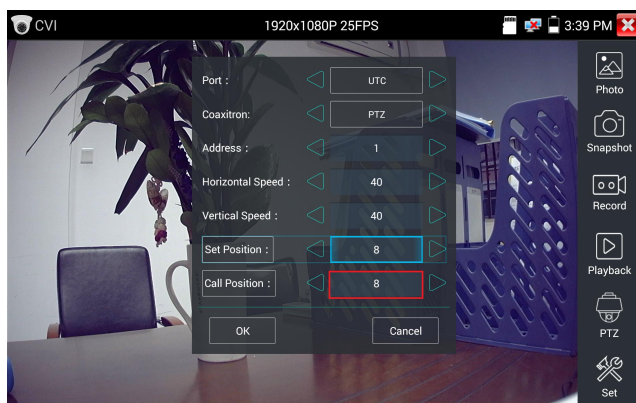
Setup preset position: move the PTZ camera to the preset position, then Tap it and input preset position number. Tap “Set position” to complete set preset position.



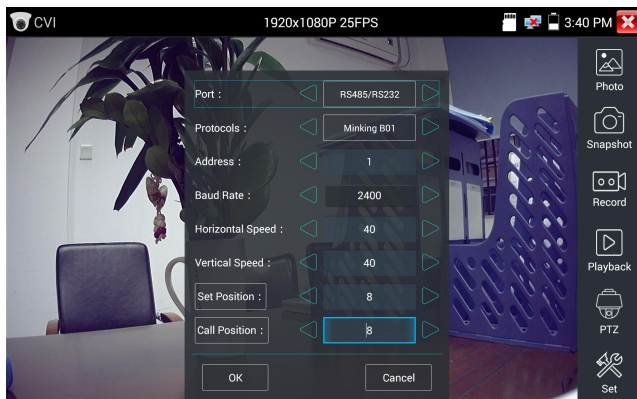
Call preset position

Tap the preset position:

Tap the preset position area, input preset position number. Tap “call position” to complete call preset position.



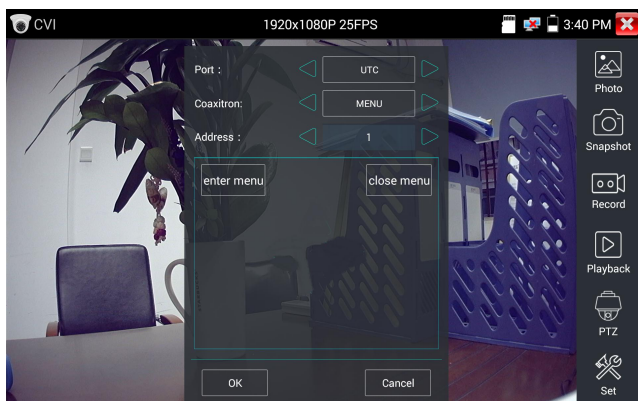
1.2 RS485 control



Operation instructions, please refer to “3.3.1 PTZ (1) PTZ control parameters setting”.

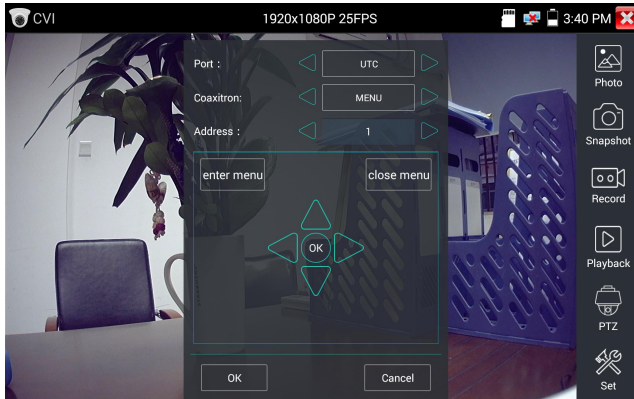
(2) Coaxial camera menu setting

Tap icon “UTC”, select “menu setting” to enter the dome camera menu.

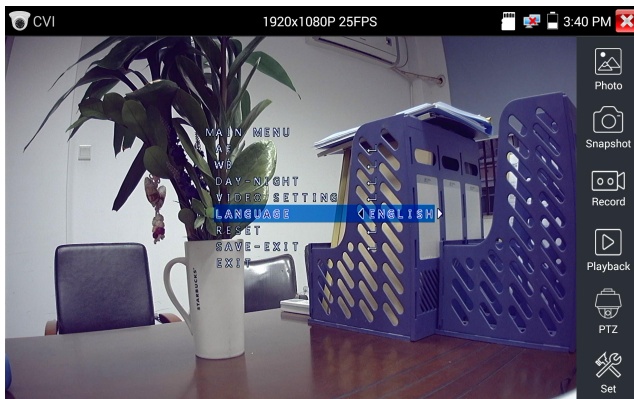


Input calling dome camera menu address code, after finishing the parameter settings, you can press the

key  or click the icon  to call the dome camera menu .

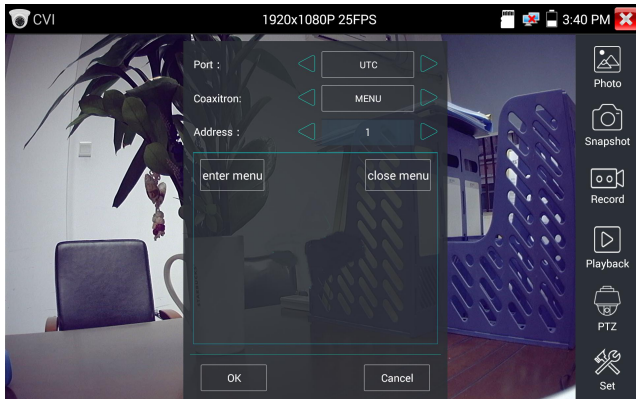


Press arrow keys     to set.



(3) Snapshot, record, photo viewer and video play back, please refer to “3.3.1 PTZ (1) Video monitor test”.

Tap “close menu” or press the key “**ENTER**” to close camera menu.

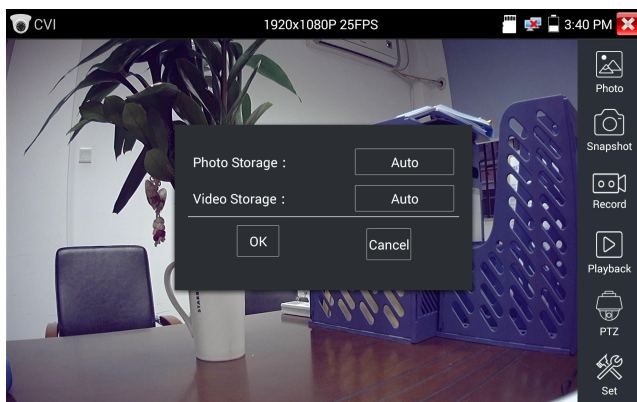


(4) Save setting

Click icon “Set” on the right toolbar to enter storage setting.

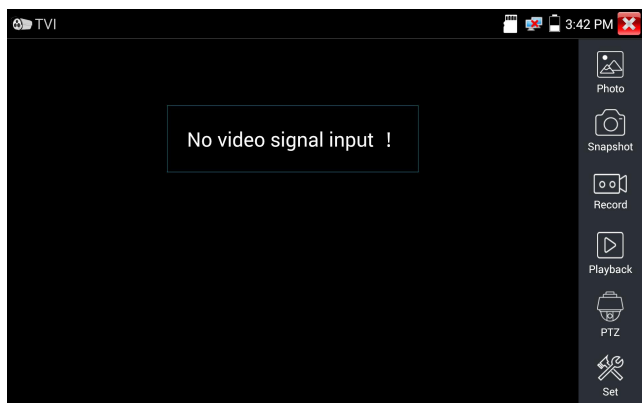
Support auto-storage and manual storage.

When select manual storage, user can name and store the files.



3. 3. 15 TVI camera test

HD TVI camera, TVI dome camera test and PTZ control, Click icon  to enter

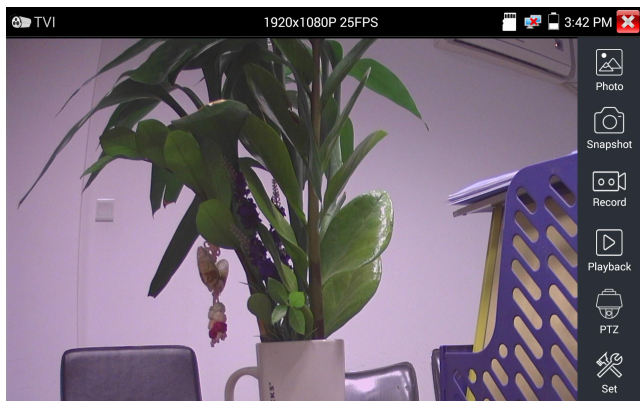


When HD TVI signal input, the tester will display the image resolution on the top bar. Double-taps on the screen to make the image displayed full screen.

The tester supports resolution as follows:

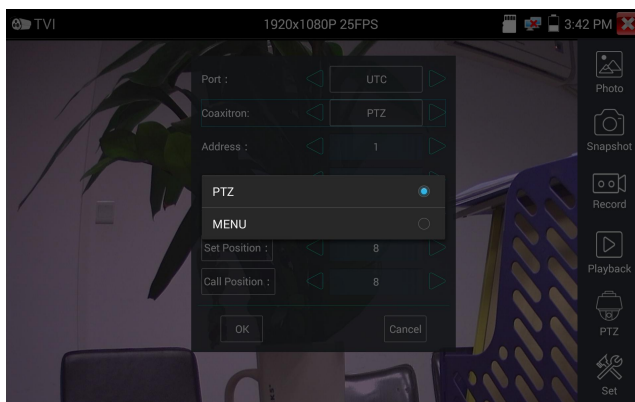
1280x720P 25FPS / 1280x720P30FPS / 1280x720P 50FPS / 1280x720P 60FPS

1920x1080P 25FPS / 1920x1080P 30FPS / 1920x1080P 50FPS / 1920x1080P 60FPS /2048x1536 18 FPS.



Coaxial camera menu settings

Tap icon “UTC”, select “menu setting” to enter the dome camera menu.



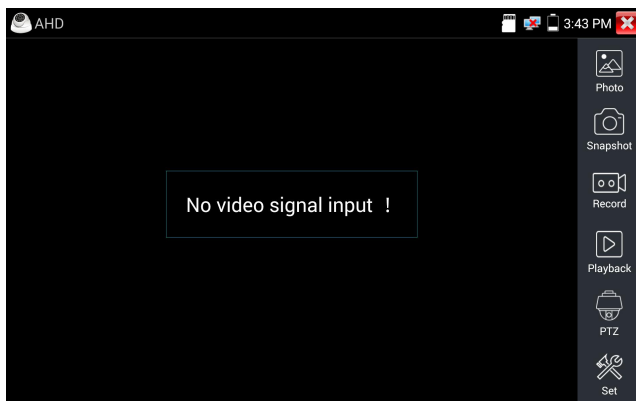
Input calling dome camera menu address code, after finishing the parameter settings, you can press the key **ENTER** or click the icon  to call the dome camera menu.



More operation instructions (such as PTZ control, coaxial camera menu setting ,snapshot, recording and playback etc), please refer to“3.3.6 CVI camera test”.

3. 3. 16 AHD camera test

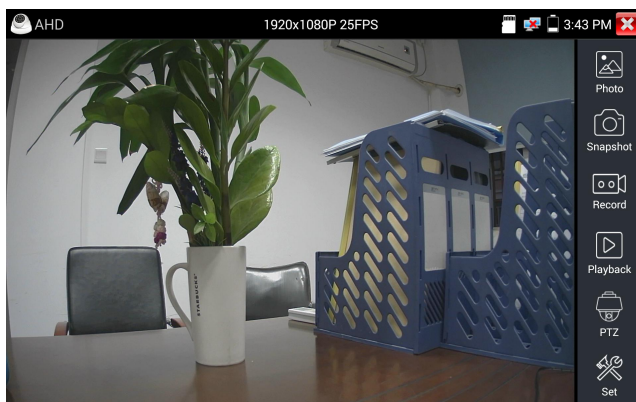
AHD camera, AHD dome camera test and PTZ control, Click icon  to enter



When AHD signal input, the tester will display the image resolution on the top bar. Double-taps on the screen to make the image displayed full screen.

The tester supports resolution as follows:

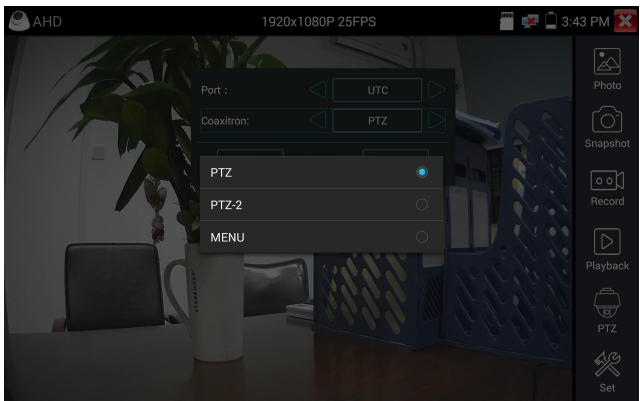
1280x720P 25FPS / 1280x720P 30FPS / 1920x1080P 25FPS / 1920x1080P 30FPS/2560x1440P 15FPS,25FPS,30FPS.



(1) Coaxial PTZ control

UTC control : select "PTZ control or PTZ control-2"(AHD camera has two different order ,if select

“PTZ” cannot control , pls go “PTZ-2”)



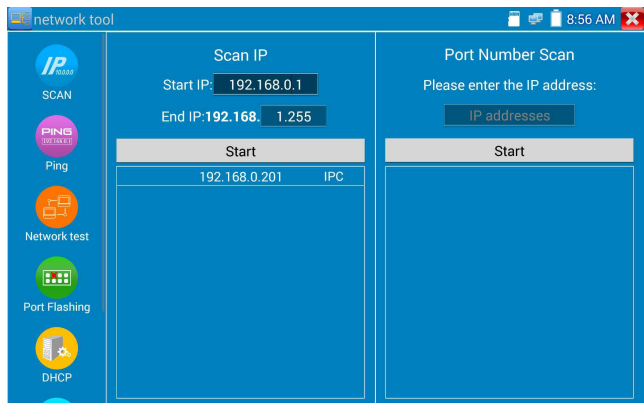
If to coaxial PTZ control the AHD camera, no parameters setting is needed.

More operation instructions please refer to “3.3.6 CVI camera test”.

3. 3. 17 Network tool

(1) IP address scan

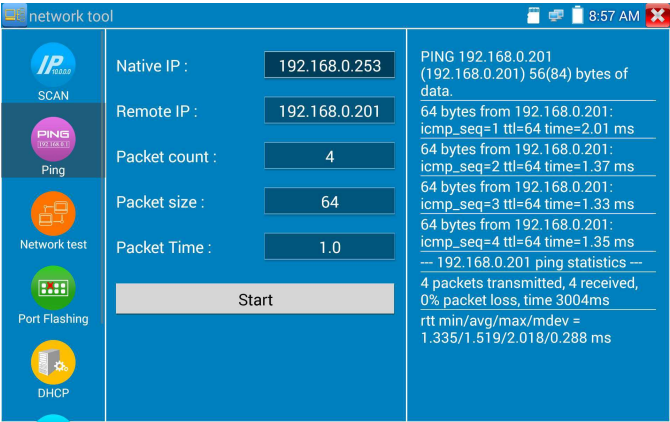
Connect the cable to the LAN port, click icon  to enter, Set your IP address search range by changing the Start and End IP addresses. Click the “Start” button to scan the IP address range. You can also input an IP address in the Port Number Scan to scan for open ports.



(2) PING Test

PING is the most conventional network debugging tool; it is used for testing if the connected IP camera or other network equipment’s Ethernet port is working normally and the IP address is correct.

Connect a network cable to the LAN port and click the  icon to open the PING tool. You can set your LOCAL (native) IP address, Remote IP address (e.g. IP camera), Packet count, Packet Size, Packet time and Timeout. Press “Start” to start pinging. If the IP camera or network device is not configured properly or not plugged in, it will say “Destination host unreachable,” or have 100% packet loss. If the tester connects to the device, the send and receive packets will have a 0% packet loss.



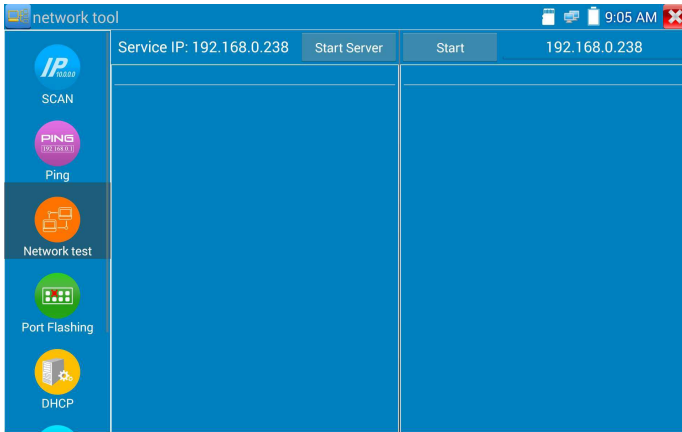
Application: PING testing is the most conventional network debugging tools. It is used for testing if the connected IP camera or other network equipment’s Ethernet port is working normally and the IP address is correct.

It’s normal that the first data packet will be lost when test start.

(3) Network test (Ethernet bandwidth test)

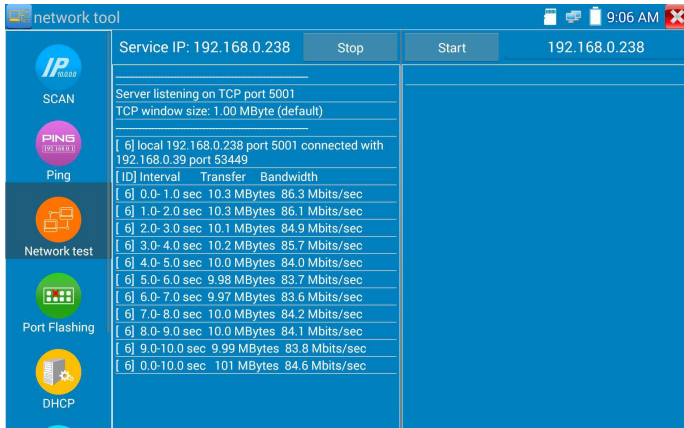
Network test (Ethernet bandwidth test)

To use the Network tester, you will need two testers. One is used as a Server and the other as a Client. Both devices must be on the same network segment in order to communicate. Click the  icon to open the Network Tester app.

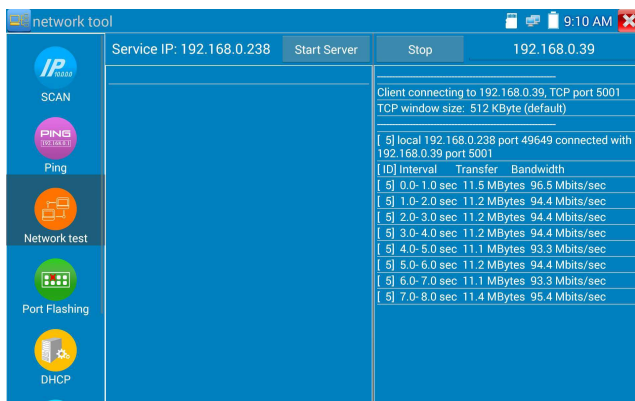


When test, need a tester or a computer installed Network Test Software as the Server, the other tester sends packet test. The two testers must be in the same network segment.

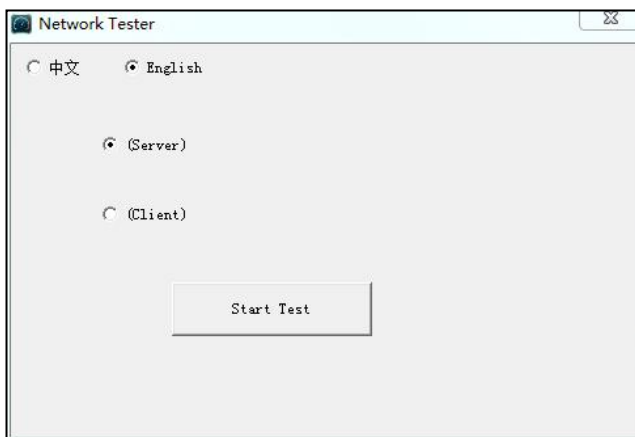
a). **Start the server:** Click “Start Server” button to use the tester as a Server. It will display its IP address at the top of the screen.



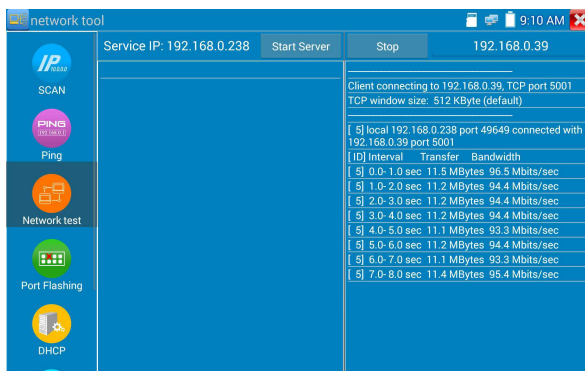
b). **Start send packet test:** Using the other tester, type in the Server's IP address at the top right corner of the screen. This app is used to send packets for network speed testing. Click the “Start” button to send the packets and start testing.



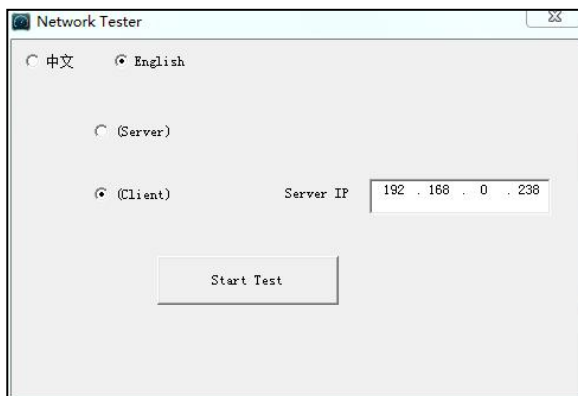
Network bandwidth testing can also be tested with a computer using compatible network bandwidth testing software. Install network bandwidth testing software on a computer, as a test Client or Server, to do the mutual testing with the tester. If use computer as the server, the computer IP address is :192.168.0.39



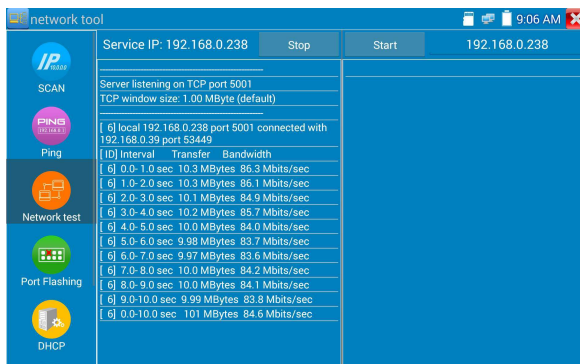
Tester as Client, tester's IP address is:192.168.0.238. The Server and the Client are at the same network segment, but with different IP address. Input Server's IP address 192.168.0.39 in the tester and click "Start" to test network bandwidth.



Or use tester as a Server, computer as test Client (select Client, input tester's IP address to test)

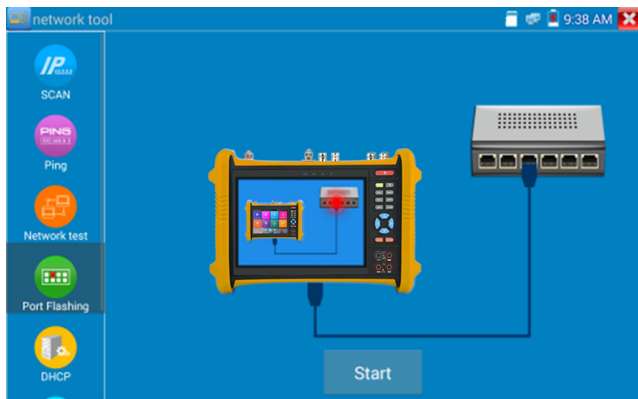


When use tester as Server,shows results:

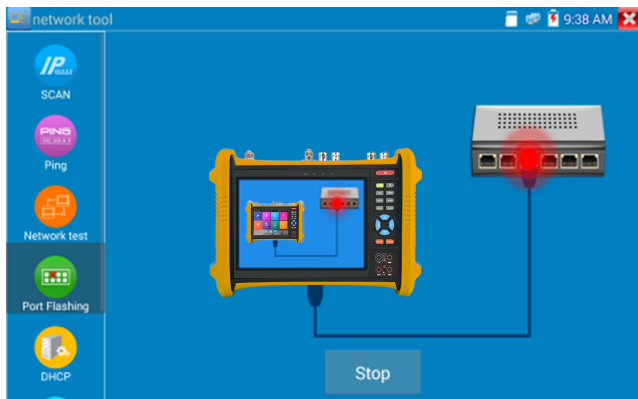


(4) Port Flashing

Connect a network cable to the meter's "LAN" port, click the icon  to open the Port Flashing app. Click "Start". The Integrated Mount Tester sends a unique signal to make the connected LAN port of the switch flash.



If the tester and PoE switch are connected well, the LAN port of POE switch flash at special frequency, If not, no any changes on the LAN port.

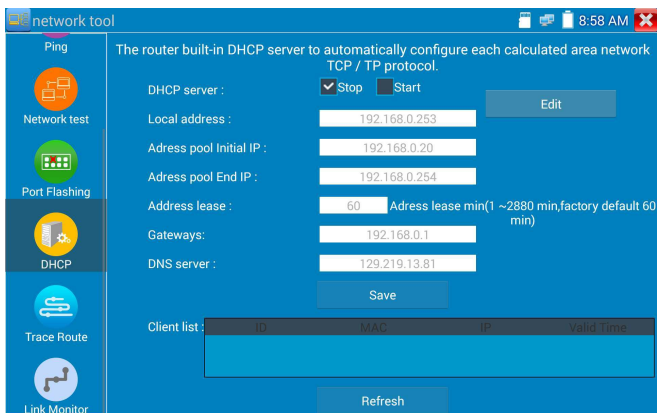


Application:

The tester will send special signals to make the connected LAN port flicker at special frequency, which will enable the installers to easily and quickly find the connected Ethernet cable. This function can prevent mistakenly insertion or disconnection non-corresponding cable to artificially interrupt network connection.

(5) DHCP server

Click on the DHCP icon to open the DHCP server app. Select the “Start” check box at the top and make any desired changes to the network settings. Click “Save” to start assigning dynamic IP addresses for IP cameras and other networked devices. Click the “Refresh” button to check your Client list.

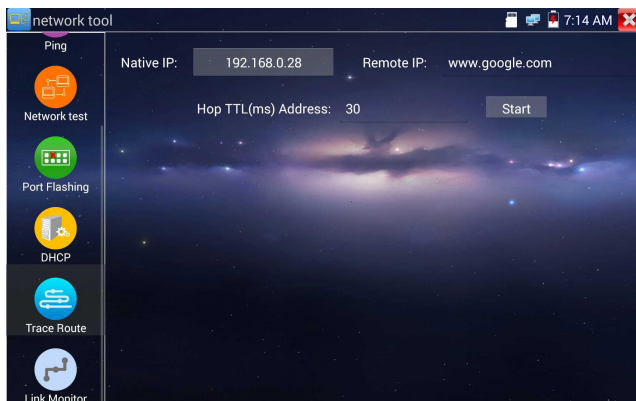


(6) Trace route

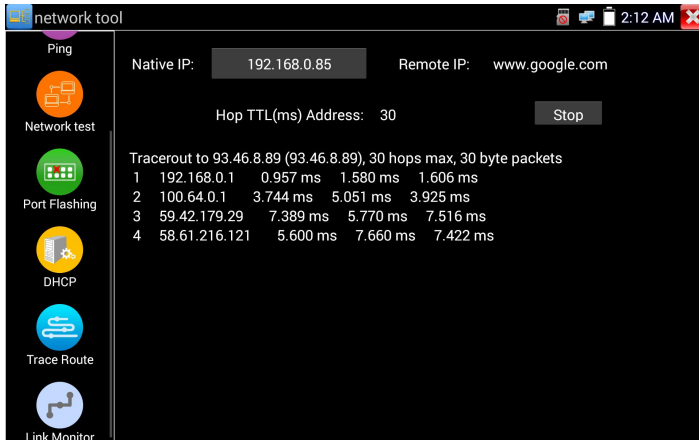
It is used to determine path of the IP packet access target.

Note: Trace route testing results only for reference, for accurate test route tracking, Pls use professional Ethernet tester.

Click  to enter trace route. Input tracking IP address or domain name in the Remote Host IP. Set maximum hop count, normally default is 30.



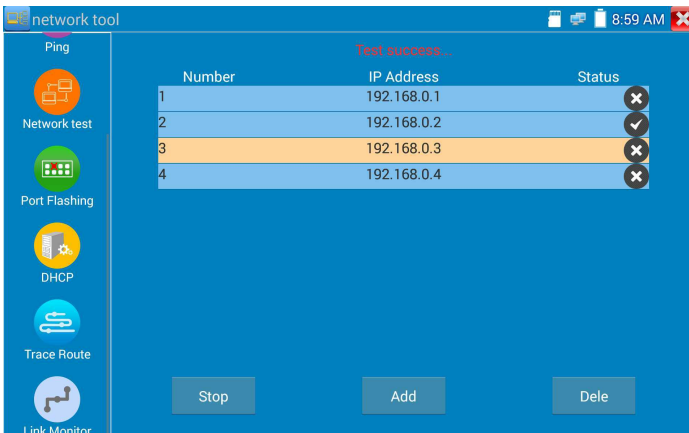
Click “start” to trace the goal address.



(7) Link monitor

Click the  icon to open the Link Monitor app. This app is used to see if an IP address is occupied by other network devices. This will avoid new address conflicts.

Click “Add” and enter the desired IP address. To test different network segments, click the “Settings” icon on the main menu and go to IP Settings and make the desired changes. Once the desired IP addresses are added to the Link Monitor list, click “Start”. If the IP address status shows a check mark the IP address is occupied. If the IP address status shows an X the IP address is available. Click “Stop” to stop the testing.



Application:

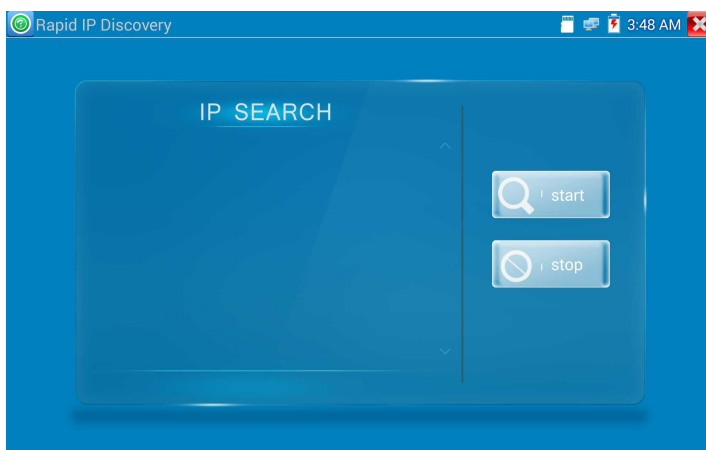
Add an IP camera or other network device to the current network group, the new IP address must not be occupied, otherwise it will cause IP conflicts and stop the equipment normal working. Link monitor can check if the new setting IP address is occupied.

3. 3. 18 Rapid IP Discovery

Connect the cable to tester's LAN port. Press  to enter Rapid IP Discovery app.

Click "Start" to search all IP address of connected equipments in whole network segment.

Click "Stop" to stop work.



3. 3. 19 PoE power / DC12V 2A and DC 5V 2A USB power output

When the tester is turned on, the 12VDC and 5VDC power output functions are automatically turned on.

If the tester is turned off, the 5VDC USB can still be used to power an external USB device.

To use the PoE Power Output function, click on the icon  and change the switch "ON" or "OFF".

The IP camera needs to be connected to the LAN port before you turn PoE Power on. If the IP camera Supports PoE, the PoE power is delivered via pins 1, 2, 3, and 6 on the LAN port. The IP tester will display "48V ON" at the top of the screen when the POE power is still on.



Note:

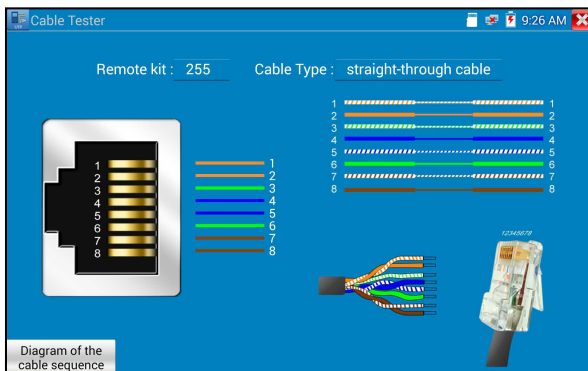
1. Don't input power into the "DC12/2A OUTPUT" port.
2. Don't output this DC12V/2A power to the DC12V/IN port of the Integrated Mount Tester to avoid destroy.
3. The Integrated Mount Tester power output is close to 2A, if the IP camera's power is over 2V, the tester will auto enter protection mode. Disconnect all the connections of the tester and then connect the tester with power adaptor to resume the tester.
4. Before turning on the PoE power output, please make sure the IP camera supports PoE power. Otherwise it may damage the IP camera.
- 5 Make sure you plug in your IP camera to the LAN port prior to turning on PoE power.
6. Make sure the tester is full charged or more than 80% charged, otherwise the tester will shows "low power", "not able to supply power".

3. 3. 20 Cable Test

Click icon



to enter



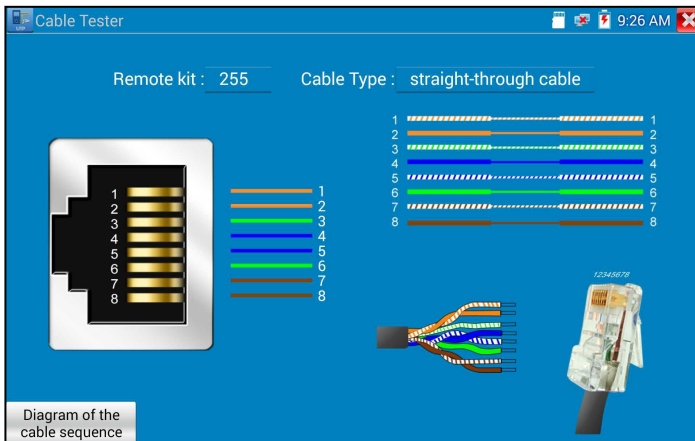
Test LAN cable or telephone cable.

Connect LAN cable or telephone cable with the Integrated Mount Tester and cable tester. And then the connecting status, cable type and the sequence of wires as well as the serial number of the cable tester kit will be displayed.

If need several different number other types cable testers, should pay the additional cost.

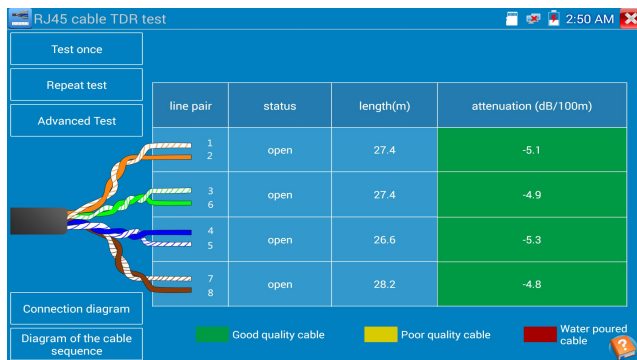
Cable test

Tap "cable test sketch map" ,pop up Straight-through cable and crossover cable sketchch, It is for line sequence reference ,when the crystal on the first pressure in the twisted-pair.



3. 3. 21 RJ45 cable TDR test

Connect cable to tester's LAN port, click icon  to enter RJ45 cable TDR test app.



Single test: test cable status, length and attenuation.

Repeat test: continue to test cable status, length and attenuation.

Status: after link up, screen display “online”, if not link up or open circuit, screen display ”open circuit”, if cable pair is short circuit, screen display “short circuit”.

Length: the max test length is 180 meters, when cable is open circuit or short circuit, can test the cable length, if screen display “online”, the testing result would be not accurate.

Cable quality test: Green is good quality cable, Yellow is Poor quality cable, Red is water poured cable, the attenuation value will be displayed when cable over 10 meters



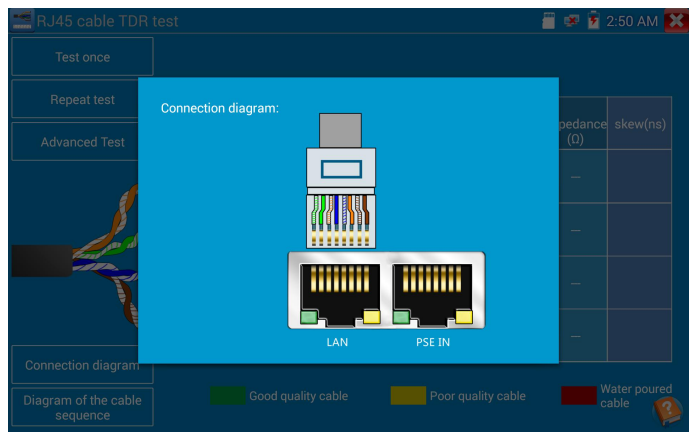
Advanced Test: test cable pair status, length, attenuation, reflectivity, impedance, skew and other parameters.

Attenuation reflectivity: after link up, if reflectivity value is 0, it is the best quality communication

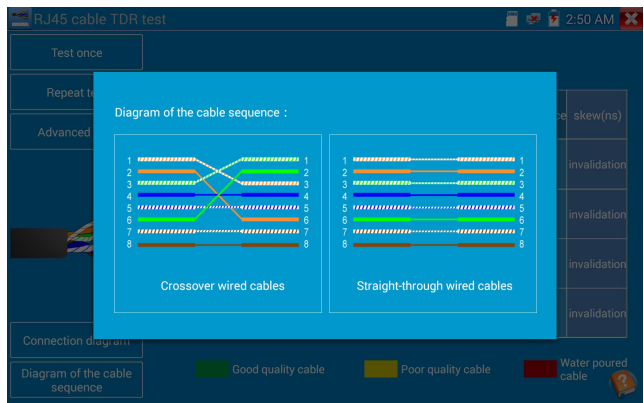
Impedance: after link up ,if the impedance value is 100 Ω ,it is the best quality communication, the

range is generally in 85-135 Ω .

Skew: After 1000M link up, when skew value is 0ns,it is the best quality communication, if over 50ns, will cause a Bit Error Rate in the transmission.

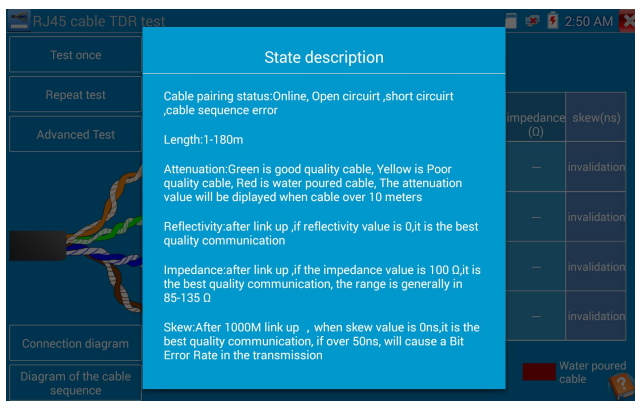


Connection diagram:



Cable sequence diagram:

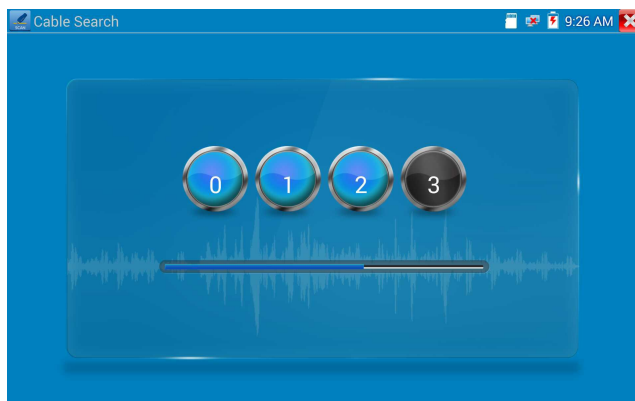
A straight- through and cross-over cable diagram, the cable sequence display for reference.



Click “Help”, check the instruction of all parameters.

3. 3. 22 Cable Search

Connect test cable or BNC cable to the UTP port or the CABLE SCAN (VIDEO OUT) port on the bottom. Click icon  to enter, click the Number on the screen to adjust audio type.



Use the blue Combination cable identifier and network cable tester’s copper pointer to touch all the cables in the bundle .

You are searching at the other end. The cable that gives off the loudest tone is the cable connected to the tester. Press the + or – buttons on your blue cable identifier to adjust the volume.



Note: Install two AAA batteries in your blue Cable Identifier.



Note: While the cable tracer is receiving the audio signal from the tester, it may be induced into adjacent or crossing cables, however, the cable that makes the loudest noise is the one that's connected to the meter.

Application

It's convenient for people to find out the other end of the cable from the messy cables in security maintenance and network engineering.

While searching BNC cable, connect one port of the alligator clips to the copper core or copper net of the BNC cable, the other one to connect the earth wire (barred windows).



Note: The battery of the cable tracer must according to corresponding positive pole + and negative pole -, otherwise will damage the tester.



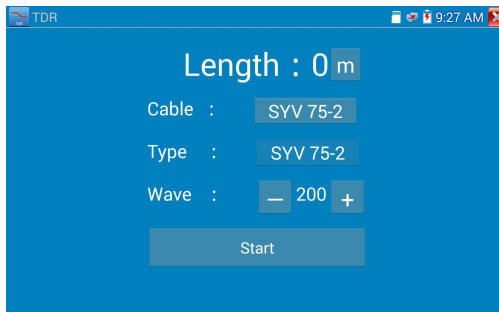
Note: While the cable tracer tester is receiving the audio signal from the tester, it may be influenced by other signals and make some noise.

3. 3. 23 TDR cable test



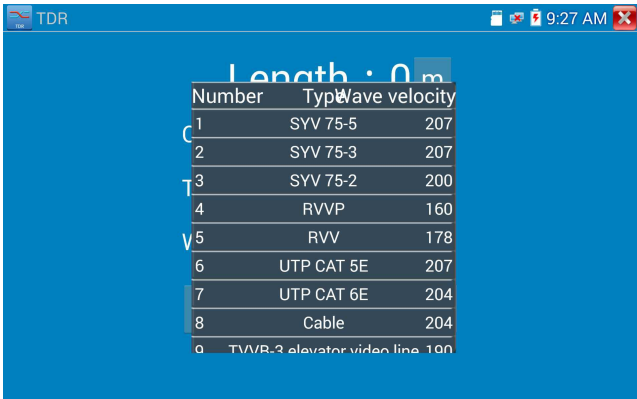
Note: The testing cable can't be connected to any equipment; otherwise it will damage the tester!

Connect Alligator clip cable to the TDR port, and the cable must connect well before testing, **otherwise** it will influence the accuracy. Click  to enter, and click "Start" to test

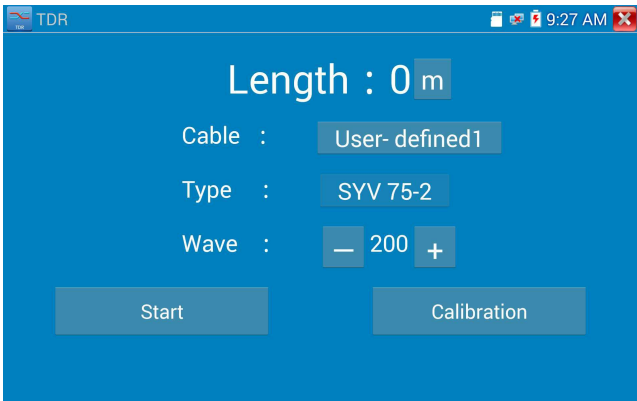


Built-in BNC cable, network cable, RVV control cable, Telephone line and TVVB cable etc can test, 11 groups user-defined cable can be set.

Click “Cable” “Type” to select cable and start testing. One tap on “Start” do one testing. If select built in cable type for testing, click “+” and“-” to adjust cable’s wave speed .

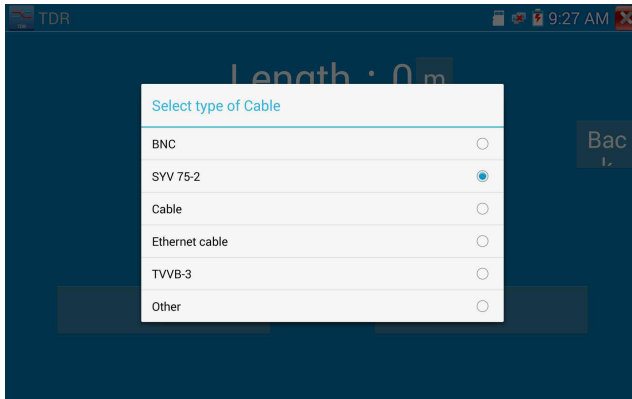


User-defined calibration: Choose the cable 100 meters to 200 meters (more than 50 meters) , click “Cable” , “Type” to select user-defined 1 for calibration, 11 groups user-defined can be set.

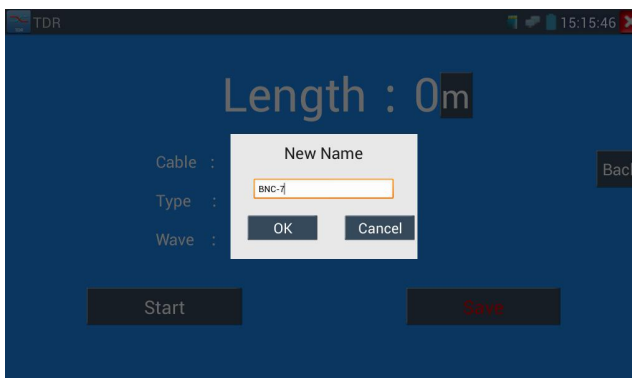


1. Select user-defined and click “Calibration “to enter test , click “user-defined 1” can define cable name, such as: AiPu BNC-5

2. Click “Cable” , “Type” to select cable, and corresponding type, for example, if testing BNC cable, select “BNC”, if testing communication cable 75-2, select SYV 75-2.



3. Click “+” or “-” to adjust wave speed ,while display length is the same with the actual Length ,click “Save” to save calibration data . It can be used for the same cable testing next time.



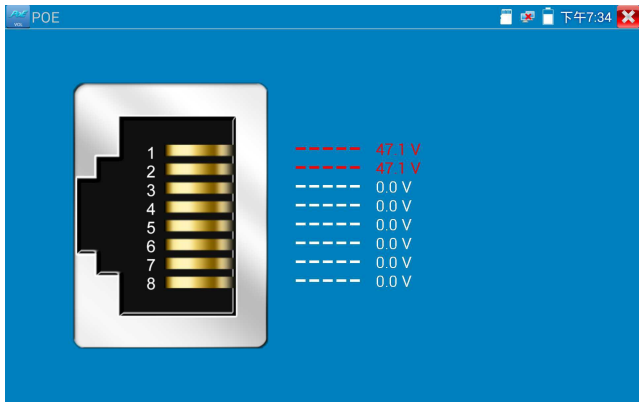
Application: TDR test is used for pulse reflection method, to transmit pulse signal for tested cable, when cable is open circuit or short-circuit, reflected pulse is generated, the tester receives and deals with the reflected wave, measurement results displayed on the screen. TDR can test cable open circuit and

short circuit, help engineer quickly find the cable’s problem location. It is more convenient and efficient to repair the faulty cable.

 **Note:** The TDR reflect signal could be affected by the cable quality/ cable’s not well connected etc to cause the different TDR measurement, the TDR measurement is for reference only.

3. 3. 24 PoE Voltage test

Click icon  to enter PoE voltage measurement



Connect a network cable from a PoE switch to the tester’s PSE IN port. Connect an IP camera or other PoE using node to the tester’s LAN port, the PoE voltage and the cable’s pin connection status show on the screen.

 **Note:** This test if for measuring the voltage being drawn by the PoE node and the tester must be between the PoE switch and the PoE node for this test to work.

Note: The PoE switch must be connected to the PSE IN port. The powered device such as IP camera or other PoE node must be connected to the LAN port.

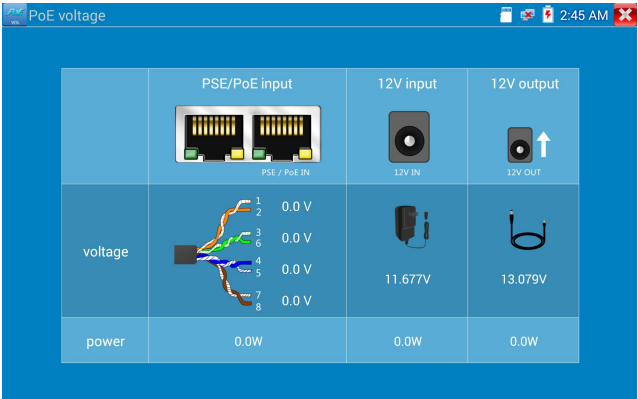
 **Note:** Do not connect PoE power supply equipment (such as a PoE switch) to the tester’s UTP/SCAN port; otherwise it will damage the tester.

PSE transmission

When PoE / PSE voltage testing, PoE/PSE connect to the tester's PSE "IN" port , the camera connect to tester's Lan port , tester not only can transmit voltage to supply power for camera ,but also transmit data at the same time. as well as the computer connect to the PoE/PSE, it can log in connected tester's PoE camera.

3. 3. 25 12V power input test

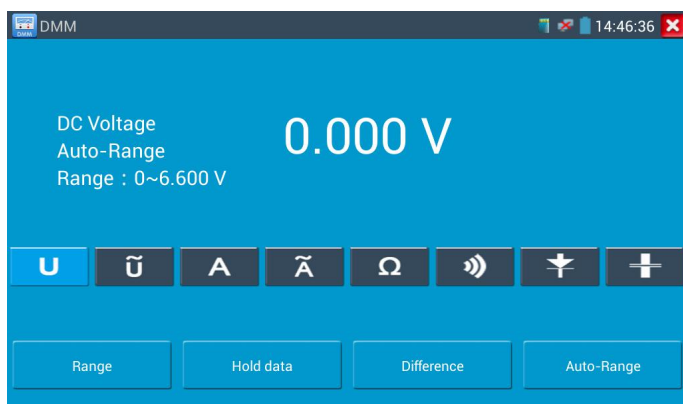
Connect 12V power adaptor to tester’s charging port, then click icon “PoE” to enter voltage measurement app ,screen show the current adaptor input voltage and power. Note: the current 12V input measured power is the battery charging power and the device working power,the measured power will change depending on the different of battery power and backlight brightness.



Warning: Not allow connect device with input power over 17V to tester “12V IN”port,otherwiseit will damage the machine.

3. 3. 26 Digital Multi-meter

Click icon to enter



1) SYMBOLS:

U:DC Voltage Measuring

A:DC Current Measuring

Ω:Resistance Measuring

⎓:Diode Testing

ũ:AC Voltage Measuring

Ā:AC Current Measuring

⎓:Continuity Testing

⎓:Capacitance Measuring

AC/DC	Voltage and current measurement state display
Auto- range	The Multimeter auto adjust the range by input signal or tested components
Data hold	Hold data
Relative measurement	Display the relative measurement value Press the key to change display state
10A socket	In 10A current measurement state ,indicate use 10A socket
Over range	The current measurement value over the range, if in the Auto range state, to switch Auto.

2) OPERATING INSTRUCTION

A. DC Voltage Measuring

WARNING!

You can't input the voltage which more than DC 660V, it's possible to show higher voltage, but it's may destroy the inner circuit.

Pay attention not to get an electric shock when measuring high voltage.

a. Connect the black test lead to the "COM" jack and the red test lead to the "V/ Ω " jack.

b. Select U, enter the DC voltage measurement.

c. the tester default Auto range status, by click "DC auto range", pres:

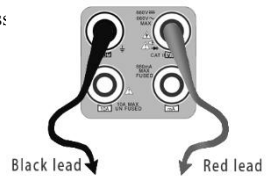
key can select manual range and restore auto range .

Manual range: 0.000V $\rightarrow$ 6.600V range

00.00V $\rightarrow$ 66.00V range

000.0V $\rightarrow$ 660.0V range

000.0mV $\rightarrow$ 660.0mV rang



B. AC Voltage Measuring

WARNING!

You can't input the voltage which more than AC 660V, it's possible to show higher voltage, but it's may destroy the inner circuit.

Pay attention not to get an electric shock when measuring high voltage.

a. Connect the black test lead to the "COM" jack and the red test lead to the "V/ Ω " jack.

b. select U $\sim$, enter the AC voltage measurement.

C. the tester default Auto range status, by click "AC auto range"

d. Manual range can be select, press the key "NEAR" to restore Auto range.

e. Manual range: 0.000V $\rightarrow$ 6.600V range

00.00V $\rightarrow$ 66.00V range

000.0V $\rightarrow$ 660.0V range

000.0mV $\rightarrow$ 660.0mV range

C. DC Current Measuring (only manual range)

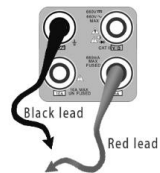
WARNING!

Shut down the power of the tested circuit, and then connect the meter with the circuit for measurement.

a. Connect the black test lead to the “COM ” jack and the red test lead to the “mA” jack for a maximum of 660mA current. For a maximum of 10A, move the red lead to the 10A jack.

b. select **A**, enter the DC current measurement, the screen display “DC current ”, can select manual range;

- c. Manual range:
- | | | |
|---------|---|-------------------------------|
| 0.000mA | → | 6.6mA range |
| 00.00mA | → | 66.00mA range |
| 000.0mA | → | 660.0mA range |
| 00.00A | → | 10.00A range (use 10A socket) |



d. Select the range to enter current measurement



NOTE:

- ◆ When only the figure “OL” is displayed, it indicates over range situation and the higher range has to be selected.
- ◆ When the value scale to be measured is unknown beforehand, set the range selector at the highest position.
- ◆ The maximum current of mA socket is 660mA, over-current will destroy the fuse, and will damage the meter.
- ◆ The maximum current of 10A socket is 10A, over-current will destroy the meter, and will damage the operator.

D. AC Current Measuring (Only Manual range)

WARNING!

Shut down the power of the tested circuit, and then connect the meter with the circuit for measurement.

a. Connect the black test lead to the “COM” jack and the red test lead to the “mA” jack for a maximum of 660mA current. For a maximum of 10A, move the red lead to the 10A jack.

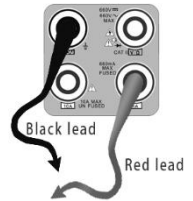
b. select $\tilde{A}$, enter the AC current measurement, manually select the range

c. Manual range: 0.000mA → 6.600mA range

00.00mA → 66.00mA range

000.0mA → 660.0mA range

00.00A → 10.00A range (use 10A socket)



Note:

- ◆ When only the figure “OL” is displayed, it indicates over range situation and the higher range has to be selected.
- ◆ When the value scale to be measured is unknown beforehand, set the range selector at the highest position.
- ◆ The maximum current of mA socket is 660mA; over-current will destroy the fuse, and will damage the meter.
- ◆ The maximum current of 10A socket is 10A, over-current will destroy the meter, and will damage the operator.
- ◆ In “AC” mode, only can input “AC”, if not, will damage the meter.

E. Resistance Measuring

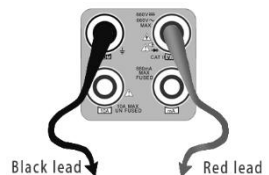
WARNING!

When measuring in-circuit resistance, be sure the circuit under test has all power removed and that all capacitors have discharged fully.

a. Connect the black test lead to the “COM” jack and the red test lead to the “V/Ω” jack.

b. to select Ω , enter the Ω measurement

the tester default Auto range status, Press the key manually select range ,Press “NEAR” to restore “Auto range”



Manual range:(Connect the red lead to black leads, will display the measure range)

000.0 Ω → 660 Ω range

0.000 K Ω → 6.600K Ω range

00.00 K Ω → 66.00K Ω range

000.0 K Ω → 660.0K Ω range

0.000 M Ω → 6.600M Ω range

00.00 M Ω → 66.00M Ω range

F. Continuity Testing

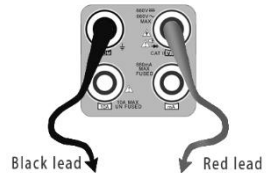
WARNING!

When testing the circuit continuity, be sure that the power of the circuit has been shut down and all capacitors have been discharged fully.

a. Connect the black test lead to the “COM” jack and the red test lead to the “V/ Ω ” jack.

b. to select $\gg$, enter the continuity test, Connect test leads across two point of the circuit under testing.

c. If continuity exists (i.e., resistance less than about 50 Ω), built-in buzzer will sound.



G. Diode Testing

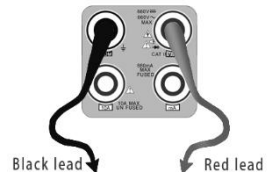
WARNING!

The capacitance of a capacitor should be tested separately, should not test in the installation of circuit.

a. Connect the black test lead to the “COM” jack and the red test lead to the “V/ Ω ” jack. (the red lead anode “+”)

b. to select ∇ , enter the diode testing.

c. Connect test red lead across to the anode, the black lead to the cathode of the diode under testing.



- d. Connect test red lead across to the cathode, the black lead to the anode of the diode under testing.
- e. Tested diode, forward voltage low 30mv, there is sound indication, then can finish the testing quickly without view the screen.

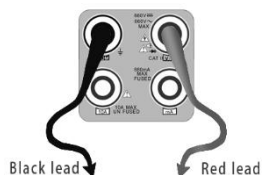
H. Capacitance Measuring

WARNING!

To avoid electric shock, be sure the capacitors have been discharged fully before measuring the capacitance of a capacitor.

- a. Connect the black test lead to the “COM” jack and the red test lead to the “V/ Ω ” jack.
- b. Select “ $\text{---}\text{||}\text{---}$ ” to enter, enter the capacitance measurement.
- c. The tester default auto range status, and manual range by press upward and downward key, Auto rang by press the key “NEAR”

Manual range: 0.000nF	→	6.600nF	range
00.00nF	→	66.00nF	range
000.0nF	→	660.0nF	range
0.000uF	→	6.600uF	range
00.00uF	→	66.00uF	range
000.0uF	→	660.0uF	range
0.000mF	→	6.600mF	range
00.00mF	→	66.00mF	range



- d. Before connect test leads across two sides of the capacitor under measurement, be sure that the capacitor has been discharged fully.



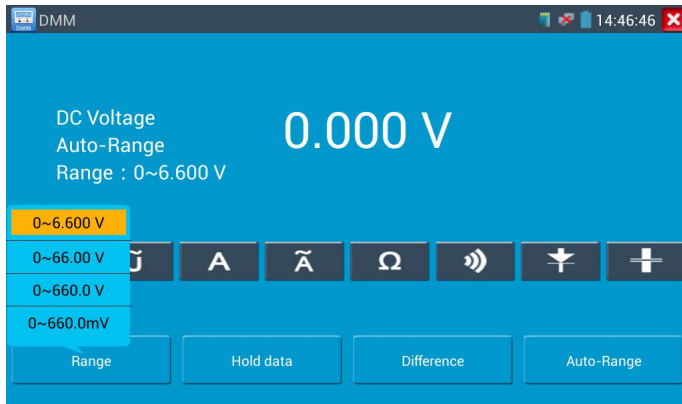
Note:

- a. The capacitance of a capacitor should be tested separately, should not test in the installation of circuit.
- b. To avoid electric shock, be sure the capacitors have been discharged fully before measuring the capacitance of a capacitor.
- c. While testing the capacitance of a capacitor to

660uF, the Max time will be 6.6 seconds, if the capacitor is leaked or damaged, the data can't be read. The tester will be normal after disconnecting the capacitor.

Manual range and Auto range

When testing, click "Range select " to change the value, click "Auto range "to enter Auto measurement.



Data hold

Click "Hold data" to enter, the data be hold, the value is green. Press it again to quit.

Relative value measurement

Click "Relative" to enter, the tester Auto-save the data, the displayed new measurement and relative value is red color. Press it again to quit.

The hold function and the relative value be combined use, the display value is yellow.

The meter protection

➤ Voltage protection

You can't input the voltage which more than AC 660V, it's possible to show higher voltage, but it's may destroy the inner circuit.

➤ Resistance, Continuity, Diode, PTC component Protection

Wrong input voltage, will Auto enter protection state , It only suitable for short and limit time work.

If input voltage over 600V, will damage the meter.

➤ mA current fuse range: 250V 1A

if the current over the rated range ,fuse will melt to protect the meter .Pls use the same model when change the fuse, Pls opens the battery cover to change.



Note: 10A socket without fuse protection, if over the current range.

Wrong using the 10A socket to measure the voltage, will damage the meter.

3. 3. 27 Optical power meter

Click icon  to enter ,with five wavelength 1625nm,1550nm , 1490nm , 1310nm ,1300nm , 850nm ,linear or nonlinear optical power display, both for optical power testing and Fiber link loss relative measurement . It is necessary tool for installation and maintenance optical fiber communication, cable television and CCTV security system.



Note: Please keep the fiber connector and the dust cap be clean, and clean the detector with the special alcohol.

Data hold

While testing, click “Hold” to data hold, the data will not change. It’s convenient to read. Press again to quit.



Relative power value (optical link loss) measurement

While testing, set the wavelength for measurement. Click “relative”(difference) to test, the tester Auto save current fiber power value as the base reference value. Input another optical fiber to be measured,

the displayed new measurement and relative value is red color. Press it again to quit.

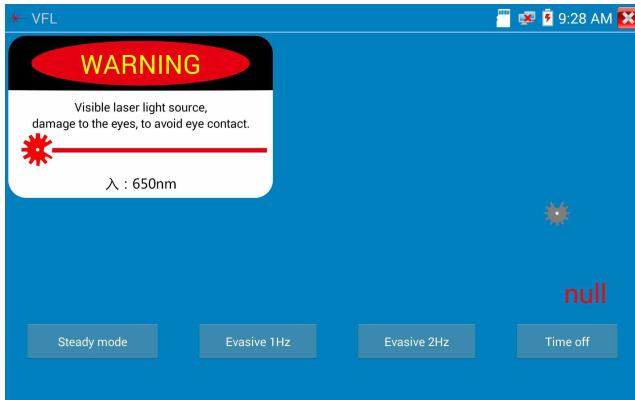


Data hold and Relative measuring use together, the data is yellow while the function is effect.

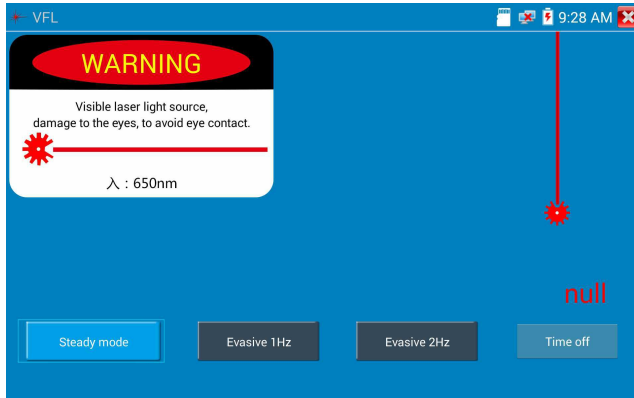


3. 3. 28 Visual Fault Locator

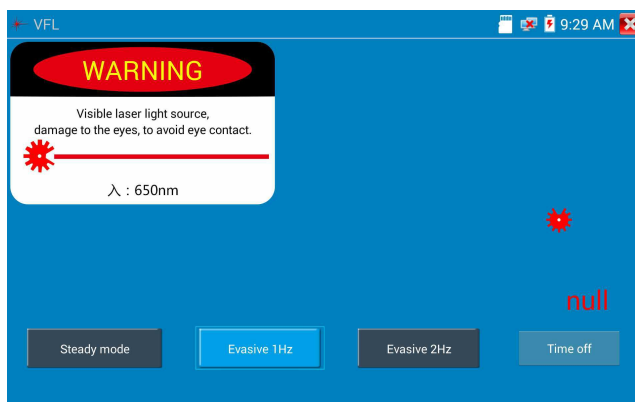
Click icon  to enter



VFL four status can select——“Steady mode”, “Evasive 1Hz”, “Evasive 2Hz”and“Time off”. Click button “Steady mode” to enter steady status, click button “Evasive 1Hz” and “Evasive 2Hz, to enter pulse mode, click button “Time off”, VFL is turned off. Timed turn off can select (5 mins, 10 mins, 30 mins, 60 mins and 120 mins).



Click” Steady mode”, red laser source emits steady, click again to quit.

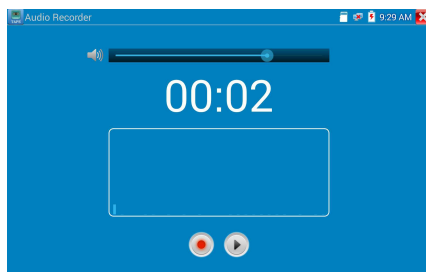
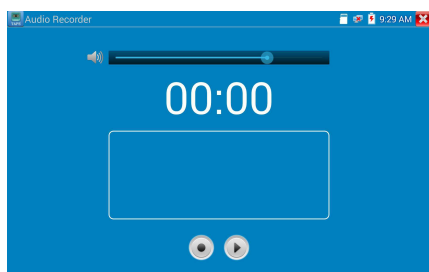


Click icons “Evasive 1Hz” or “Evasive 2Hz” to enter pulse mode, the red laser source is emitted by a certain frequency, press it again to quit.

3. 3. 29 Audio Record

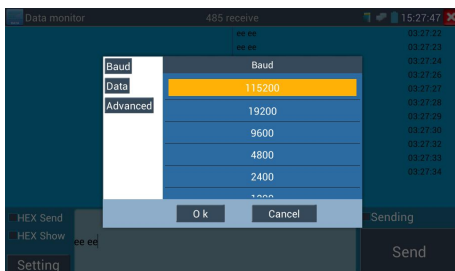


Connect an audio device to the Integrated Mount Tester’s audio input port. Click the icon to enter the Audio Recorder app. Click the red button to stop, and the unit will prompt you to save the recording.



3. 3. 30 Data monitor

Pls click icon  to enter



Click “Setting” to choose the baud rate of RS485; it must be the same as the DVR or the Control.

keyboard .The DVR or Control keyboard send the code to the tester, if it can be read, the protocol will shown on the upper right, like Pelco D, if not, like P:--

While the tester receives the code, press the  **key to empty.**

Though the RS485 port, display the PTZ control code of the multifunctional keyboard or the DVR.

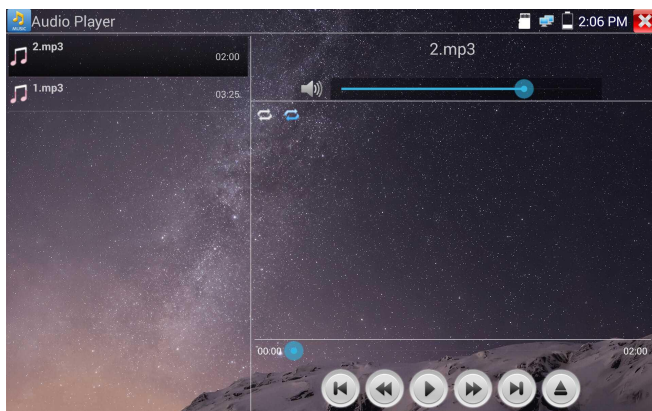
Controller can check the status of the RS485 transmission through the code on the display. (The RS485 communication rate must be the same.)

Application: Check the RS485 communication states of the video optical transmitter whether normal.

Engineer can analyze the protocol and check the data through the displayed code.

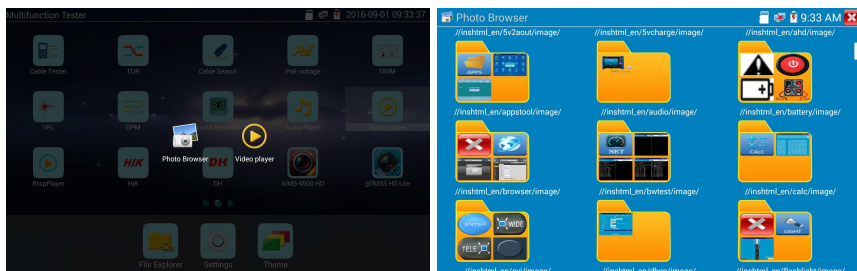
3. 3. 31 Audio player

Click the icon  to enter . The audio player only supports MP3 format Audio files.



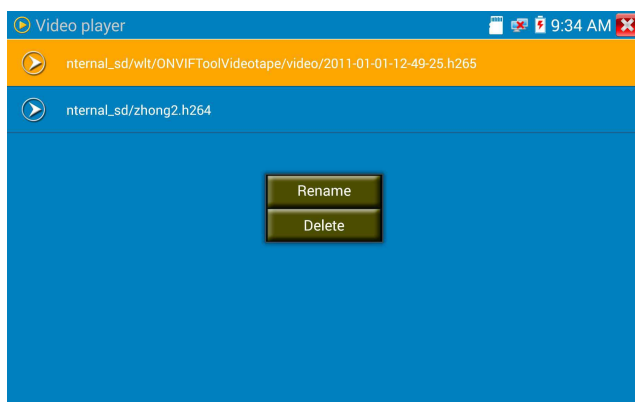
3. 3. 32 Media Player

Click the icon  to enter



The Media player can browse video and image files. It supports the video formats of MP4, H.264, MPEG4, and MKV. The Integrated Mount Tester recorded files can play directly via the Media player. The Media player will automatically display the video files from the tester. Click on the desired file to play. Click RETURN to exit.

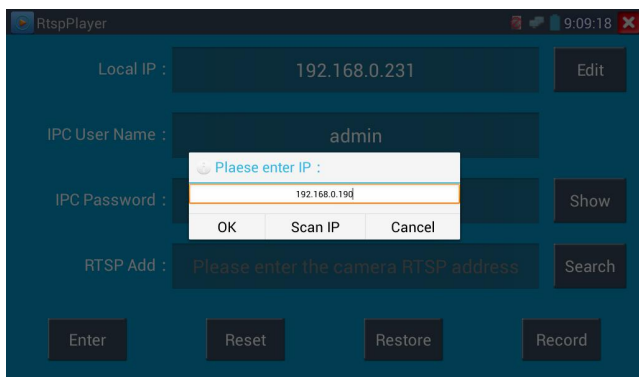
To rename or delete an existing file, press the file name for a few seconds until the screen below appears. You can then rename or delete the file by pressing the desired option.



3. 3. 33 RTSP Player

The RTSP Player app will allow you to view the RTSP video stream from an IP camera. If you were unable to view your camera via the ONVIF or the Test apps, it is possible your camera will have an RTSP stream and you can view live video.

From the main menu, select the “APP Tool” folder and then select the “RTSP Player” to open the app. If the IP camera uses MJPEG, select the RTSP icon. If the IP camera uses H.264, select the “RTSP HD” icon.



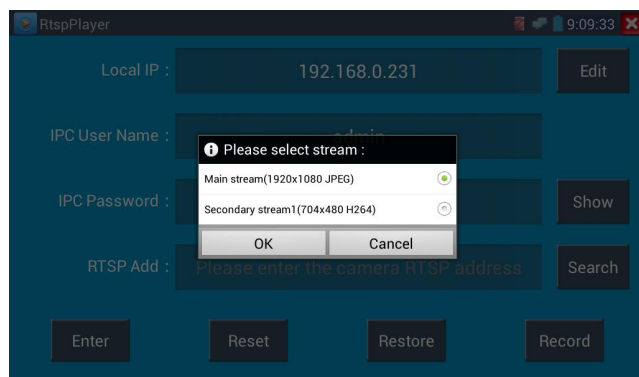
Local IP: This is the Integrated Mount Tester's IP address.

RTSP Add: This is where you can manually enter the IP camera's RTSP URL or click on Search to search the network for cameras that use an RTSP stream.

IPC Username: Enter the IP camera's user name.

IPC Password: Enter the IP camera's password.

Once you have entered all the necessary information, select Enter at the bottom left to view the RTSP stream.



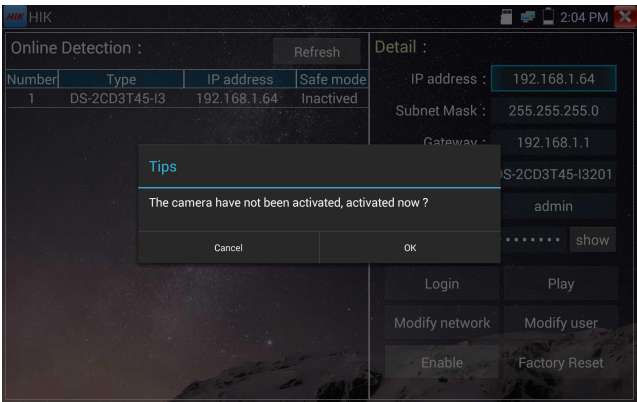
Note: In the event the Integrated Mount Tester does not auto detect the rtsp stream, refer to the specific camera manufacturer for the specific rtsp stream url. you may find this on line with a search of the camera model number and the word rtsp.

3. 3. 34 Hik test tool

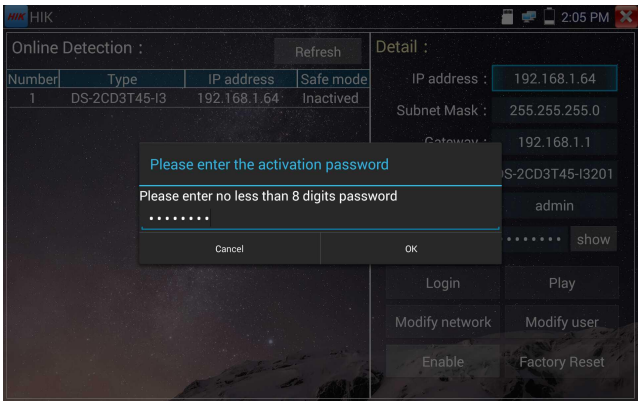
Hik test tool app is designed for activating and debugging Hikvision camera, can auto-identify unactivated hikvision camera, also can display image from the Hikvision camera.

Tap icon  to enter

1. Hikvision activation : When connect the unactivated Hikvision camera to the tester, it will auto identify and display “Unactivate” at safety mode. Select needed activate the camera, click bottom right corner button “Enable”, pop-up “the camera is not activate, activate now”?

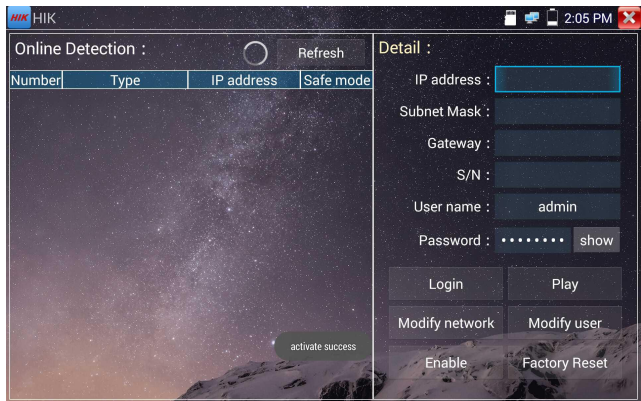


2. Input password: Input new password, tap “ok” to activate.



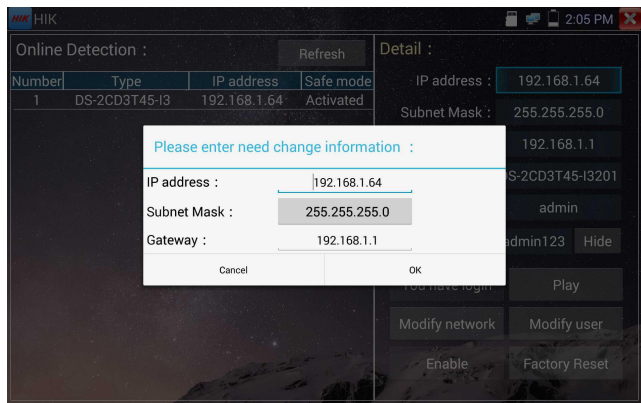
3. Confirm activation

After activating the camera, the program default modifies the camera IP. Activated multiple cameras in the local area Network, and pop-up menu to modify IP, improve project efficiency.

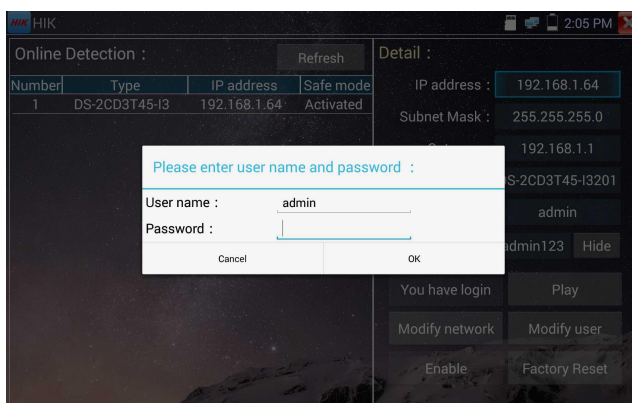


Play: Display image from the camera.

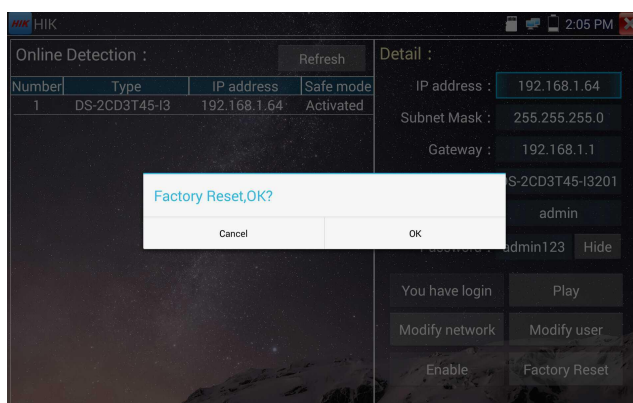
Modify network information: Change the camera IP address, sub-net mask and gateway etc.



Modify user information: Modify the camera's user name and password.



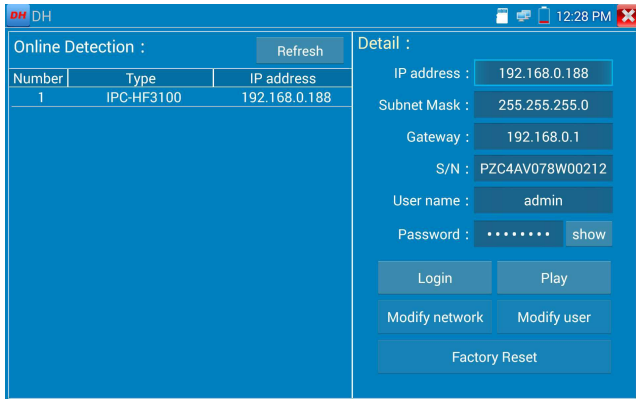
Factory Reset: Camera factory reset



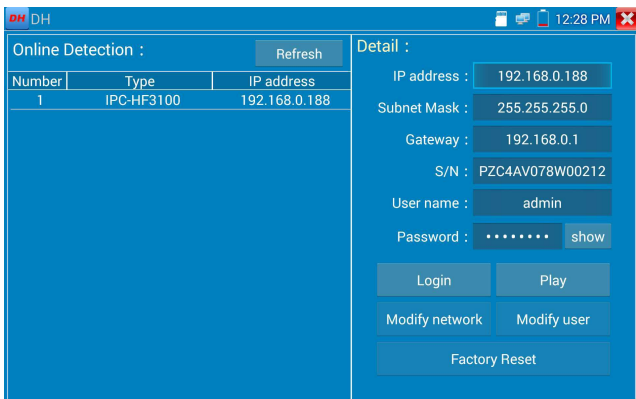
3. 3. 35 Dahua test tool

Dahua test tool is developed for installation and debugging of the Dahua IP camera, it can display image, and modify IP, user name and password etc. Making Dahua camera test more convenient and quickly.

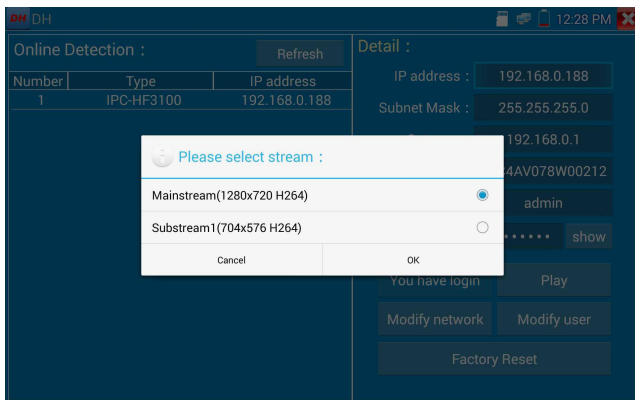
Click "DH" icon , to enter Dahua test tool.



Select the camera of the online detection menu, if the camera support non-verification login, you can click “play” directly, and view the image.

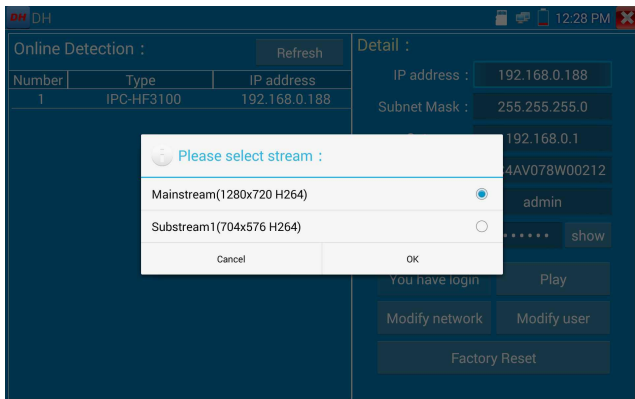


Pop up stream menu, select mainstream or second stream to test.

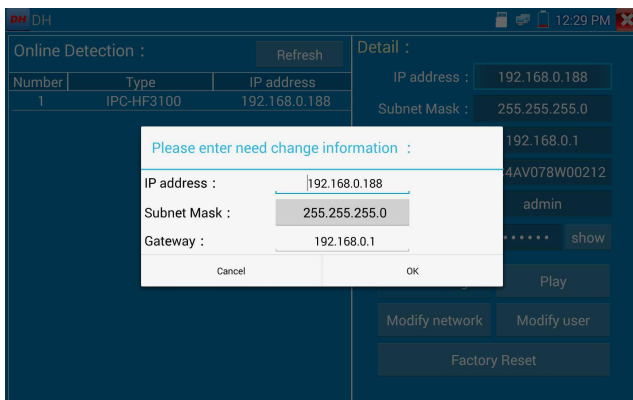


If the camera not supports non-verification login, pls select “camera” of online detection menu, and input correct user name and password, then click “log in”. After logging successful, you can test it.

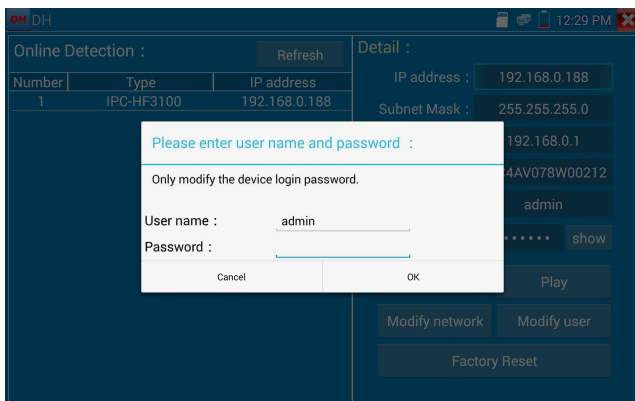
Play: select mainstream or seconded stream, IP camera live video display.



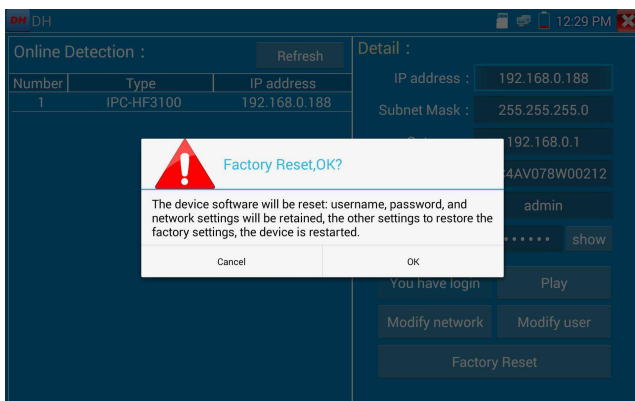
Modify network information: modify camera parameter, such as ip address, subnet mask, gateway etc.



Modify user information: modify camera user name and password, which is onvif, Dahua test tool, the tester user name and password, not web user name and password.



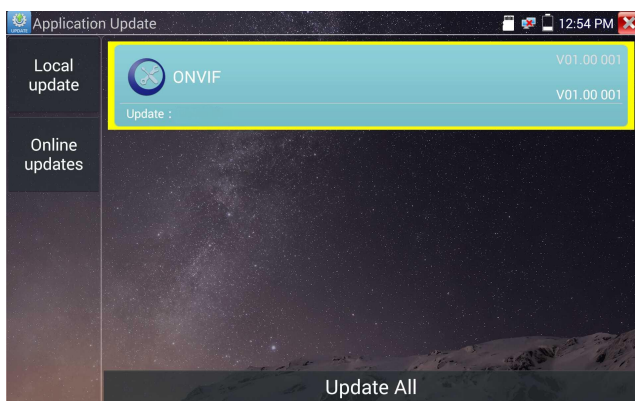
Factory reset setting: camera will be soft reset, and the device's user name, password and network set be saved. Other settings information is factory reset.



3. 3. 36 Update

Copy the downloaded update file to SD card "update" directory, if no directory, please create one.

Click the  icon to open the Update menu. Select “Local Update” to update via the SD card or select “Online Update” to check for updates on the internet. If there are applications that need updating, the applications will be displayed on the screen.

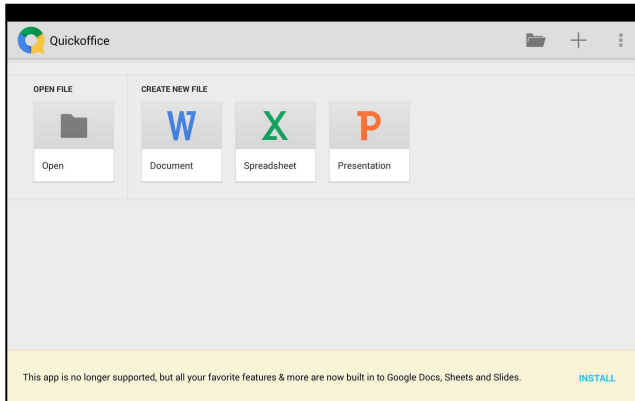


If there are update programs, applications will be listed in the interface, click related applications, update to the latest version.

Update online: Before using online update, need enter settings-user management to register first.

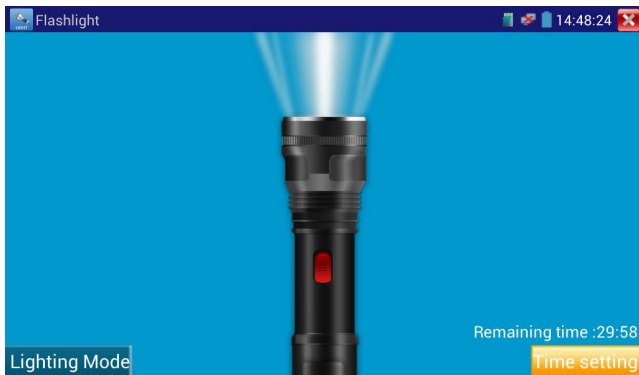
3. 3. 37 Office

Quick office app (support excel, word, ppt format) doc. editable



3. 3. 38 LED Flashlight

It is convenient for the installation or maintenance in the evening or in the dark. Click icon  to enter.



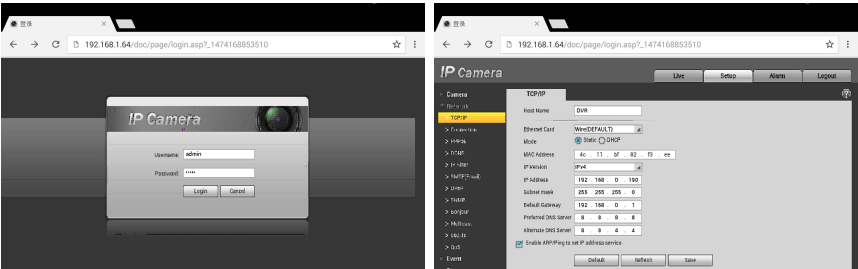
While in the flashlight app, click the red button to turn on the LED lamp. Press it again to turn it off. If you don't press the red button  to shut off the lamp and press the button to exit the app, the lamp will stay on. Click the Time Setting button to set a timer that will shut off the lamp.

3. 3. 39 Browser

Click icon  to enter

Type in the ’s IP address and press “Go” to access the IP camera’s interface.

NOTE: You will not be able to view live video in the web browser. For viewing video, use the tester’s live camera view Apps.

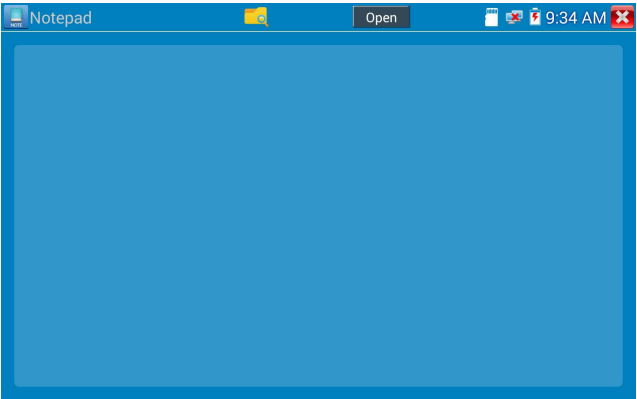


The IP camera and the tester be on the same network segment for the browser to interface with the camera. If they are not in the same segment, click the button  or press “RETRUN” to exit. Open the “Settings” app from the main menu to change the IP tester’s network settings to match those of the IP camera.

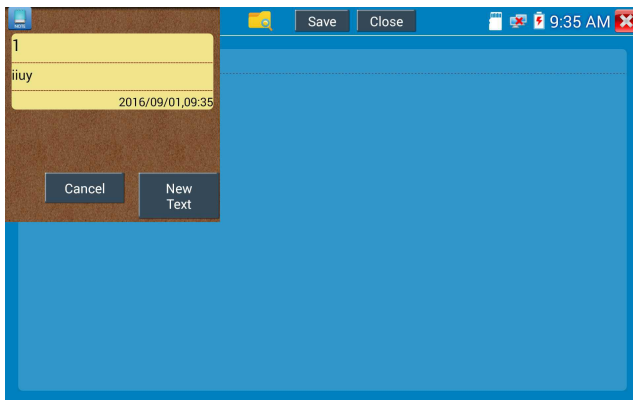
3. 3. 40 Notepad

Notepad can be used to record the important testing results, click the key “Save” to save the contents.

Notepad can auto record the storage date and time.

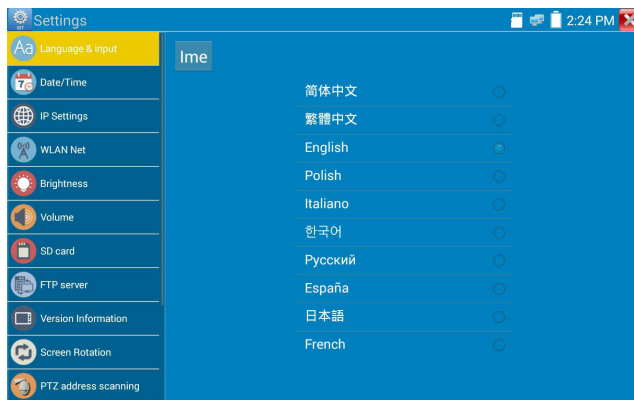


pls click  to view the notepad , all saving contents display. Click each record bar to show the details. Press the record bar for several seconds, prompt whether delete it.



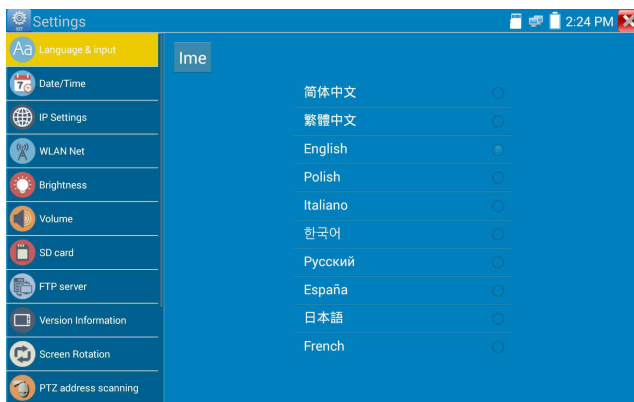
3. 3. 41 System Setting

Click icon  to enter



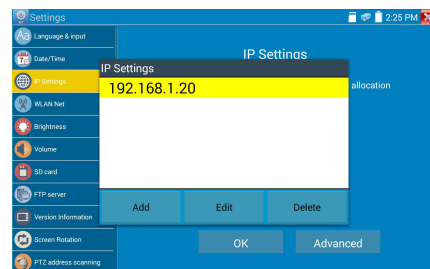
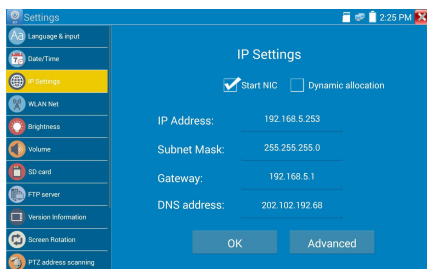
Language: Select your desired language: English, Chinese, Korean, Russian, Italian , Polish ,Spanish, French or Japanese.

Typewriting: You can select typewriting or install other typewriting:



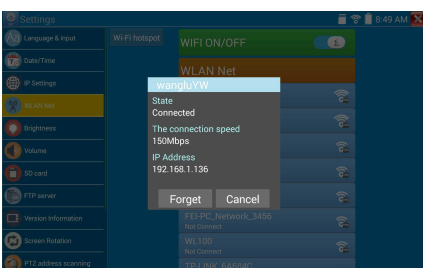
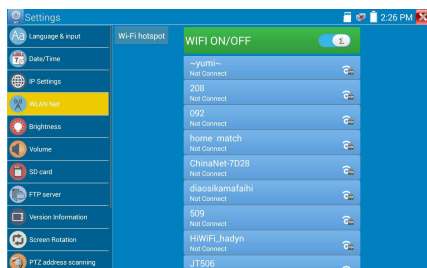
Date/Time: Set the Date/time of the Tester.

IP setting: Manually set the IP address, Sub-net Mask, Default Gateway and DNS address or select “Dynamic allocation” to use DHCP. To test multiple network segments, click “Advanced” and then click “Add” to enter another IP address for the Tester.

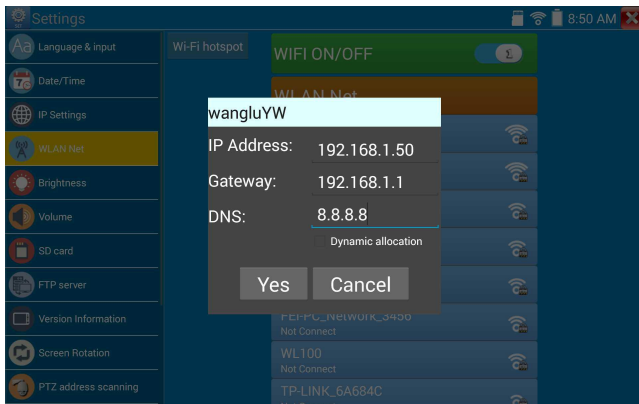


After setting an advanced IP address (refer to the photos above), the unit can test two network segments (192.168.5.0) and (192.168.1.0).

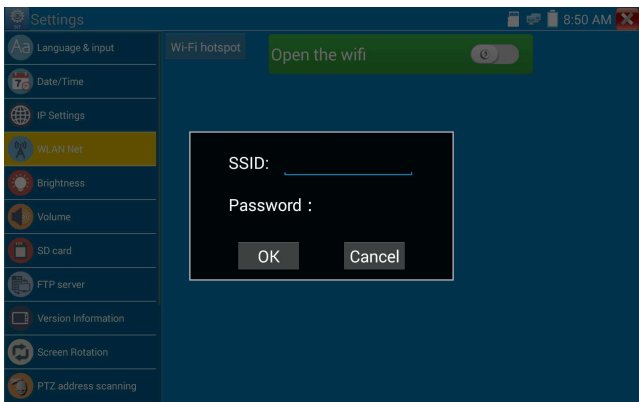
WLAN Net: Turn WiFi off or on by pressing the “Open the wifi” button. Once WiFi is turned on, and click connected WIFI, it will scan for wireless networks in your area.



Select and press “WIFI” several seconds, to set static IP address.



Wi-Fi hotspot: input “SSID” name and “password”, and then click “ok” to create Wi-Fi hotspot.



Brightness: Set the desired brightness of the tester and adjust the sleep time settings.

Volume: Set volume level.

SD Card: Displays SD Card Capacity. You can also format the SD card or unmount it before removing it.

FTP server: Once the tester connects to a network, a computer can be used to read the SD card files via FTP.

Lock Screen: the meter default is not locked. You can choose password Lock screen, pattern Lock screen or “NO” .

Password Lock Screen: Set password, you can input digitals, letters or characters as password, input it again to confirm .when the meter is in standby mode or turn it on, you can input your password to enter.

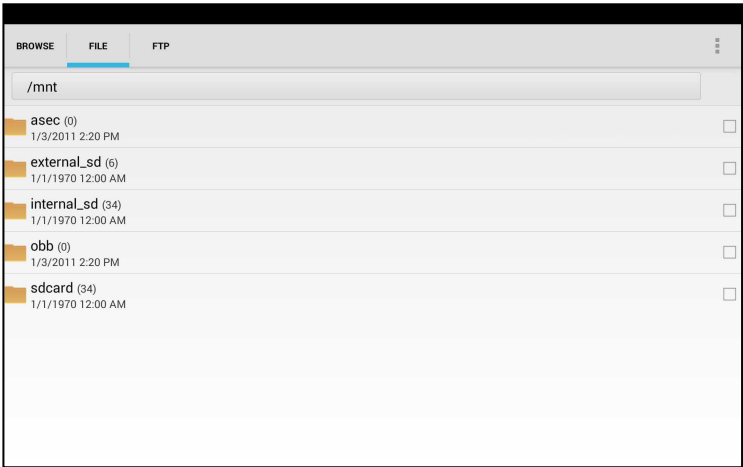
Pattern Lock Screen: Drawing a pattern to lock. While the meter is in standby mode or turn it on, you can input your pattern to enter.

Modify Lock screen password, you need input lock password again. Select password Lock screen or pattern Lock screen to reset lock screen password. After reset pattern lock screen, you need to draw a new lock pattern.

Restore the factory settings: If the tester to restore factory settings, all your personal files and apps will be removed.

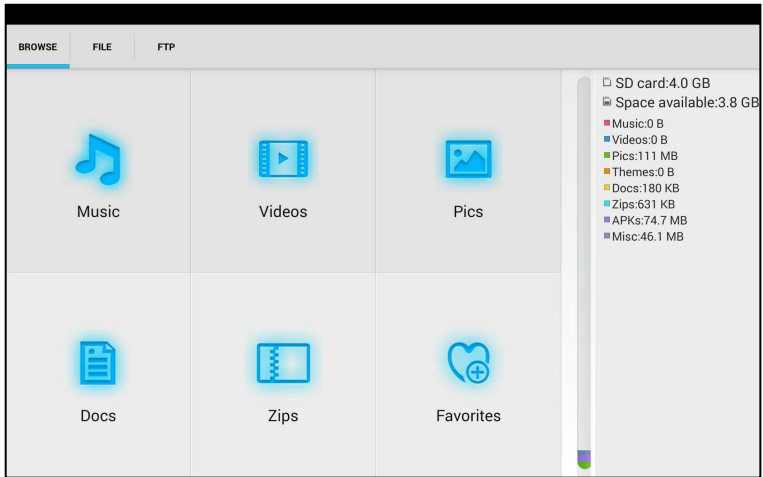
3. 3. 42 File explorer

Click “File “on the top bar tool, can enter internal. Click on the upper right corner Icon”... “.will pop-up menu, you can select other operation or exit.



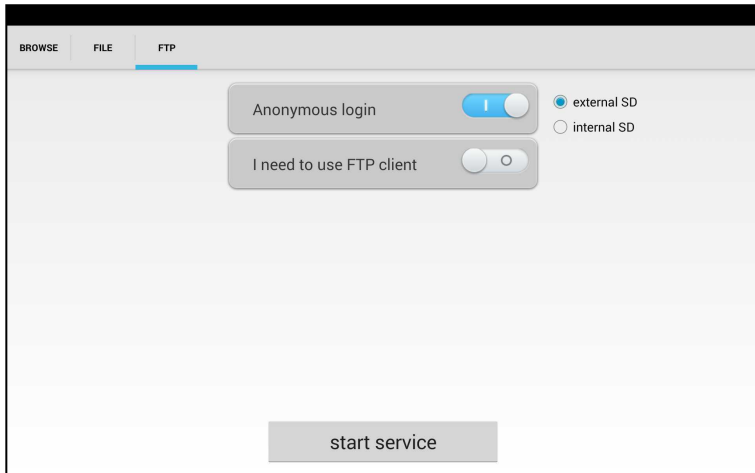
Browse

It includes Music, Videos, Pictures, Documents, zip file etc. It is convenient to view and manager.



FTP server

You can choose internal or external SD card. Other operation details, Pls refer to FTP settings.



3. 3. 43 Theme

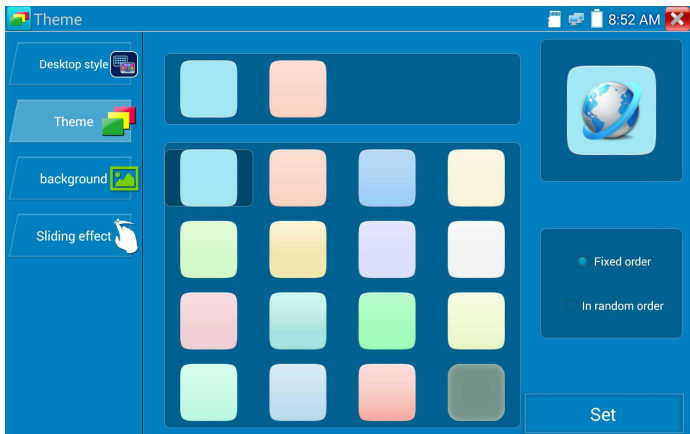
Click Theme icon to enter themes setting.

Desktop style : you can select Lite mode or normal mode.

Theme:

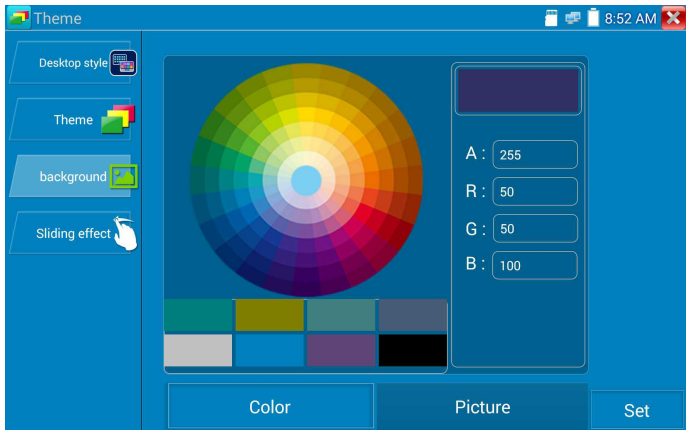
Pressing square area's any color icon several seconds, the selected color icon will be auto move the rectangle area, if you press selected color several seconds, and it will be auto deleted.

Theme colors include fixed order and random order, and click “set” to save.

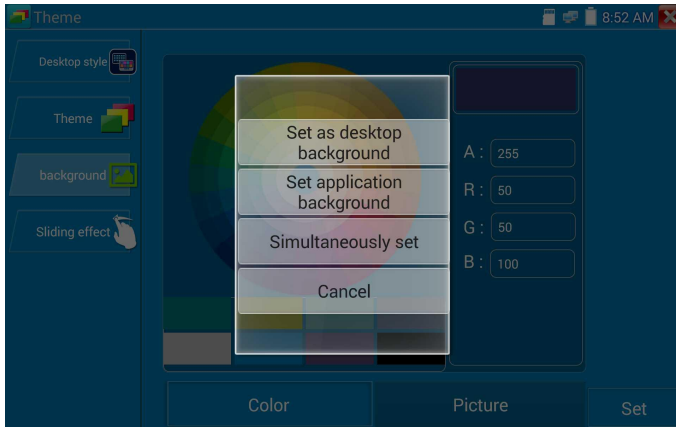


Color

When set background color, you can select colors from Color Phase, and also can input color's RGB to set.



After finished color setting, click “set” to set it as desktop or application background.



Set as desktop background: Setting color as desktop background.

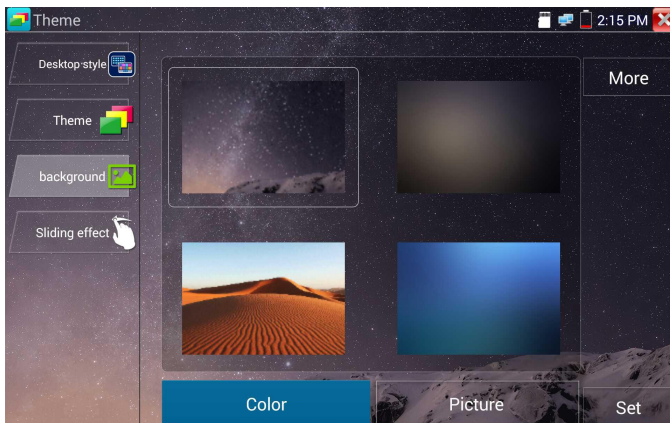
Set as application background: Set color as application background.

Set at the same time: Setting color as desktop background and application background.

Cancel: Cancel current setting.

Picture:

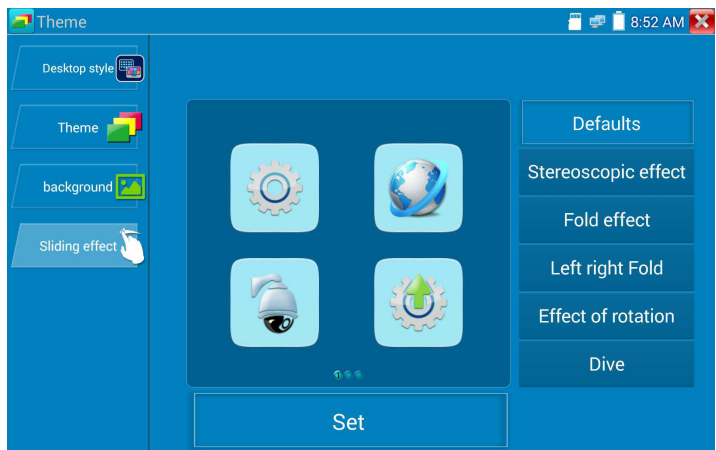
Click Picture to select one, and set as temporarily background to view setting effect. Click “more” to select pictures from local file, and click set to set picture as background.



Sliding effect:

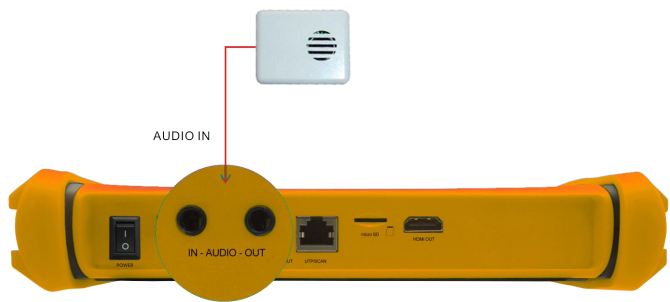
Tester’s sliding effect includes stereo effect, folding effect, Left and right folding, rotate effect, Ombre

effect etc, selecting one of effect to view slide effect in the square area, and click “set” to save.



3. 4 Audio test

You can test the audio input from audio pickup devices by connecting the audio pickup device to the tester with the supplied audio cable.



3.5 HDMI output

The built in HDMI output port can output live video from an analog or IP camera, recorded files, media files and images to HDTV monitors. Connect an HDMI cable from the tester to an HDTV monitor at any time. It supports up to 1080P resolution.

3.6 PoE power output

The tester supports PoE (Power over Ethernet) output to an IP camera via the LAN port. Data transmission and POE 48V use the network cable's 1, 2, 3, and 6 pins to deliver power. If the IP camera supports PoE, you can directly connect to the camera without the use of an external power supply.



Notice

- a. Please make sure the cable connected to the tester's Lan port is straight-line cable and has no short circuit, otherwise will damage the tester
- b. Before using PoE power output, pls check the IP camera whether supports POE powered. Otherwise it will damage the IP camera.



- c. The instrument's PoE maximum power output is 24W. If Ultra- high-power load happens, the tester will enter protection mode .

3.7 DC12V 2A power output

When the IPC tester is turned on, the DC 12V power output ON by default. The smaller end of the supplied converter cable connects to the tester's DC12V/2A OUTPUT and the other end connects to the camera's power input.



Application

Power output function is mainly used in the camera field demonstration and testing, meanwhile, for some cameras installation sites, If there is no power outlet for the adapter to power the camera, the tester can offer temporary power for it. But we do not suggest tester supply power for a long time.



Notice:

- Don't input any power into the "DC12/2A OUTPUT" port of the tester.
- Man-made damage is not within our company's warranty.
- The tester's power output capacity is 2A. If the IP camera uses more than 2A, the tester will automatically enter a protection mode.
- Disconnect all cables from the tester and reboot it to resume using the tester.

The tester's power output is close to 2A, if the IP camera's power is over 2V, the tester will auto enter protection mode. Disconnect all the connections of the tester and then connect the tester with power adaptor to resume the tester.

- Make sure the tester has a sufficient charge, otherwise tester can't provide enough output power.

3.8 USB 5V 2A power output

When the tester is turned on, the DC 12V and DC 5V power output functions are automatically turned on. If the tester is turned off, the DC 5V USB can still be used to power an external USB device.

NOTE: The USB port is for power only and not data.



4. Specifications

4.1 General Specifications

Model	DH-PFM906
Display	New 7 inch touch screen Integrated Mount Tester with retina display ,1920*1200 resolution
Network port	10/100M auto adjust, RJ45
WIFI	Built in WIFI,speeds150M, allows you to connect to a wireless network and view IP cameras
4K Mainstream test	New hardware decoding,4K, H.264 camera image display by mainstream testing
IP discovery	auto-scan the whole network segment camera IP
Rapid ONVIF	search camera quickly, auto log in and display image from the camera, activate Hikvision camera
Hik test tool	Activate Hikvision camera, display image from the camera, modify IP, user name and password parameters etc
DH test tool	Dahua camera test, modify IP, user name and password parameters etc
IP camera type	ONVIF,ONVIF PTZ
SDI/EX-SDI video	1 channel SDI input (BNC interface) , resolution support : 720p 60fps /

signal test	1080p 60fps /1080i 60fps
CVI video signal test	1 channel CVI input (BNC interface, resolution support 720p 25,30,50,60fps/ 1080p 25,30fps/2560x1440p 15fps,30fps
TVI video signal test	1 channel TVI input (BNC interface) ,resolution support 720p 25,30,50,60fps/ 1080p 25,30fps /2048x1536 18 fps
AHD video signal test	1 channel AHD input (BNC interface) ,resolution support 720p 25,30fps / 1080p 25,30fps/2560x1440p 15fps,25fps,30fps
Analog video test	1 channel BNC Input & 1 channel BNC Output , NTSC/PAL (Auto adapt)
Video level meter	PEAK video signal level, SYNC signal level, COLOR BURST chroma level measurement for CVBS camera.
Zoom Image	Supports Analog and IP camera image zooming & movement
Snapshot, Video record and playback	Capture current images and record live video as JPG file. Media player will view photos and playback video
HDMI IN	HDMI IN, Support 720×480p /720×576p /1280×720p /1920×1080p /1024×768p/1280×1024p /1280×900p /1440×900p
HDMI output	1 channel HDMI output, supports up to 1080p
RJ45 cable TDR test	RJ45 cable TDR test and cable quality test, to test cable pair status, length, attenuation reflectivity, impedance, skew and other parameters
12V/2A power output	Output DC12V/2A power to camera
USB 5V power output	5V 2A power output only ,NO data
PoE power output	48V PoE power output, Max power 24W
Screen management	Lite mode and normal model available. Under normal mode, you can change icons sequence and self-define the number of icons in each page
Theme	Self-define icons, desktop and application interface background, modify interface sliding effect
drop-down menu	PoE power switch ,IP setting, WLAN switch , HDMI IN functions etc screen lock, password lock screen or pattern lock

Audio test	1 channel audio signal input and 1 channel audio signal output to connect headphones
PTZ control	Support RS485 control, Baud 600-115200bps, Compatible with more than 30 protocols such as PELCO-D/P, Samsung, Panasonic, Lilin, Yaan, etc
Color bar generator	Output one channel PAL/NTSC color bar video signal for testing monitor or video cable.(red, green ,blue, white and black color)
UTP Cable tester	Test UTP cable connection status and display on the screen. Read the number on the screen
Data monitor	Captures and analyzes the command data from controlling device, also can send hexadecimal
Network test	IP address scan, link scan, and Ping test. Quickly search the for IP camera's IP address on your network
Cable tracer	Find a connected cable from a bundle of cables using audio tones
PoE /PSE voltage test	Measures PoE switch voltage and displays pin configuration
Digital Multi-meter	AC/DC Voltage, AC/DC current, Resistance, Capacitance, Data hold, Relative measurement, Continuity testing . Testing speed: 3 times/ seconds, Data range -6600~+6600.
Optical power meter	Calibrated Wavelength(nm) :850/1300/1310/1490/1550/1625nm Power range(dBm) :-70~+10dBm
Visual fault locator	Test fiber's bending and breakage (SM and MM fiber)
TDR cable test	Cable's open circuit (Breakpoint) and short circuit measurement(BNC cable, telephone cable)
POWER	
External power supply	DC 12V 2A
Battery	Built-in 7.4V Lithium polymer battery ,5000mAh
Rechargeable	After charging 5-6 hours, normal working time 10 hours
Parameter	
Operation setting	Capacitive touch screen, OSD menu, select your desired language

Auto off	1-30 (mins)
General	
Working Temperature	-10℃---+55℃
Working Humidity	30%-60%
Dimension/Weight	255mm x 160mm x 46mm / 0.95Kg

4.2 Multi-meter specifications

Counts:-6600~+6600

Conversion rate: 3times/s

Current modes for clamp meter with ZERO function

Isolation: the Multi-meter connector must be isolated with the other connector.

DC voltage

Range	Accuracy	Resolution
660mV (Manual range)	$\pm (0.3\%+4)$	0.1mV
6.600V		1mV
66.00V		10mV
660.0V		100mV

AC voltage

Range	Accuracy	Resolution
660.0mV (Manual range)	$\pm (1.5\%+6)$	0.1mV
6.600V	$\pm (0.8\%+6)$	1mV
66.00V		10mV
660.0V		100mV

DC current

Range	Accuracy	Resolution
6.600mA	$\pm (0.5\%+3)$	1uA
66.00mA		10uA
660.0mA		100uA
10.00A	$\pm (1\%+5)$	10mA

AC current

Range	Accuracy	Resolution
6.600mA	$\pm (0.5\%+3)$	1uA
66.00mA		10uA
660.0mA		100uA
10.00A	$\pm (1\%+5)$	10mA

Resistance

Range	Accuracy	Resolution
660.0 Ω	$\pm (0.8\%+5)$	0.1 Ω
6.600K Ω	$\pm (0.8\%+2)$	1 Ω
66.00K Ω		10 Ω
660.0K Ω		100 Ω
6.600M Ω		1K Ω
66M Ω	$\pm (1.2\%+5)$	10K Ω

») Continuity

Range	Resolution	Function
660.0 Ω	0.1 Ω	The measurement value less 30 Ω $\pm$ 3 Ω ,the tester will sound

Diode

Range	Resolution	Function
2.0V	1mV	Schottky diode:0.15~0.25V rectifier diode:0.6~1.0V triode PN junction:0.5~0.8V

Capacitance

Range	Accuracy	Resolution
6.600nF	$\pm (0.5\%+20)$	1pF
66.00nF	$\pm (3.5\%+8)$	10pF
660.0nF		100pF
6.600μF		1nF
66.00μF		10nF
660.0μF	$\pm (5\%+8)$	100nF
6.600mF		1μF
66.00mF		10μF

4.3 Optical power meter specifications

Measure Range(dBm)	-70~+10dBm
Wavelength(nm)	850nm,1300nm,1310nm,1490nm,1550nm,1625nm
Detector	InGaAs
Uncertainly	$<\pm 3\%dB(-10dBm,22^{\circ}C)$ $<\pm 5\%dB(full\ range,22^{\circ}C)$
Display Resolution	Linear:0.1% ; Nonlinear:0.01dBm
Operating Temperature(℃)	-10~+55
Storage Temperature (℃)	-20~+70
Connector type	FC/PC

4.4 Visual fault locator specifications

Laser type	LD
Wavelength Calibration	650nm
Output power	5mW
Modulation mode	CW/1Hz/2Hz
Measurement Range	5KM
Connector	FC/PC exchangeable
Working Temperature	－10℃ ～+55℃
Operating Temperature	-20℃ ～+70℃

The data above is only for reference and any change of them will not be informed in advance. For more detailed technical inquiries, please feel free to call the Technical Department of our company.

