

IP camera tester

## USER MANUAL

(IPC1.03)

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**SP-IPL07AHD**

**SP-IPL07SDI**

- Thank you for purchasing the CCTV security tester. Please read the manual before using the CCTV tester and use properly.
- For using the CCTV 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 CCTV tester, or damages occurred on the product, please contact our technical Department.

## Content

1 .Safety information.....	1
2. IP camera tester Introduction.....	2
2.1 General.....	2
2.2 Features.....	2
2.3 Function.....	4
2.3.6 Enhanced Color bar generator.....	4
2.3.7 DC12V 2A/DC 5V 2A output power.....	6
2.3.8 Audio testing.....	6
2.3.9 Cable tester.....	6
2.3.10 PTZ data analysis.....	6
2.3.12 Video screenshot, record and playback.....	6
2.3.13 DHCP dynamic address assignment.....	6
2.3.14 the dynamic address accessed.....	7
2.3.15 Multi- segment IP Camera Test.....	7
2.3.25 WIFI.....	8
2.3.26 SDI came test ( *only in SDI model ) .....	8
2.3.27 PoE power supply.....	8
2.3.28 HDMI signal output.....	9
2.3.29 Network bandwidth testing.....	9
2.3.30 Cable search (Optional).....	9



3.2.1 IP camera connection.....	15
3.2.2 Analog camera test.....	16
3.3 OSD menu.....	16
3.3.1 Video monitor test.....	19
3.3.2 Color-bar generator (TV OUT).....	27
3.3.3 ONVIF.....	28
3.3.4 IP camera test.....	36
3.3.5 IP address scan.....	38
3.3.6 PING test.....	39
3.3.7 Cable test.....	40
3.3.8 Cable scan.....	40
3.3.9 Port flash.....	42
3.3.10 Data monitor.....	43
3.3.11 Optical power meter (Optional) .....	43
3.3.12 Visual Fault Locator (optional) .....	45
3.3.13 Digital Multi-meter (optional) .....	47
3.3.14 Video Player.....	54
3.3.15 Music player.....	55
3.3.16 LED lamp (Flashlight).....	56
3.3.17 PoE test.....	57
3.3.18 TDR cable test (optional) .....	57
3.3.19 Calculator.....	60
3.3.20 Browser.....	61
3.3.21 IPC viewer.....	61
3.3.22 DC12V power output, PoE power supply.....	63
3.3.23 Application tools.....	64
3.3.24 APPS Tools.....	71
3.3.25 System Set.....	72

3.3.26 Update.....	73
3.4 Audio test.....	74
3.5 HDMI output.....	74
3.6 PoE power.....	74
3.7 DC12V 2A power output.....	75
3.7 USB 5V 2A power output.....	76
4. Specifications.....	77
4.1 General Specifications.....	77
4.2 Multi-meter specifications.....	79
4.3 Optical power meter specifications.....	81
4.4 Visual fault locator specifications.....	82

***AHD Model can measure AHD camera's  
and SDI Model can measure SDI camera's.***

## **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 electricians 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 meter 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 60V DC or 40V AC, 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. IP camera tester Introduction**

### **2.1 General**

7 inch Touch Screen IPC camera tester is for maintenance and installation of IP camera and Analogue camera ,display HD camera and analogue camera image ,PTZ control, easy to use and operate .

Built in network testing tools (IP address search, PING etc), quickly check the IP camera problem.

Cable scan, TDR tester, easy to check the network cable, BNC cable problem. Optical power meter,

Visual fault detector function, effective to solve the optical fiber transmission problem.

### **2.2 Features**

- ◇ 7 inch 800×600 touch screen, easy to operate
- ◇ Support ONVIF came test
- ◇ Support Dahua,HIKVISION,ACTI ,H.264/MPEG4/MJPEG camera test etc( Customize)
- ◇ Built in Wi-Fi ,can receive wireless camera(ONVIF and customize camera)
- ◇ SDI Digital camera image display, record and screenshots \* (Optional)
- ◇ HDMI signal input, support1080P\*(Optional)
- ◇ HDMI signal output, support1080P
- ◇ Analogue video 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 magnification, to view the details, easy to use
- ◇ Snapshot and save the current image as JPG file in the SD card, video record and playback  
LED Lamp, easy to operate at night
- ◇ Micro SD card moveable
- ◇ LCD screen brightness/contrast/color Saturation adjustable
- ◇ Visual fault locator , to test fiber's bending and breakage(Optional)
- ◇ Optical power meter ,test fiber loss and value
- ◇ Digital Multi-meter , DC and AC voltage measurement, Resistance measurement,
- ◇ Continuity test, Diode measurements, Capacitance measurement(Optional)
- ◇ Enhanced Color bar generator, Video Generating, the PAL/NTSC multi-system color bar video generator (Eight-system switchable, transmit/receive eight-system colorful imagines).
- ◇ PEAK video signal level, SYNC signal level, COLOR BURST chroma level measurement, test video signal attenuation (Optional)
- ◇ Cable scan, Send the specific signal, easy to find the connected cable.
- ◇ 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 IP camera's IP address is not clear or forgotten; the device cannot be used .IP address scan can quickly search the connected IP camera or other network device's IP address.
- ◇ PoE voltage test, It can test the PoE voltage when the POE switch is supplying the POE power to IP camera ,wireless AP etc
- ◇ TDR cable test, test cable length and short-circuit (Optional)
- ◇ Cable test , Test LAN cable or telephone cable,UTP cable etc ,cable type and the sequence of wires will be displayed
- ◇ Support RS232/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
- ◇ DC12V 2A output power for camera
- ◇ PoE power output, supply temporary power for PoE camera
- ◇ DC5V 2A power output, as a power bank
- ◇ Audio input test, test the audio signal from pickup devices
- ◇ 7.4V 48.1Wh Battery energy display, It can last 16hours for normal use after charging for 8 hours

## **2.3 Function**

### **2.3.1 Touch screen and OSD menu**

IPC camera tester use capacitive touch screen operation, easy to use and improve work efficiency. The function icons can move to APPS tool file and menu, the common function keep on the main menu, the others be move to Apps tool file, the menu more clearly.

### **2.3.2 IP camera test**

Built in ONVIF test, IP camera tester, browser function etc, display IP camera image and change IP address. 7 inch 800×600 screen display, Larger viewing angle, it convenient engineers to locate the network camera. Built in ONVIF TOOLS and PTZ control, IP camera protocols customized ,support test more than 30 IP camera types now ,such as ACTi, Dahua IPC-HFW2100P、 Hikvision,DS-2CD864-E13、 Samsung SNZ-5200、 Tiandy TD-NC9200S2、 Kodak IPC120L、 Honeywell HICC-2300T、 Aipu-waton IP5000-BC-13MP/IRS06-13MP、 fine-Tida IPC、 FSJ BY-1080Q、 WEISKY IPC camera etc.

### **2.3.3 Analog camera test**

Display analog camera image ,7 inch 800×600 LCD screen display , larger viewing angle ,More intuitively and easily display the camera image quality. Support PAL/NTSC format image signal . LCD screen backlight brightness adjustable, and analog video image brightness/contrast/color Saturation adjustable.

### **2.3.4 Video level meter**

PEAK video signal level, SYNC signal level, COLOR BURST chroma level measurement

Use hardware high-frequency sampling and processing technology; test the Peak video signal, SYNC signal level, COLOR BURST chroma level more accurate.

PEAK video signal level: Measuring peak video signal, the video signal level is  $1000 \pm 175\text{mV}$  in PAL format (NTSC format :  $140 \pm 15\text{IRE}$  ), the level is too low will cause the image to dim, reducing dynamic range; Level is too high will lead to virtual shadow, reducing the definition of the image .

The SYNC signal level: measuring the amplitude of the video sync pulse, for determining the video level is correct and that the coaxial cable connectivity. Sync level range is  $300 \pm 35\text{mV}$  in PAL format(NTSC format:  $40 \pm 5\text{IRE}$  ), the level is too low will cause the image to fracture or scroll; Level is too high will reduce the image color levels and dynamic range.

COLOR BURST chroma level: Measuring camera color burst level, to determine whether the coaxial cable transmission for the best detail and color. Chroma standard level is  $280\text{mV}$  in PAL format and is 40 IRE in NTSC format. Chroma level is low, Chroma level is low, the color will become dark, color level is too low, the details of monitor reception image will be lost and even become black and white; chroma level is too high, the image will be displayed spot , affect the image detail and clarity. Coaxial cable is too long will reduce the chroma level.

### **2.3.5 PTZ controller**

Display the input video images. Pan/tilt the P/T unit and zoom in/ out the image. Setup the controlling parameters like protocol, communication port, baud rate, PTZ ID, pan/tilt speed; set and call preset position.

### **2.3.6 Enhanced Color bar generator**

Video Generating, the PAL/NTSC multi-system color bar video generator (Eight-system switchable, transmit/receive eight-system 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.

### **2.3.7 DC12V 2A/DC 5V 2A output power**

Power the camera with DC12V (1A) power output from the tester. It is helpful for demo and testing when the power supply is not available. Built in DC5V2A power output, as a power bank .

### **2.3.8 Audio testing**

Test the audio input from pickup devices. Connect the tester and pickup device with the audio cable.

Recording can save.

### **2.3.9 Cable tester**

Test LAN cable or telephone cable.

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

### **2.3.10 PTZ data analysis**

Search the Control protocol code from Multifunction keyboard or DVR by RS485 /RS232 interface, test the PTZ control command data whether received anomaly and RS485/RS232 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

### **2.3.11 Image magnification**

Set image zoom, can view and display the details .Support ONVIF ,DaHua,Hikvision,ACTi,Samsung camera etc.

### **2.3.12 Video screenshot, record and playback**

Capture the video image and save the current video frames as JPEG file, record and save the current video in the SD card, video image and record files are saved in the SD card. Storage file directory can

be created according to the date.

### **2.3.13 DHCP dynamic address assignment**

Built in DHCP server, dynamic assign address for the IP camera or network device

### **2.3.14 the dynamic address accessed**

Tester can accessed IP address assignment from DHCP, as the tester's IP address, so not need manual set it.

### **2.3.15 Multi- segment IP Camera Test**

Support Multi- segment Static IP address setting, Can simultaneously test different segments IP network cameras

### **2.3.16 IP address scan**

In digital IP surveillance applications, if IP camera's IP address is not clear or forgotten; the device cannot be used .IP address scan can quickly search the connected IP camera or other network device's IP address.

### **2.3.17 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.

### **2.3.18 Port Flashing**

The tester will send special signals to make the connected POE 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.

### **2.3.19 PoE Test**

It can test the PoE voltage when the POE switch is supplying the POE power to IP camera. It can clearly display the power+ and power- on the Ethernet cable pins, each cable pin's voltage and the failure connection of cable pin series numbers.

### **2.3.20 Digital Multi-meter (Optional)**

CCTV Tester built in highly stable and reliable 3 1/2 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.

### **2.3.21 Visual fault locator (Optional)**

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 network maintaining, optical component manufacture and research.

### **2.3.22 Optical Power Meter (Optional)**

The New tester adopts the most advanced handheld instrument specific integrated chip, achieve ultra-low power operation, with the 3.5 TFT-LCD 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.

### **2.3.23 LED lamp**

It is useful for the Engineer to install and maintain security system at night. Press button LED On/Off, easy operation.

### **2.3.24 TDR cable length and short circuit measurement (Optional)**

TDR cable testing, accurately measure BNC cable, network cable, controls cable's length and short-circuits location. It improves working efficiency.

### **2.3.25 WIFI**

Built in WIFI, can receive wireless camera (ONVIF and customize camera) or network data etc.

### **2.3.26 SDI camera test (only in SDI model)**

SDI digital video surveillance testing, support 720P/1080P digital camera image test and video

image zoom, record ,screenshots, Photo viewer and playback .

### **2.3.27 PoE power supply**

Support PoE power supply, High capacity 48.1WhLithium polymer battery, Provides temporary power for the PoE network camera .

### **2.3.28 HDMI signal output**

With HDMI output port, support 1080P output, record and media files playback

Via connect HDMI port output to HD TV display

### **2.3.29 Network bandwidth testing**

Network channel bandwidth test, need two instruments to test, one as a transmitter, the other as a receiver, also can install test software in the PC, combine with instrument to test Network channel bandwidth

### **2.3.30 Cable search (Optional)**

Send the specific signal, easy to find the connected cable.

### **2.3.31 Screen rotation Display**

Support screen 180 degree rotations (manual set), the network port will be on the top, to convenient connect the cable.

### **2.3.32 AHD camera test (only in AHD model)**

AHD video surveillance testing, support 720P/1080P digital camera image test and video image zoom, record ,screenshots, Photo viewer and playback .

## **2.4 Packing list**

- 1). Tester
- 2). Adapter Polymer Battery (7.4V DC 6500mAh )
- 5). BNC cable
- 6). RS485 cable
- 7).SC,ST connector (Only for optical power meter )
- 8).Multi-meter test leads one pair of red and black (only for the Multi-meter models)
- 9). Output Power cable

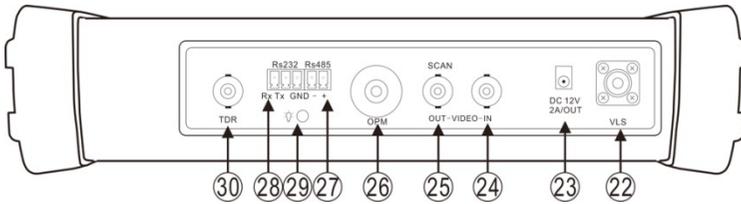
- 10). Audio cable
- 11). TDR alligator clamp (only for TDR models)
- 12). Safety cord
- 13). Tool bag
- 14). Manual
- 15) 4G SD card

## 2.5 Function

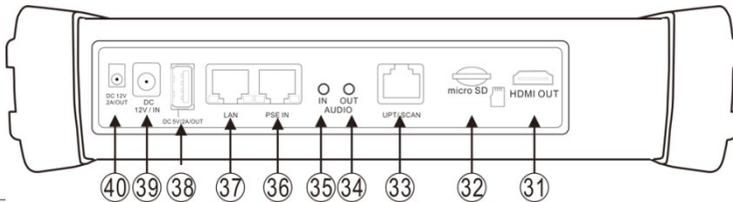


		Press more than 2 seconds, turn on or off the device ,short press to turn on or off the menu display
2		Menu key
3	 OTDR test。 10xz oom the image display.	
4		Video record
5		Snapshot
6		Far focus: Focus the image faraway
7		Near focus: Focus the image nearby
8		TELE: zoom in the image
9		WIDE: zoom out the image
10		Open/set ,Confirm the setting of parameters, open or enlarge the aperture
11		Return/Close : Return or cancel while setting parameters of the menu, close or decrease the aperture
12		Confirm key
13		Upward, set function or add parameter. Tilt the PTZ upward
14		Downward, set function or reduce the value of the parameter. Tilt the PTZ downward
15		Leftward, select the parameter whose value will be changed
16		Rightward, select the parameter whose value will be changed. Add the value of the parameter. Pan the PTZ right

Top interface



Bottom interface



17	Multimeter interface
18	Battery Charge Indicator, when charging is red, if battery imbue with, charge indicator turn off.
19	RS485/RS232 Data transmission indicator ,red color
20	RS485/RS232 Receive data indicator, red color
21	external power indicator,green
22	Visible red laser source emits Interface((Optional)

23	Output DC12V2A power output , for provisional DC test supply
24	Video image signal input (BNC interface)
25	Video image signal output (BNC interface) /cable search interface
26	Optical power meter interface (Optional)
27	RS485 Interface: RS485communication for the PTZ
28	RS232 Interface: RS232 communication for the PTZ
29	LED lamp
30	TDR cable test interface
31	HDMI output interface
32	Micro SD card moveable, Factory standard card is 4G, largest expansion to 16G
33	UTP cable port: Please use together with UTP LAN cable tester or wire tracker

34	Audio output and earphone interface
35	Audio input
36	PSE power supply input interface
37	PoE power supply output/network test interface,
38	USB 5V 2A power output , only as a power bank ,not transmit data
39	DC12V2A charging interface
40	Output DC12V2A power output , for provisional DC test supply

### 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 charging, show the battery is full or Charge Indicator turns off, Indicates that the battery imbue with.



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  eral seconds to restore the default settings when the instrument works abnormally.

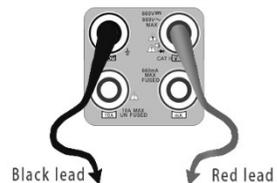
Multi-meter: the red and black multi-meter pen must insert the [corresponding](#) port.



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

The camera is connected to IP camera Tester Lan port , **and IP camera leads to the power source ,the indicator is green of the Lan port**, data indicator flash, means IP camera t tester and IP cameras normal connected and communication . .If the indicator not flash, Please check the IP camera whether has been powered or network cable's problem.



Note: if IP camera not support external power supply, but only support PoE power, then connect to tester LAN port to supply PoE Power for IP camera. Before connecting, the network switch and tester must be disconnecting status. It means PSE port cannot be connected to any network cable if supply PoE power

When the PoE power turn off , PoE switch and PSE can connect to the tester PSE port ,then via “LAN” port to supply power for camera ,**but the tester cannot receive camera data now, only computer of Network switch via the tester can receive it .**



**Warning:** PoE switch or PSE power supply device is only connected to tester “PSE IN” port, or damage the instruments

### Analog camera test



- (1) The camera or dome video output is connected to CCTV Tester VIDEO IN, the image display on the tester .
- (2) CCTV Tester “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).Support RS232 PTZ controller ,connect the RS232cable to RS232 interface of the tester

### 3.3 OSD menu



Press the key 2 seconds to turn on

Press the key ain to turn off

short press the key enter sleep mode, press it again to test if tester work abnormally and cannot

be turned off , Press the key veral seconds to turn off, the tester reset



- Click SD card ,mount or Unmount SD card .

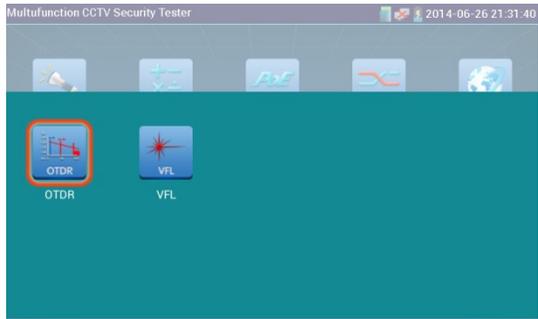


Press function Icons seconds, tips: whether move this icons to APPS files, if some function not be often

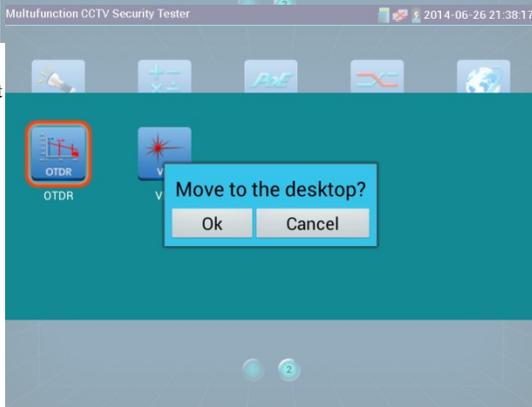
used, can move that function icons to APPS.



Click icons "APPS" tool, to show all collected function icons, to press key "cancel" to return menu



In APPS files, Select



### 3.3.1 Video monitor test

Analog camera test and PTZ control, click icons  to enter



Display the input video images, Select relative function in the right side Toolbar to operate , with ”camera ”,“Recording”、 “Photos”、 “Video playback”,”PTZ control”、 “color and storage setting ” function .

Click  quit, or press  menu.

Click the screen twice quickly, image be displayed on a full screen.

If tester cannot display image, turn on the compatibility mode testing. Click the top menu bar “Compatibility Mode is turned off” to turn on .Can shows some require a higher frequency the camera image.

### (1) PTZ controller parameter setting

Select and click icons “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 (RS232/485)

#### 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, must be the same as the dome camera, then can test and control.

After setting the parameter, the tester can control the PTZ and lens

Fingers touch control:

Select and click left, right, upward and downward to control the PTZ direction of rotation ; by finger touch adjust the zoom



Press the key     control the PTZ direction of rotation

Press the key  to  on or turn off the aperture.

Press the key  or , adjust the focus manually

Press the key  or , manually adjust the zoom

### (2) Color and storage setting

Click icons “set”, to enter and set analog video image brightness , contrast, color saturation, screen snapshot, recording and storage,support Auto-storage and manual storage

When select manual storage, screen snapshots and recording can be user-defined files name



### (3) 10x zoom image display and Video out

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

Zoom in or zoom out by pressing the left and right keys on the screen to the left, right, up and down



if not by touch to operate ,press the key  to zoom out , press the key  to zoom in, press upward and downward key to move the image

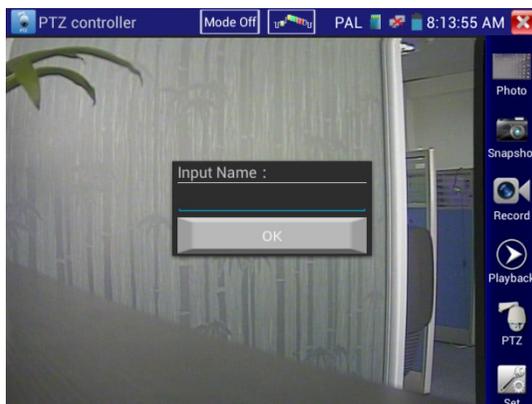


Notice :If analog video input, resolution is 720\*480, when zoom in ,the image not clear, it is normal, if network digital video input, resolution up to 1280\*960, the image is clearer to help confirm the IP camera installation position.

#### (4) Snapshots and screenshot

Click the icons “Snapshots “, when the video in, to snapshot and save the current video frame in the SD card as JPEG file.

if select manual storage ,appears dialog box “Pls input the files name” , user-defined the files name(by Chinese character, letter ,or Number form ) to save in SD card, if select “Auto-storage, the instrument auto-storage the files after screen shots.



#### (5) Video record

Click icons “Recording”,when video in,start to record, the recording icons turn to red and flash ,the start

to count, if click the icons again, stop recording and save in the SD card .

if select manual recording ,appears dialog box “Pls input the files name” ,user-defined the files name(by Chinese character, letter ,or Number form ) to storage in SD card, if select “Auto-recording, the instrument auto-recording the files after screenshots .

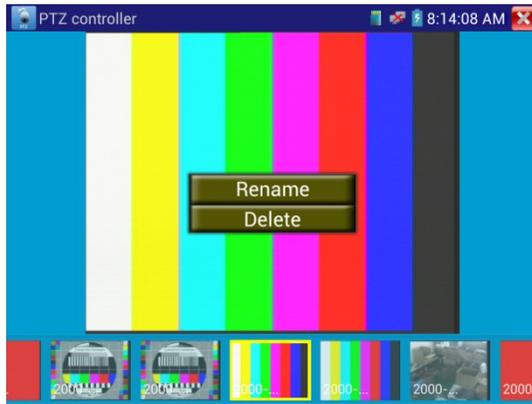


### (6)Photos

Click the icons “photos” to enter, click the thumbnail pictures to select, double-click on the screen , the image display on a full screen, double-click again to return



Press the screen several seconds, rename or delete the files.

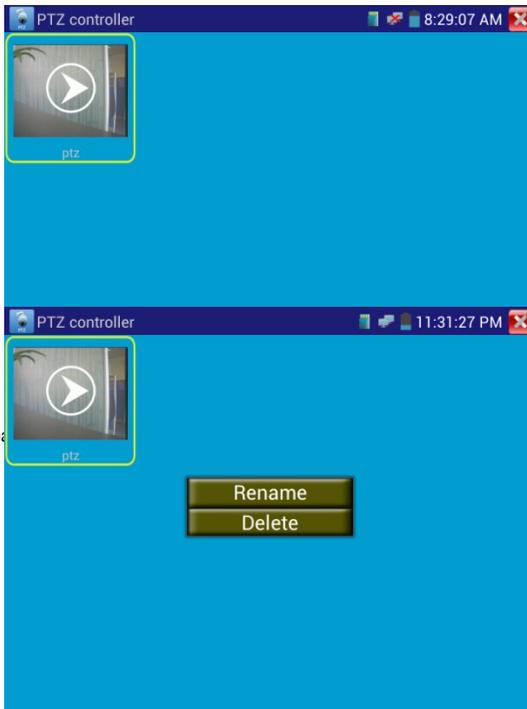


Click  close and return the video monitor status

**(7) Record playback**

Click icons "playback" to enter

Double-click to play. Click on the top right icons  close and return .

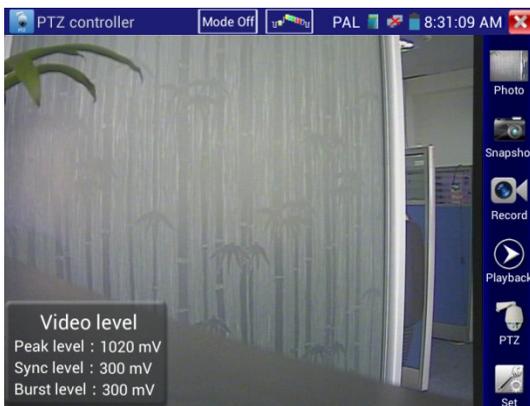


In the video "Playback" files.

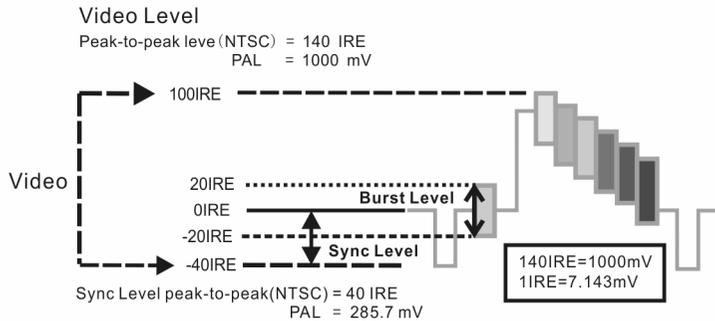
Video files also can play in the main menu "Video Player".

**(8) Video level meter**

Click the icons  enter , se hardware high frequency sampling and processing technology, test the Peak video signal, SYNC signal level, COLOR BURST chroma level more accurate, when receive video signal to Auto-test, measure results display 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

The SYNC signal level: measuring the amplitude of the video sync pulse, for determining the video level is correct and the coaxial cable connectivity. Sync level range is  $300 \pm 35\text{mV}$  in PAL format (NTSC format:  $40 \pm 5\text{IRE}$ ), the level is too low will cause the image to fracture or scroll; Level is too high will reduce the image color levels and dynamic range.

COLOR BURST chroma level: Measuring camera color burst level, to determine whether the coaxial cable transmission for the best detail and color. Chroma standard level is  $280\text{mV}$  in PAL format and is 40 IRE in NTSC format. Chroma level is low, the color will become dark, color level is too low, the details of monitor reception image will be lost, and even become black and white; chroma level is too high, the image will be displayed spot , affect the image detail and clarity. Coaxial cable is too long 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 sending via “VIDEO OUT” port , and receiving via “VIDEO IN port , if received, display multiple gradually

smaller desktop diagram.

### 3.3.2 Color-bar generator (TV OUT)

Click  enter, the tester send the color bars from the “Video out” port ,Click the key “PAL”, select “PAL/NTSC” output formats



Click the color bar generator, select corresponding output image,(red,green,blue,white and black color)

Double click , display and output on the full screen, clickto  urn menu.

Application

A. When maintain the dome camera, sending image by it ,if the monitoring centre received ,it means Video transmission channel normal, it also can judge the image quality via the received color bar.

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

C. .Send video signal image, test received image whether shift.

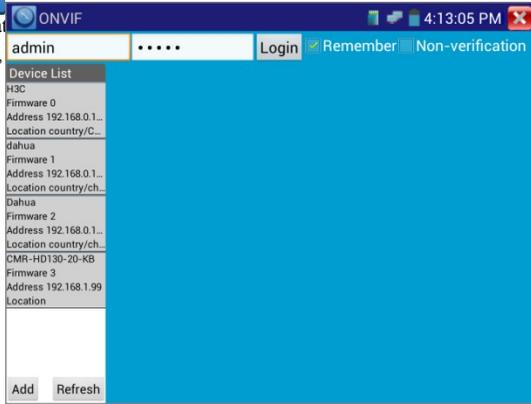
### 3.3.3 ONVIF

ONVIF tools with HD and LD test mode .when IP camera stream is MPEG4 ,Please select LD mode display , HD mode do not support this mode. While in LD mode, if the camera resolution is 720P or higher resolution, the image display may be delayed, while in HD mode, the camera stream is H.264, the image display resolution max up to 1080P.

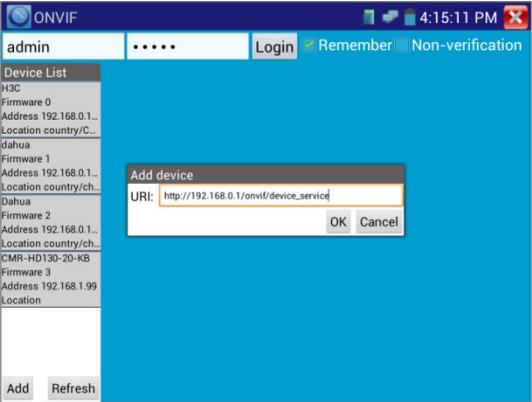
Click icons  enter ONVIF, the icons “ONVIF”is mode ,the icons HD ONVIF is HD mode



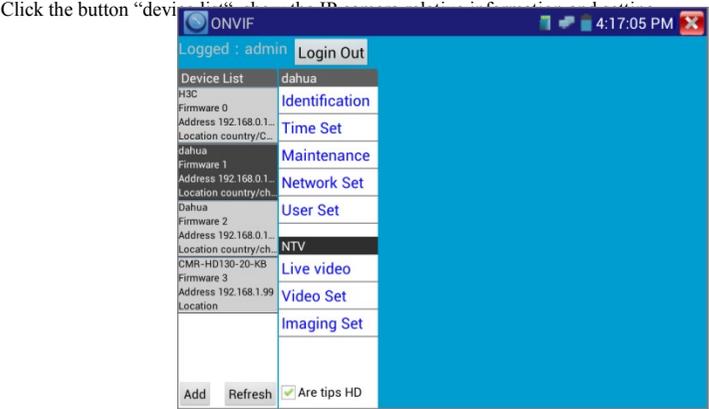
Click icons  enter, Auto-Scan the same network segment ONVIF camera, and list the camera name and address at  Login, Please select “Non- verification”



Some IP cameras cannot be Auto scan, select manual scan to add camera, click bottom left “add”, users can add camera manually, URL address should be the ONVIF camera service address.

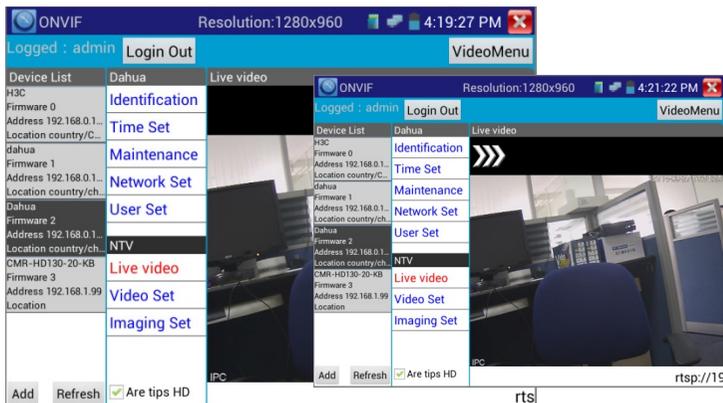


Click the button “refresh”, tester will scan the ONVIF camera again



Input IP camera user name and pass word to login, click “Device list” and select the camera to set (device setting, time setting, maintain ,network setting, user management, video live , video streaming, image set etc).Some function operation need IP camera’s authorization.

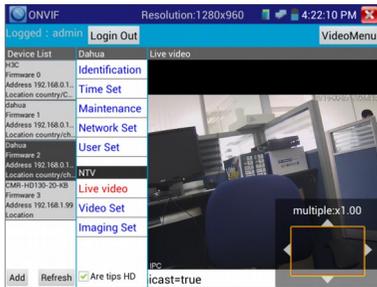
Video live: click “Video live” to enter, show the IP camera image. Double click showing area, image be show on a full screen. Double click again to return .zoom in image by finger touch. Click screen to move it, check image each corner details



**PTZ control:** click the image to slip left, right, up, down, or zoom in or zoom out, IP dome camera rotate correspondingly, PTZ direction of rotation show on upper left corner.

**Zoom in image** press the key  , press it again to quit.

Click the image to slip the left, right, up, down, to view the image details



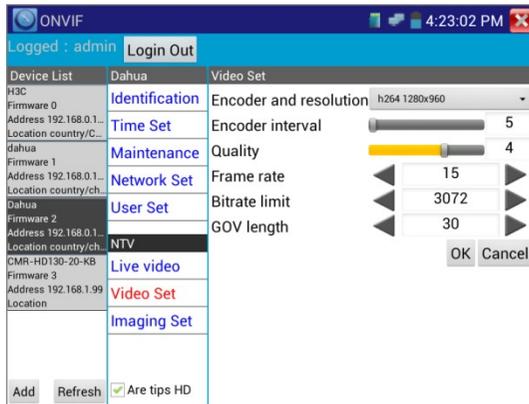
while zoom in image status, if not via touch, can operate by the keyboard, press the key  , press the key  , press upward and downward key to move image.



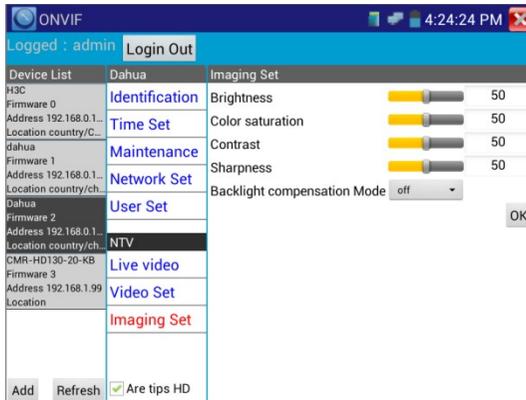
If IP camera's video image input, it support resolution 1080p, the clearer image to help engineer

confirm the video coverage and installation position of the camera.

**Video Streaming:** Click “Video Set” to enter, set the IP camera decoding resolution, click “OK “to save.

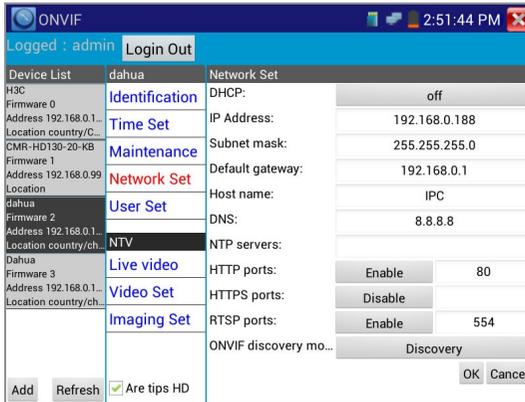


**Image setting:** Click “Image setting”, adjust brightness, saturation and contrast

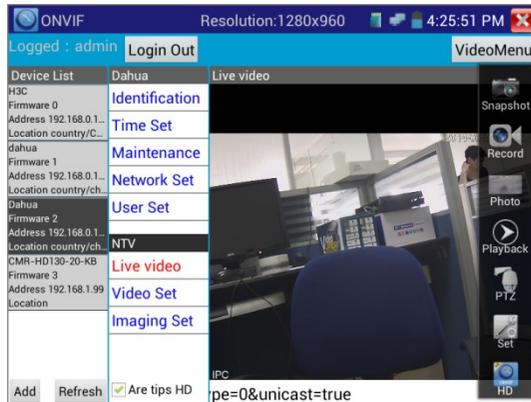


**Network setting:** Click “network setting” to change the IP address. Some cameras cannot support

change IP address, so there is no change after saving.



Click “Video menu”, appears camera, record, photos, screen snapshots, record playback, and storage setting.

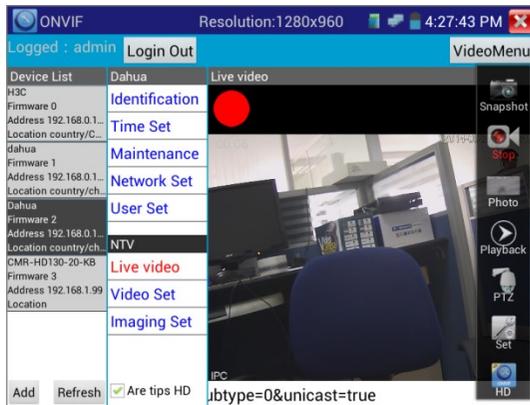


**Camera:** Click “snapshot” to screen shots and storage

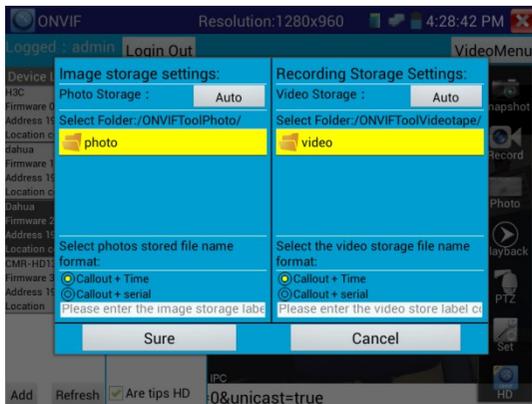
if select manual recording ,appears dialog box “Please input the files name”, user-defined the files

name (by Chinese character, letter, or Number form) to save in SD card, if select “Auto-recording”, the instrument auto-recording the files after screenshots.

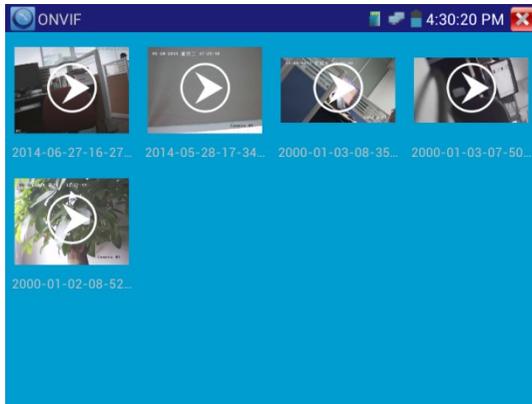
**Record:** click “record” to start, when video in, start to record, the recording icons turn to red and flash, the start to count, if click the icons again, stop recording and save in the SD card. if select manual recording, appears dialog box “Pls input the files name”, user-defined the files name (by Chinese character, letter, or Number form) to save in SD card, if select “Auto-recording”, will auto-recording the files after screenshots.



Set: Click icons “Set”, Photo and record function can select, if Auto-name, Photos and recording files Auto-storage, if manual, user define files name.



**Playback:** Click icons “Playback” to display video files, double click to play, click “” to return



Press the video files seconds to delete or rename.



 Video files can play in the Video player of the main menu

### 3.3.4 IP camera test

IPC Test with HD and LD test mode .when IP camera stream is MPEG4 ,Please select LD mode display , HD mode do not support this mode. While in LD mode, if the camera resolution is 720P or higher resolution, the image display may be delayed, while in HD mode, the camera stream is H.264, the image display resolution max up to 1080P.

Click icons  enter IP camera test

Display high-definition images, photographs, video and playback. Support Dahua , Hikvision, Kodak , Samsung, and such specific camera models testing. (Customized)



Note: IP camera test is via

customers offer 's model camera, if IP camera communication inconsistent, will result in incompatible, Please offer IP camera to make upgrade debugging.

Local IP :	192.168.0.238	Deploy
IP camera type :	DAHUA_DH-IPC-HF5100	Official
IPC Cameras IP :	192.168.0.188	search
IPC User Name :	admin	
IPC Password :	.....	Show
IPC Port :	554	
Enter    Reset    Restore		

local IP: it means tester's IP address, support Multi- network segment IP camera test ,click "deploy" to enter "IP setting " and set the tester 's IP address, can add IP address of the Different network segments, click "set" to save ,  icons to close it and return IPC test interface.

**IP camera type :** support Honeywell , Samsung, Honeywell , Samsung, Kodak,Tiandy, Aipu-waton,VVS, ACTi、 WoshiDA camera etc. If the official provide 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 supported protocol official protocols of DAHUA )

**IPC Camera's address:** Enter IP camera's IP address , click "deploy"to add IP address of the Different network segments, support Multi- network segment IP camera test .

Click "search" to auto-scan the IP camera's IP address and display. The tester and IP cameras connect directly, and then scanned address is only, if not direct connection, scanning Multiple IP addresses.

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

**IPC Password:** Enter IP camera's login password, if default enter password, not show relevant letters, if click "display" to show it.

**IPC Port No.:** Sele After setting, click "I



If IP address setting error or IP camera cannot connection. The tester prompts “Network error”

Click  quit and return IP camera test interface.



IP camera test image and “Video menu” of the ONVIF operation is the same, also with video

image zoom, snapshot, screen shots, record, photos viewer, and playback and save function etc. Please

Ref Video menu” of the ONVIF operation.

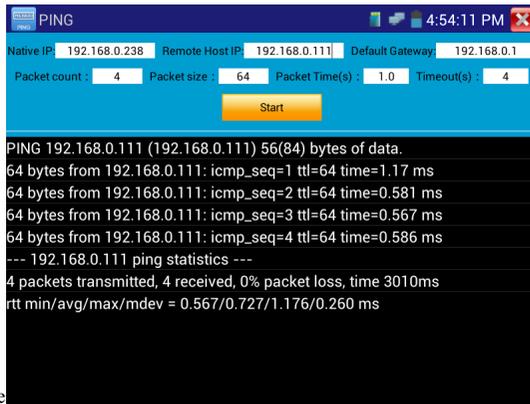
### 3.3.5 IP address scan

Connect the cable to the LAN port, click icons  enter, set initial IP and ending IP address, instrument’s IP address network segment and scanned network equipment can be the same network segment or not, then click the key “Start” to scan, each and quickly to search the IP address, also can **input the IP address in the Scan port to scan** ,check the port number of the testing device ,and how many ports support communication .



### 3.3.6 PING test

Connect the cable to the LAN port, click icons  enter, select setting local IP, IP address of the remote host, Packet Size, Packet time Timeout etc, press “Start” to test. If IP camera or other network equipment is not connected to the tester, show sending and receiving packet ‘s quantity inconsistencies, Error rate 100%, if connect well, to start Ping test ,if the test device’s IP address is correct, sending and receiving packet ‘s quantity consistencies

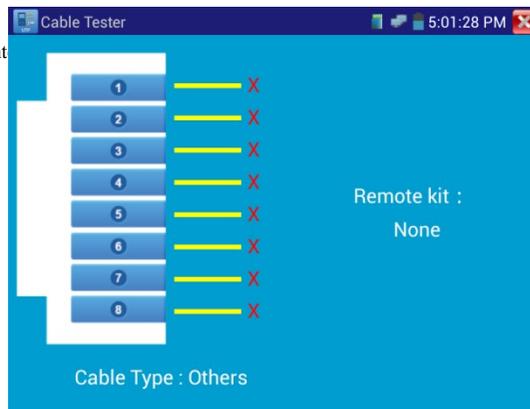


**Application:** PING test is used for testing if the connected IP camera or other network equipment’s Ethernet port is working normally and the IP address is correct.

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

### 3.3.7 Cable test

Click icons “  enter



Test LAN cable or telephone cable.

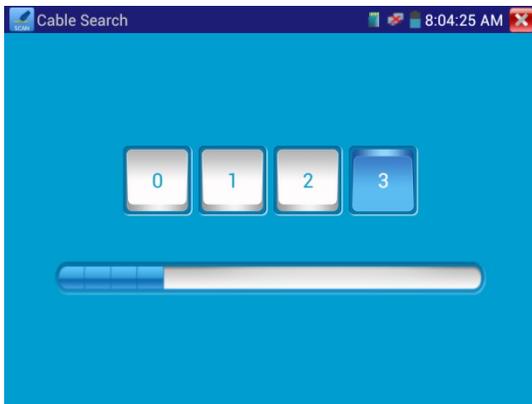
Connect LAN cable or telephone cable with the CCTV testerPRO and cable tester. And then the connecting status, cable type and the sequence of wires will be displayed, as well as the serial number of the cable tester kit.

The number of the wire tracker is 255

If need several different number wire trackers, should pay the additional cost.

### 3.3.8 Cable scan

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



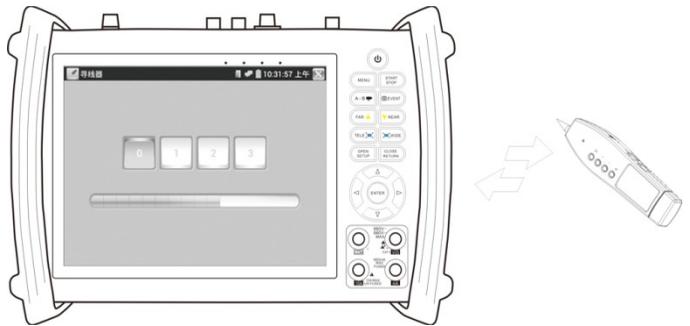
Turn on the cable scan; use the copper pin to search, the cable with loudest voice means it is connected with the tester. Four Audio types can choose. LED lamp is convenient to work in dark or at night. Press the button (+ -) to adjust the volume, use two batteries (size AAA)

**Application**

It's convenient for people to find out the other end of the cable 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).



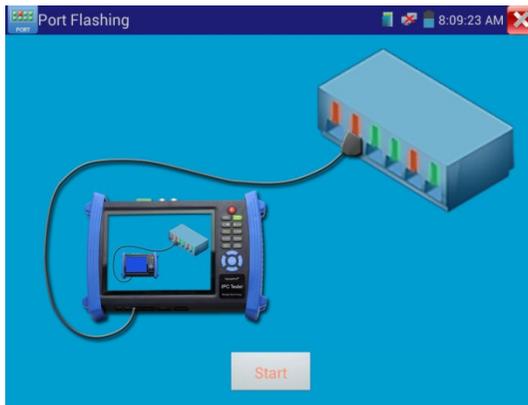
**⚠️ Note:** The battery of the wire tracer must according to corresponding positive pole + and negative pole -, or damage the tester.

**⚠️ Note:** While receive the audio signal from the tester, it will be influenced by the other signal and make some noise.

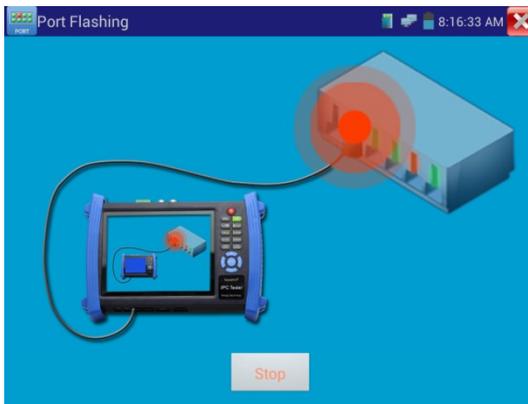
**3.3.9 Port flash**

Connect the cable to the tester “LAN” port, click icons . Click “Start” to test, tester send

signal to make the connected LAN port flicker at special frequency.



If connect well, the LAN port flash at special frequency, If not, no any changes on the LAN port

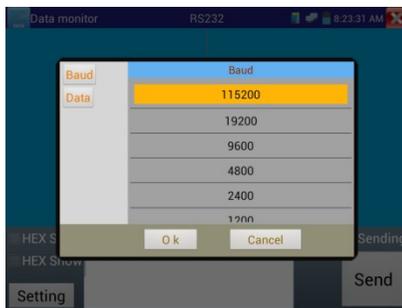
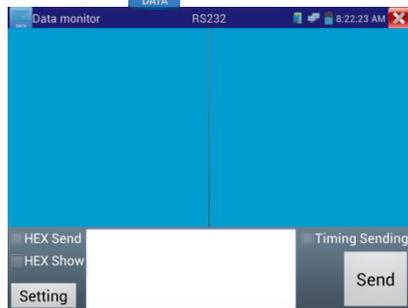


**Application:**

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.

### 3.3.10 Data monitor

Pls click icons  enter



Click “Set” to choose the baud rate of RS485/RS232; 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.

### 3.3.11 Optical power meter (Optional)

Click icons  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 tools for installation and maintenance optical fiber communication, cable television and CCTV security system.



Please keep the fiber connector and the dust cap be clean, and clean the detector with the special

alcohol.

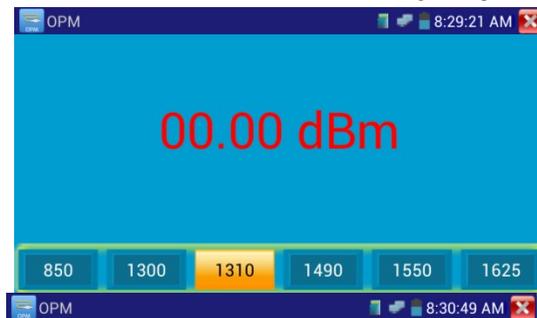
### Data hold

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

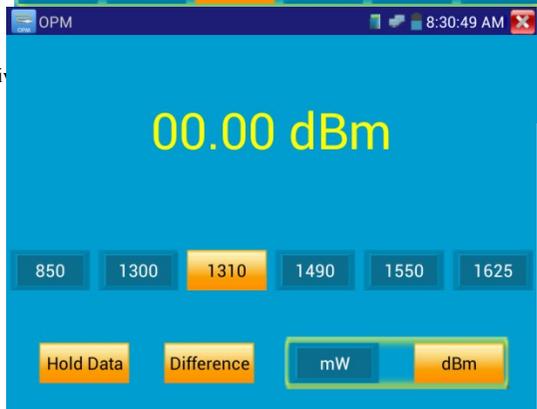


### Relative power value (optical link loss) measurement

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.



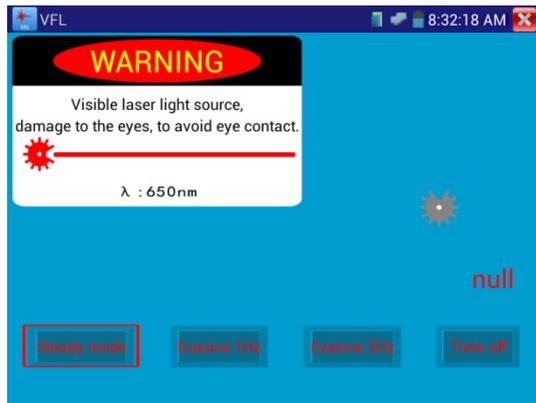
Data hold and Relati



ffect.

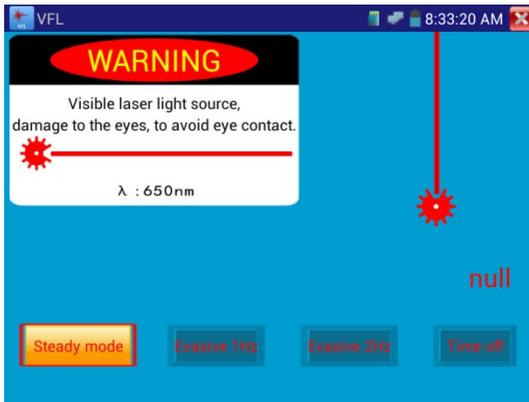
### 3.3.12 Visual Fault Locator (optional)

Click icons  enter

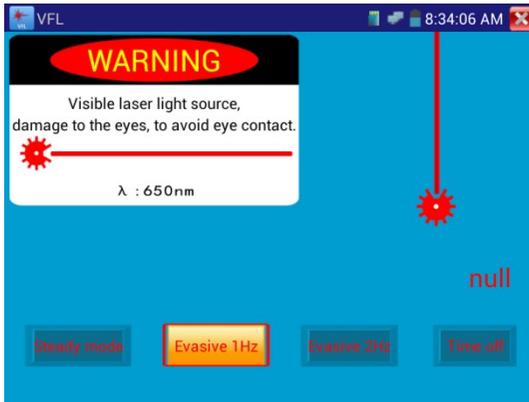


VFL four status can select——“Steady mode”, “Evasive 1Hz”, “Evasive 2Hz”and“Time off”. Click button “Steady mode” to enter steady status, click button “Evasive 1Hz” and “Evasive 2Hz, to enter pulse mode, click button “Time off”, VFL be turned off. Timed turn off can select (5mins, 10mins,

30mins, 60mins and 120mins).



Click "Steady mode", red laser sources emit steady, click again to quit.



Click icons "Evasive 1Hz" or "Evasive 2Hz" to enter pulse mode, the red laser sources emitted by a certain frequency, press it again to quit

### 3.3.13 Digital Multi-meter ( optional )

Click icons  enter



#### 1) SYMBOLS:

U : DC Voltage Measuring      A : DC Current Measuring

Ω : Resistance Measuring      ✕ : Diode Testing

U-tilde : AC Voltage Measuring      A-tilde : 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 660V DC, 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.

b. Select U, enter the DC voltage measurement.

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

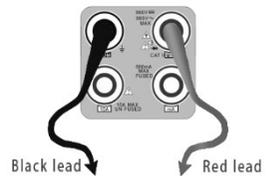
key can select manual range and restore auto range .

Manual range: 0.000V → 6.600V range

00.00V → 66.00V range

000.0V → 660.0V range

000.0mV → 660.0mV rang



### B. AC Voltage Measuring

#### **WARNING!**

You can't input the voltage which more than 660V AC, 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 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 → 6.600V range
  - 00.00V → 66.00V range
  - 000.0V → 660.0V range
  - 000.0mV → 660.0mV range

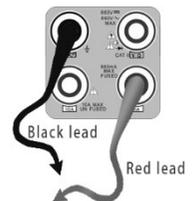
**C. DC Current Measuring (only manual range )**

**WARNING!**

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

- 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  $A\sim$ , 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.

b. to select  $\Omega$ , enter the  $\Omega$  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 $\Omega$  → 660 $\Omega$  range

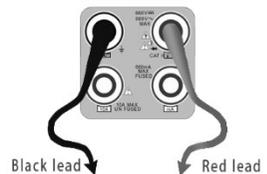
0.000 K $\Omega$  → 6.600K $\Omega$  range

00.00 K $\Omega$  → 66.00K $\Omega$  range

000.0 K $\Omega$  → 660.0K $\Omega$  range

0.000 M $\Omega$  → 6.600M $\Omega$  range

00.00 M $\Omega$  → 66.00M $\Omega$  range



### F. Continuity Testing

**WARNING!**

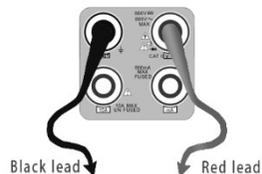
The capacitance of a capacitor should be tested separately, should not test in the installation of circuit.

**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.

b. to select  $\Rightarrow$  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  $50\Omega$ ), built-in buzzer will sound.



**G. Diode Testing**

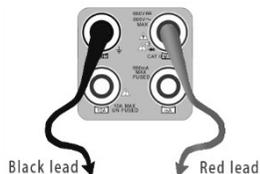
a. Connect the black test lead to the “COM” jack and the red test lead to the “V/Ω” jack. (the red lead anode “+” )

b. to select  $\nabla$  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.

- Connect the black test lead to the “ COM ” jack and the red test lead to the “V/Ω ” jack.
- Select “ $\text{C}$ ” to enter, enter the capacitance measurement.
- 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

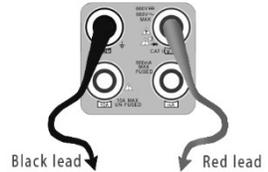
0.000uF → 6.600uF range

00.00uF → 66.00uF range

000.0uF → 660.0uF range

0.000mF → 6.600mF range

00.00mF → 66.00mF range



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

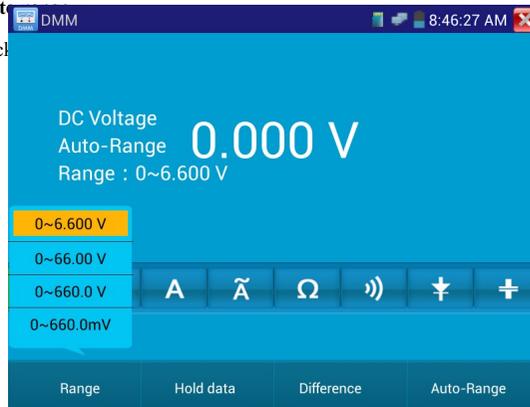


Note:

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

When testing, click  
measurement



Auto

### **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 660V AC, 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.

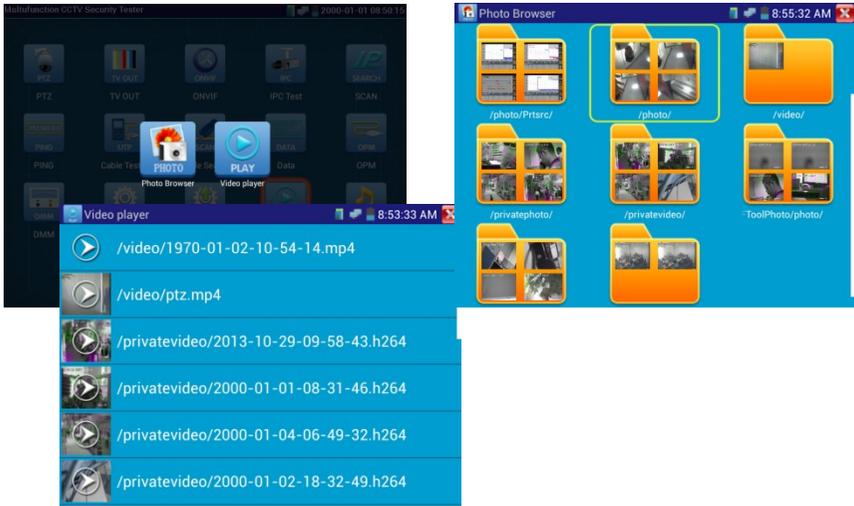


**Note:** 10A socket without fuse protection, if over the current range

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

### 3.3.14 Video Player

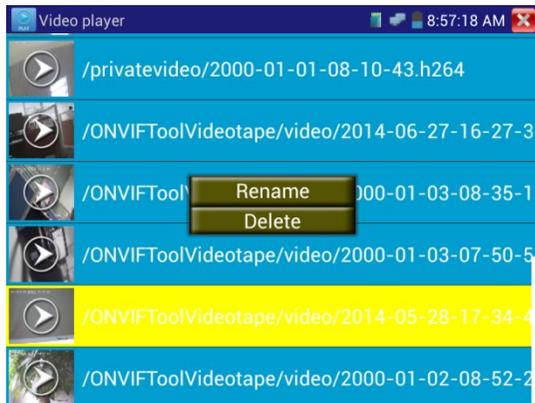
Click the icons  enter



Video file player, can browse image file, also supports play formats MP4, H. 264, MPEG4, MKV, etc ONVIF tool, IPC Test and video monitoring test's video can play directly via video player.

Video player Auto-search the video file on SD card, click the files of player list to play directly, and click RETURN to quit

Click the files several seconds, delete or rename the files



### 3.3.15 Music player

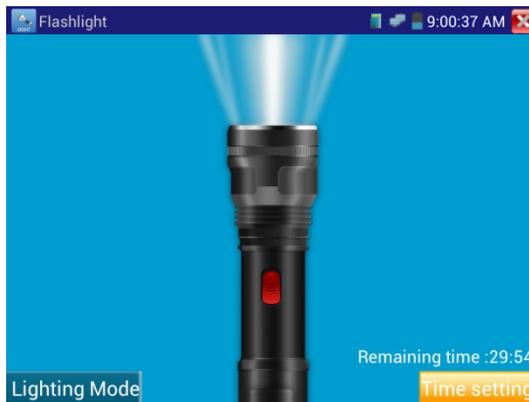
Click the icons  enter

Only support MP3 format Audio file



### 3.3.16 LED lamp (Flashlight)

It is convenient for the engineer working in the evening or in the dark. Click icons  enter

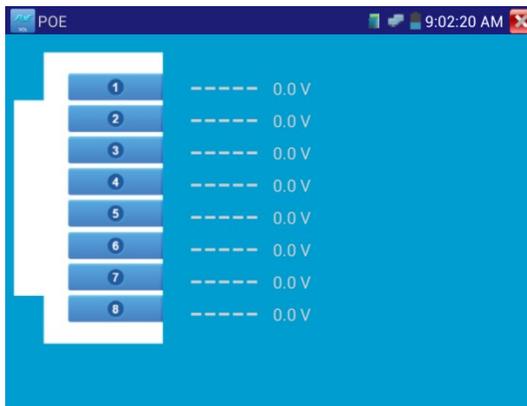


While in flashlight interface, click the red button, to light on the LED indicator. Press again to switch off. if not switch off the light and click icons  quit, it will be on the lighting status.

Lighting model or Time setting can select.

### 3.3.17 PoE

Click icons  to enter PoE voltage measurement



Connect the cable to the power supply equipment's POE port and the tester's PSE IN port. Connect IP camera or wireless AP equipment connect tester's LAN port, the POE voltage and the cable's connection status show on the screen.



Note : the Poe power supply equipment( POE Switch, PSE power supply equipment) must be

connected to the PSE IN port, the powered device such as IP camera or wireless AP must be connected to the LAN port, then it measure the voltage correctly.

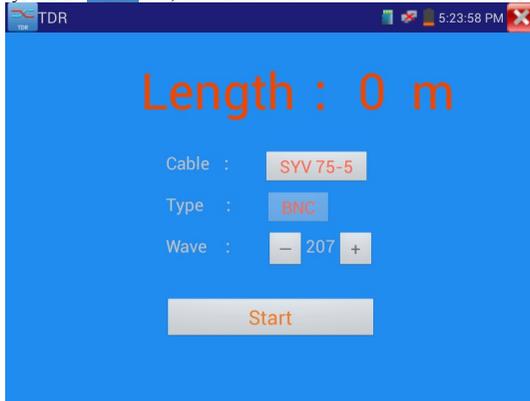
Please do not connect POE power supply port to the UTP/SCAN port; otherwise it will damage the tester.

### 3.3.18 TDR cable test (optional)



**Note: The testing cable can't be connected to any equipment, or it will damage the tester!**

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

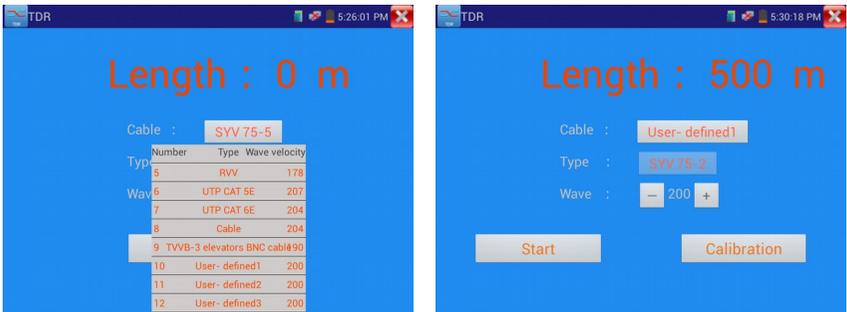


Built-in BNC, network cable, RVV control cable, Telephone line can test. 11 groups user-defined cable can be set.

Click "cable type to select cable and start testing, click and tester ,each click for testing one time,select built in cable type for testing, click "+" and "-" to adjust wave .

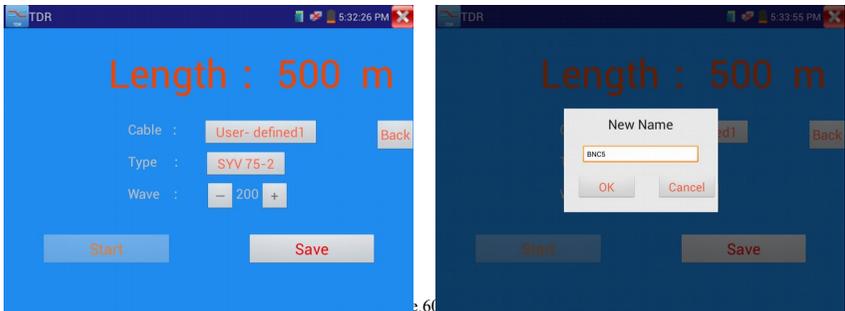


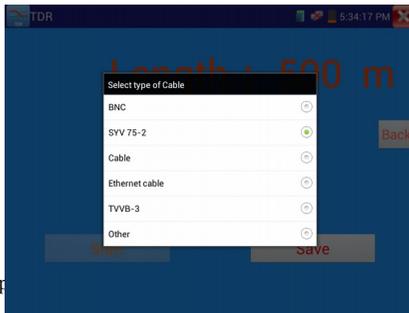
User-defined calibration: Choose the cable 100 meters to 200 meters (more than 50 meters) ,click cable type to select user-defined 1 for calibration, 11 groups user-defined can be set.



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

2. Click cable type to select cable, when test, Please select correspond cable.(for example, if test BNC cable ,please select “BNC” etc), communication dedicated 75-2,Pls select SYV 75-2.





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

**Application:** TDR test is the use of pulse reflection method, to transmit pulse signal for tested cable, when cable is disconnected or short-circuited, reflected pulse generated, the tester receive and deal with the reflected wave, measurement results displayed on the screen. TDR cable test can test cable length and short circuit, help engineer quickly find the cable’s problem location. It is more convenient and efficient to repair the faulty cable.



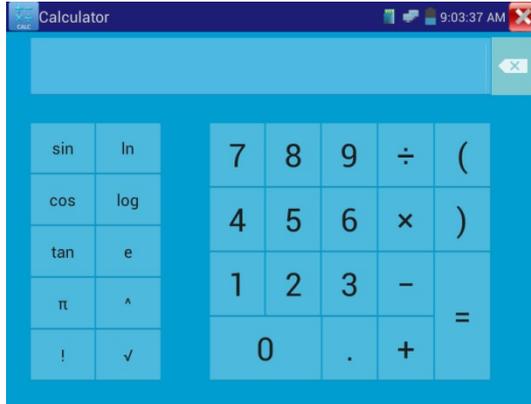
**Note:** The TDR reflect signal could be affected by the cable quality/ cable’s not well

connected etc to cause the different TDR measurement. The TDR measurement is for reference only.

### 3.3.19 Calculator



Click icons to enter



### 3.3.20 Browser

Click icons  enter

Input the IP camera's IP address, click "Scan IP" to scan, browser can be used to log IP camera and change IP camera's address.



if browser login IP camera successfully , the IP camera and instrument must be in the same network



segment, if they are not in the same segment after revising the IP camera address ,Please wait and click or press “RETRUN” to exit, click main menu “SET “ to change and make the instrument and IP camera in a same segment, then can test IP camera .

Test’s browser can’t install the camera plug-in, or can’t view the image from IP camera.

### 3.3.21 IPC viewer

If the IP camera neither Non- customized nor support ONVIF, but IP camera manufacturer have a mobile phone or tablet client software, can install this client software in IP camera tester to view image .

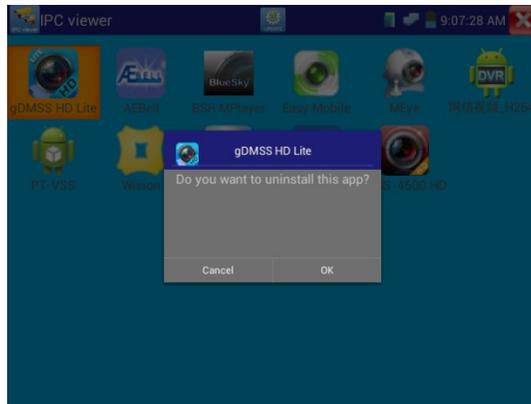
Click icons “IPC viewer” to enter, run the mobile client software of the corresponding IP camera manufacture , then can view the image after setting that client software.

Mobile client software is to use decompression software to deal with the image, Therefore, the display image maybe not clearer.

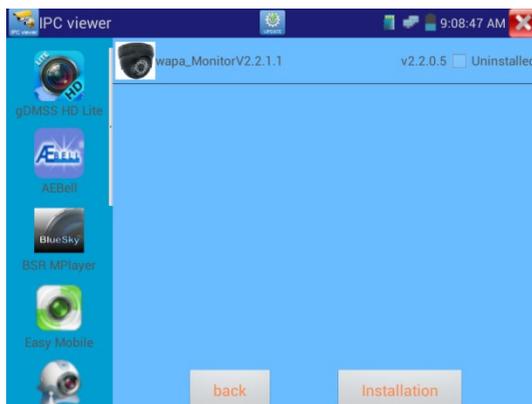
**Note:** Mobile client software is not our product, it is from the Internet or other companies ,it is not for commercial profit purposes, our company does not assume any legal and joint and several liability , if not use , please promptly delete .



Click desktop icons several seconds, to uninstall this application



Click icons “update “ in the IPC viewer interface, to update Mobile client software.



### 3.3.22 DC12V power output, PoE power supply

The Power outputs default turns off, and will not Auto-turn on

Click icons  enter and turn on PoE power supply and DC12V power out interface. The top menu bar display icons “5V/12V/48V open”,the icon can be moved.



#### Note:

- 1 .Don't input any power into the “DC12/2A OUTPUT” port of the CCTV tester to avoid destroy.
2. Don't output this DC12V/2A power to the power input port of the CCTV tester to avoid destroy
3. When the requirement of the camera is higher than 2A, the CCTV tester will enter protection mode. Disconnect all the connections of the CCTV tester and then connect the CCTV tester with power adaptor to resume the CCTV tester.
4. Before turn on the power output, Please make sure the IP camera support PoE powered. Otherwise damage IP camera.
5. Make sure the tester is full charged or more than 80%, or it will be short circuit.

### 3.3.23 Application tools

It contains audio record, network bandwidth test tools now .Some application tools can customize



according customer's requirements.

Click icons to enter



**Audio Record:** Recording and play the received audio. Connect the audio devices to Audio input port, click  to enter and record ,click the red button to stop, and prompt to save the recording.



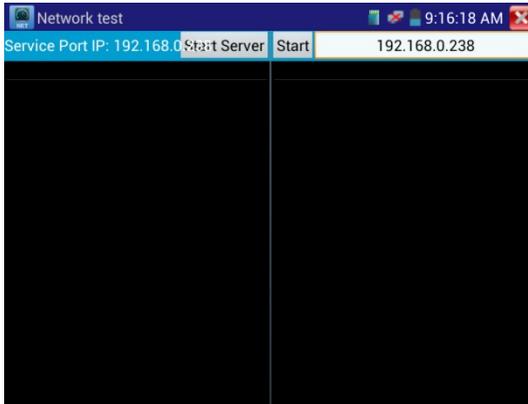
### Net work test (Ethernet bandwidth test)

Built in Ethernet bandwidth test tools, two devices mutual –testing, one as Server-end, another as Test-

end, then test Network bandwidth, also can upload test software on computer ,combine with tester to test .

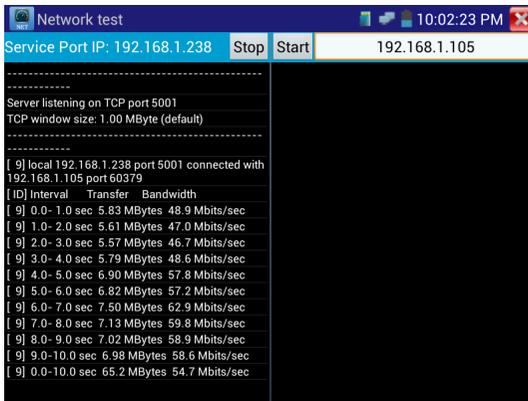
**Note:** Network test results only as a reference, For accurate test , Please use a professional Ethernet tester .

Click icons  enter

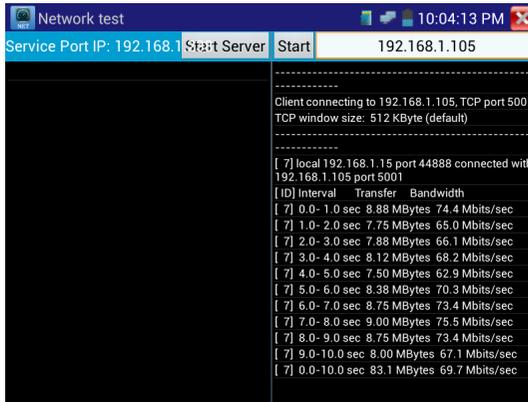


When test , need a Instrument or Network Test Software as the Server, another one send packet test . The two instruments must be in the same network.

**1. Start the server:** Click “Start the server”, the tester as a test server-end, The server IP address(Tester’s IP address) display.



2. Start send packet test: Fill server's IP address in sending packet test, click button “start test”



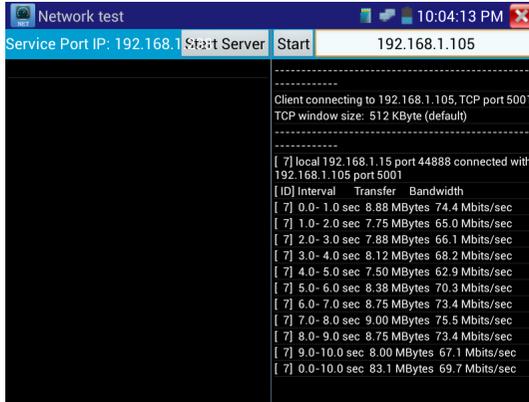
Network bandwidth testing , can be test with an instrument and computer, Install network bandwidth testing software on a computer, As a test client or server , with instrument mutual -testing

If computer as the server , the computer IP address as :192.168.0.89



Instrument as test client ,instrument IP address is:192.168.0.230, it is the same network segments with

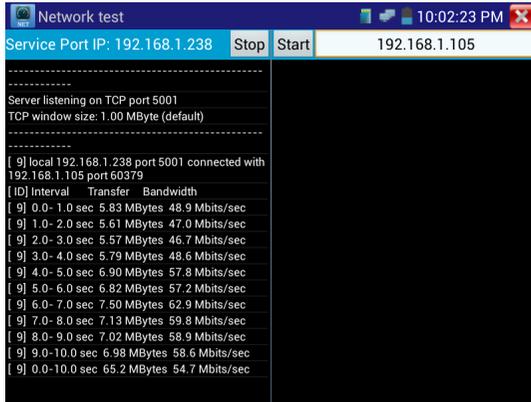
computer server ,but different IP address, fill server's IP address in test client :192.168.0.89 , click “start test” to Network bandwidth test .



Or Instrument as the server, computer as test client ( select client, fill instrument IP address to test )



when instrument (tester)as server, shows results:

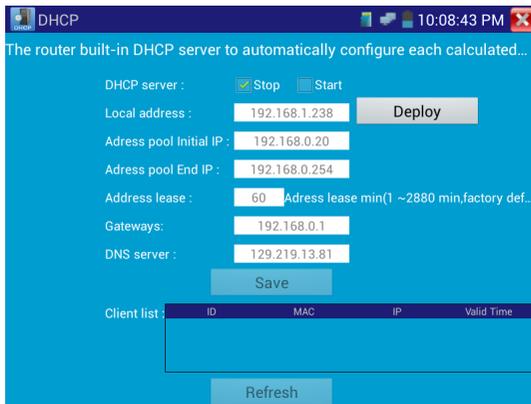


**DHCP server:**

Start “DHCP” Server, dynamic assign IP address for the IP camera, not need set IP camera’s static IP address, and then start to test.

Select “Start”, set assigned addresses segment, click “save” start and assign dynamic IP addresses.

Click “refresh” to check received IP address.



**Notepad:**

Write and save testing contents, click the key “save” to save the contents, date and time.



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



**Link monitor :**

Click icons  enter, check and add IP address whether can be occupied by other network device. Avoid the added address conflicts with other network devices.

Click “add” testing IP address display, can add Multiple IP addresses, Different network segment IP test , make sure the network segment and the setting IP address are consistent, click “start” to test. Check the device’s IP address whether be occupied by other device, If the status is “√”, means the IP address is occupied, if the status is“×”, means the IP address is available



**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.

**3.3.24 APPS Tools**

Click icons  enter

user can move menu Icons into APP Tool, click Icons several seconds, prompt whether move the icon

to APPS tool .



Click icons “APPS” to show all icons, if click other areas range (without icons area) to return menu.

Click icons several seconds, prompt whether move the icon to the main menu.



### 3.3.25 System Set (此处有中文图片)

Click icons



**Language:** Simplified Chinese, Traditional Chinese, English and others

**Date/Time:** Set the Date/time

**IP setting:** Set the IP address, Mask, Gateway

Test multiple network segments, click “advance”, to display IP setting interface, then click “Add” to add another need test IP address as tester’s address.



After setting IP address (ref above pictures), it can test two network segments IP camera (192.168.0.0and) 192.168.1.0.

**WIFI:** Turn on /Turn off wifi

**Brightness:** Set brightness、 sleep time(15-30 seconds, or brightness).

**Volume:** Set volume

**SD Card:** Show SD Card Capacity, unmount SD card

**Power display:** display the battery level information

**Version information:** Check version information for each application

**PTZ address scan:** Turn on/ off

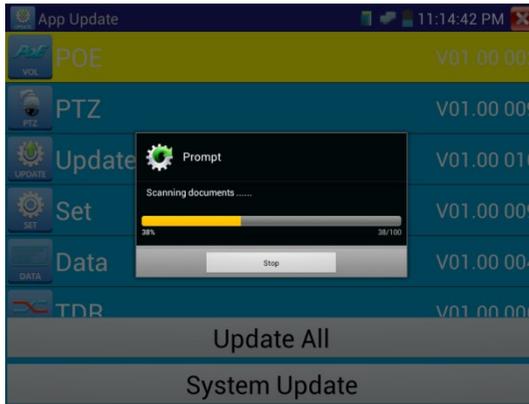
**Screen rotation:** Image 180 degree rotation, the power output port and network port will be on the top to easy connect and operate.

**PTZ address scan :** Turn on it, then enter “Video monitor” interface to operate , after exit “Video monitor” ,PTZ address scan will Auto-turn off .

**Turn off option:** Fast turn off .When select it , the tester running fast and enter main menu. Some data is not refreshed and clear, to avoid smaller problem, please do not use “Fast turn off” the tester.

### 3.3.26 Update

Click  enter



If could update, it will appear in the update application interface, click relative program to update the new version

### 3.4 Audio test

Test the audio input from pi  
Can record and save.



### 3.5 HDMI output

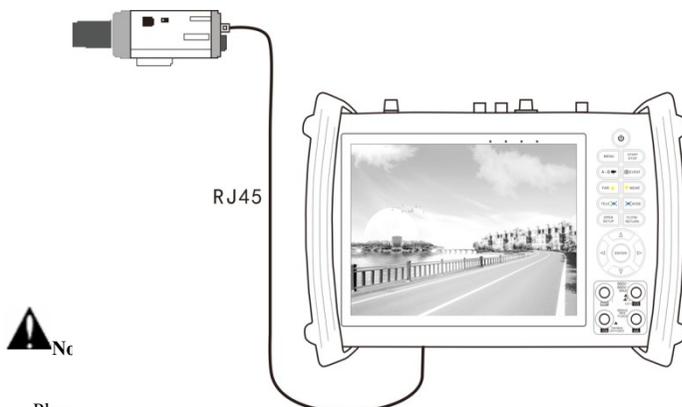
Built in HDMI, output the record files, media files and screen display to HD TV, resolution up to 1080P.

It also can output analog camera image, IP camera image, SDI camera image to HD TV, as SDI convert HDMI output.

### 3.6 PoE power

Support PoE Ethernet power output, via RJ 45 port to transmit data, also supply DC 48V power output.

With PoE IP camera power supply, can directly connect the camera to tester, not need external power.



a. Please make sure the connect cable to RJ45 port of PoE power output is straight line, otherwise will damage the tester

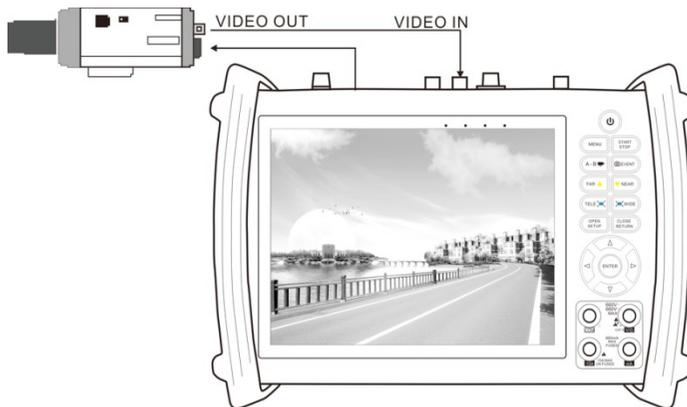
b. Before using PoE power output, Pls check the IP camera whether support POE powered. if not, will

damage IP camera .

Support PoE power output Max is 24W. If Ultra- high-power loads, the tester will enter protection status.

### 3.7 DC12V 2A power output

The top and the bottom of the “DC12V/2A OUTPUT “ is power supply output interface, it must use tester’s power convert cable ,the smaller end of the cable to connect DC12V/2A OUTPUT, the other end connect to camera power input interface.



### Application

Power output functions mainly used in the camera field demonstration and testing, meanwhile, for some camera installation area, if there is no power adaptor, it can as temporary power to supply power for the camera.

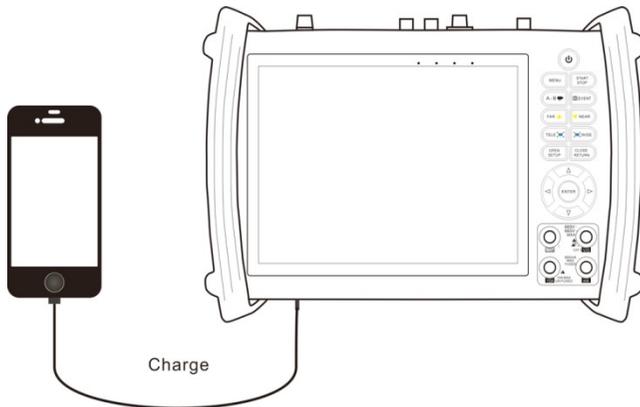


**Notice:**

- a. Don't input any power into the "DC12/2A OUTPUT" port of the CCTV tester to avoid destroy.
- b. Don't output this DC12V/2A power to the power input port of the CCTV tester to avoid destroy.
- c. When the requirement of the camera is higher than 2A, the CCTV tester will enter protection mode. Disconnect all the connections of the CCTV tester and then connect the CCTV tester with power adaptor to resume the CCTV tester.
- d. Make sure the tester is full charged or more than 3 bars or it will be short circuit.

### 3.8 USB 5V 2A power output

USB port of the IPC camera tester, support DC5V 2A power output, as a power bank. When tester be turned off, this interface still can output power. (Provide temporary emergency power for the Mobile or other device).



## 4. Specifications

#### 4.1 General Specifications

<b>Model</b>	<b>IPC-8600 【T】 models optional</b>
<b>Display</b>	7 inch Capacitive touch screen , resolution 800 (RGB) x 600
<b>Network port</b>	10/100M auto adjust, RJ45
<b>WIFI</b>	Built in WIFI, speeds150M, receive wireless camera image etc
<b>IP camera type</b>	ONVIF, ACTi, Dahua IPC-HFW2100P、Hikvision,DS-2CD864-E13、Samsung SNZ-5200、Tiandy TD-NC9200S2、Kodak IPC120L、Honeywell HICC-2300T、Aipu-waton IP5000-BC-13MP/IRS06-13MP、fine-Tida IPC、FSJ BY-1080Q、WEISKY IPC camera etc. Customized welcome
<b>Video level test</b>	1 channel BNC Input & 1 channel Output , NTSC/PAL (Auto adapt)
<b>Video level meter</b>	PEAK video signal level, SYNC signal level, COLOR BURST chroma level measurement
<b>Zoom Image</b>	Support Analog camera and IP camera image zoom /move
Snapshots, Video record, Record playback	Image Screenshots, record ,save ,view and record play back
HDMI output	1 channel HDMI output, support 1920*1080P
12V/2A power output	Output DC12V/2A power for camera
USB 5V power output	5V 2A power output, as a mobile phone power bank
PoE power output	48V PoE power output, Max power 24W
Audio test	1 channel audio signal input, test whether sound normal, 1 channel audio signal, to connect headphone
PTZ control	Support RS232/RS485 control, Baud 600-115200bps, Compatible with more than 30 protocols such as PELCO-D/P, Samsung, Panasonic, Lilin, Yaan, etc
Video Signal Generation	Output one channel PAL/NTSC color bar video signal for testing monitor or video cable.(red, green ,blue, white and black color )

Network color bar generator	Local side PC can login the tester, send the signal by network ,test network connection communication whether normal
UTP Cable tester	Test UTP cable connection status and display in 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, Ping test, Quickly search the connection IP camera and other device's IP address
Cable scan	Search the cable by the audio signal
PoE /PSE voltage test	Measurement POE switch or PSE power supply voltage and cable connection status
Digital Multi-meter (optional)*	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 (Optional)*	Calibrated Wavelength(nm) : 850/1300/1310/1490/1550/1625nm Power range(dBm) : -70~+10dBm
Visual fault locator (optional)*	Test fiber's bending and breakage ( SM and MM fiber)
TDR cable test(optional) *	Breakpoint (cable length) and short circuit measurement(BNC cable, telephone cable)
<b>POWER</b>	
External power supply	DC 12V 2A
Battery	Built-in 7.4V Lithium polymer battery ,6500mAh
Rechargeable	After charging 7~8 hours, normal working time 16 hours
Parameter	
Operation setting	Capacitive touch screen, OSD menu, Chinese/English
Auto off	1-30 (mins)
General	
Working Temperature	-10℃---+50℃

Working Humidity	30%-90%
Dimension/Weight	231mm x 172mm x 52mm / 1.26Kg

#### 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		10mA
		$\pm (1\%+5)$

### 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
660.0Ω	$\pm (0.8\%+5)$	0.1Ω
6.600KΩ		1Ω
66.00KΩ		10Ω
660.0KΩ		100Ω
6.600MΩ		1KΩ
66MΩ	$\pm (1.2\%+5)$	10KΩ

### ») Continuity

Range	Resolution	Function
660.0Ω	0.1Ω	The measurement value less 30Ω±3Ω,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
6.600 $\mu$ F		1nF
66.00 $\mu$ F		10nF
660.0 $\mu$ F	$\pm (5\%+8)$	100nF
6.600mF		1 $\mu$ F
66.00mF		10 $\mu$ F

### 4.3 Optical power meter specifications

Measure Range(dBm)	-70~+10dBm
Wavelength(nm)	850nm、1300nm、1310nm、1490nm、1550nm、1625nm
Detector	InGaAs
Uncertainly	$< \pm 3\% \text{dB} (-10 \text{dBm}, 22^\circ \text{C})$ $< \pm 5\% \text{dB} (\text{full range}, 22^\circ \text{C})$
Display Resolution	Linear: 0.1% ; Nonlinear: 0.01dBm
Operating Temperature( $^\circ \text{C}$ )	-10~+50

Storage Temperature (°C)	-20~+70
Connector type	FC/PC

#### 4.4 Visual fault locator specifications

Laser type	LD
Wavelength Calibration	650nm
Output power	5mW (optional 10mW, 20mW)
Modulation mode	CW/1Hz/2Hz
Measurement Range	5KM (optional 10-20KM)
Connector	FC/PC exchangeable
Working Temperature	-10°C~+50°C
Operating Temperature	-20°C~+70°C

**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.**