![InVid Tech - Innovative Video Technology logo]

INVID-CAMTESTER5

User Manual

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

Content

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 6 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.

2. IP Camera Tester Introduction

2.1 General

The 5 inch IPS touch screen IP camera tester is designed for maintenance and installation of IP cameras, analog cameras, TVI, CVI, AHD cameras, as well as testing 4K H.264 /4K H.265 camera by mainstream. The 1920x1080 resolution enables it to display in high resolution image from cameras. The meter supports many ONVIF and analog PTZ control. The combination of touch screen and touch control keys make the IP camera tester very user-friendly.

2.2 Packing list

1)   Tester
2)   Adaptor DC12V 1A
3)   Network cable tester
4)   Lithium ion battery 7.4V DC 3350mAh
5)   BNC cable
6)   RS485 cable
7)   DC12V Power cable
8)   Audio cable
9)   Safety cord
10) Wrist belt
11) Tool bag
12) Manual

2.3 Function interface

1	🏠	Menu key
2	↵	Confirm key
3	⤺	Return: Return or cancel while setting parameters of the menu
4	🔍	4xzoom the image display
5	💡	LED light
6		The RS485 data transmission and received indicator, it lights red while the data is being transmitted or received.
7		The power indicator: it lights red while the tester is powered on by the adapter
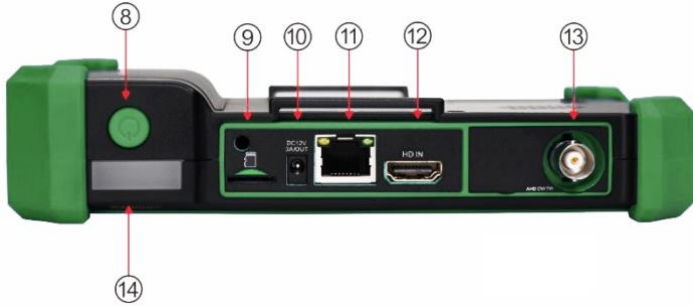
Top interface

Bottom interface

8	Press more than 2 seconds, turn on or off the device, short press to turn on or off the menu display
9	Micro SD card moveable, support Micro SD card up to 32G
10	DC12V 3A power output, temperately supply power for camera
11	PoE power supply output / LAN test interface
12	HDMI input
13	Video image CVBS/AHD/TVI/CVI signal input（BNC interface）
14	LED lamp
15	DC 12V 1A charging interface

16	RS485 Interface: RS485 communication for the PTZ
17	Audio input
18	UTP cable tester port
19	VGA input

3. Operation

3.1 Installing the Battery

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

Prior to the use of the instrument, please take out the battery insulation paper.

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

⚠Notice: Please 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.

⚠**Notice:** While Charging, someone must be present.

4. IP camera test

4.1 Power output

Camera can be powered from the DC 12V/3A output or by Power over Ethernet.
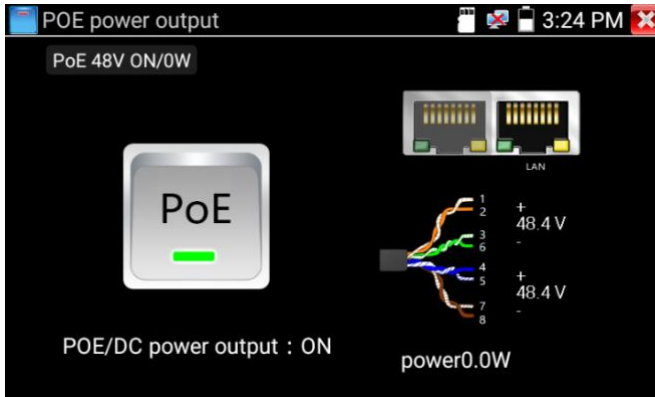
4.2 IPC Test pro

Camera test often need to open multiple apps, "IPC TEST PRO" app, using new technology and combine multiple functions to one APP, it can increase efficiency.
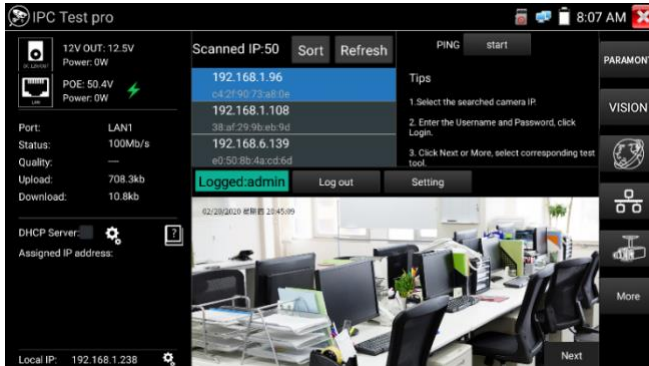
Application:

Support multi-segment IP address scan, click IP address to play the image. Connect IP camera, can supply the power to PoE camera.

Real-time display network port connection status.

By one key to connect camera test tool, browser can login and configure camera.

4.3 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 scanned camera's IP. The tester auto-search whole network segment IP, and auto- add the IP of different network segments.

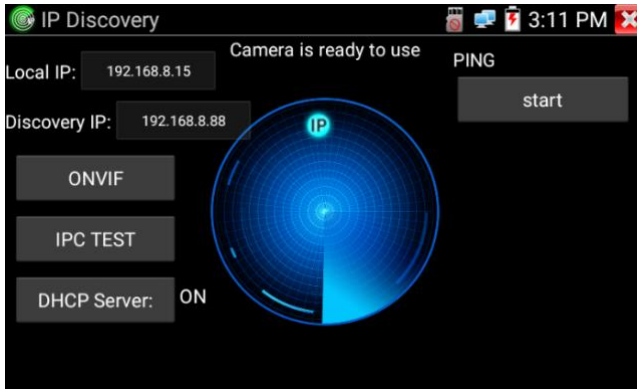**Local IP:** Tester's IP address, Tester can auto-modify the tester's IP to the same network segment with the scanned camera's IP.

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.

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

ONVIF: Rapid ONVIF Quick link.

IPC TEST: IPC TEST Quick link, Non-ONVIF IP camera test.

4.4 Rapid ONVIF test

Rapid ONVIF can display 4K H.265/H.264 camera image by tester's mainstream. 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 modify the password, then default use the modified password to login.
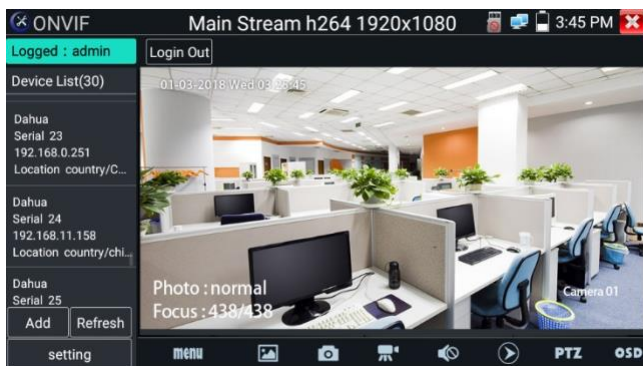
Click the button "Refresh", tester will scan the ONVIF camera again. Click the newly displayed ONVIF camera on the "Device List". The tester will show the IP camera's relative information and settings.

Pop-up settings menu when click the "setting" icon in the upper left corner.
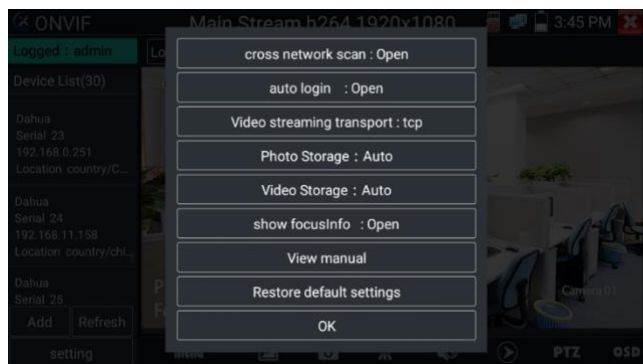
Across network segments scan: After open this function, Rapid ONVIF function can across network segments to scan camera's IP.

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 using password is the default password "admin")

Video transmission protocol: UTP and TCP protocol

Show focus Info: Focus Information

View manual: Open Manual

Restore Defaults: Revert "Rapid ONVIF" to default settings

Confirm: Save the modified parameters

Click "MENU" icon to open camera setting
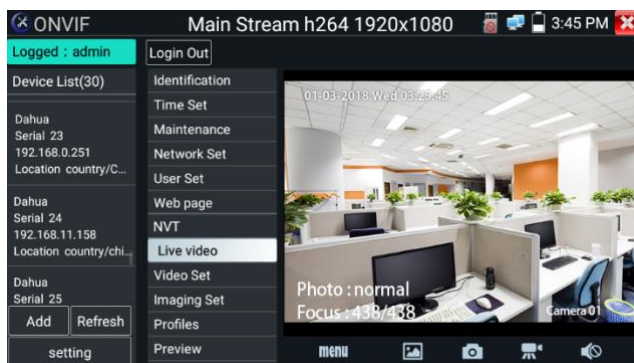
While in the "Live video" menu, click "Video Menu" at the top right of the image to access the following tools: Snapshot, Record, Photo, Playback, Lens simulation, PTZ and Settings.

Network setting: Click "Network Set" to change the IP address. Some cameras cannot support change IP address, so there is no change after saving.
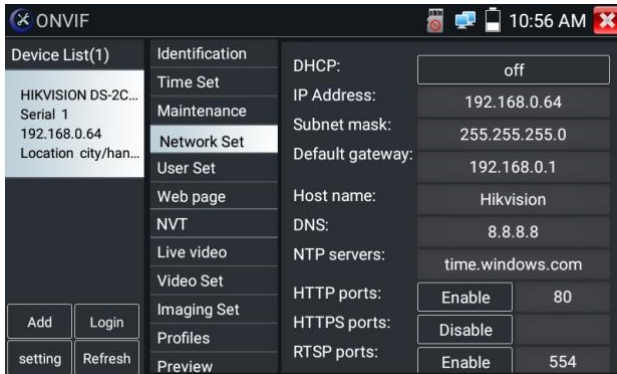
If it is network video input to the tester, as the tester supports resolution up to 1080p, the input image will be very clear after it is enlarged. This is greatly helpful for the installers to ensure the IP camera's video coverage and decide the IP camera's install site.

Lens simulation: Simulate different lenses display area, supported lens: "2.8/3.6/4/6/8/12/16/25mm", for choosing the suitable camera lens.

OSD Menu: Select OSD and popup the OSD menu. include time, channel name and other optional items.
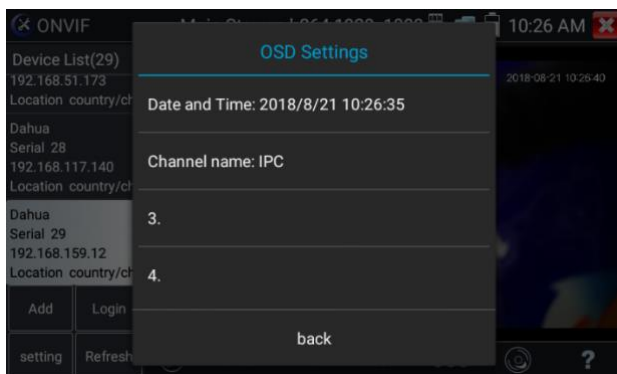
After selecting channel, you can edit the channel name, modify the display position, and switch the font size. If not modify, select "Content location - Default location". Select "Customize" to arbitrarily adjust the channel name and display location.

Click "OK" to save the modification. Press return key or click any area of the screen to return to previous interface.
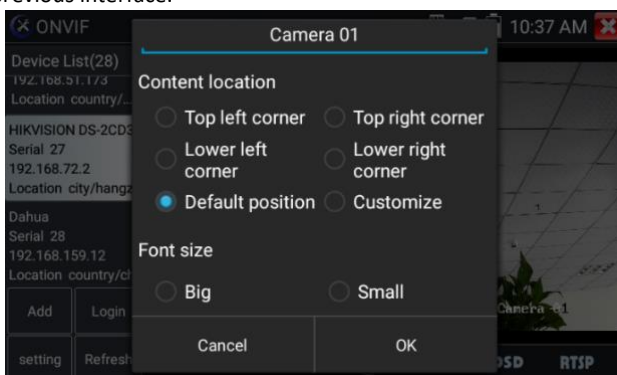
⚠ Video files can play in the Video player on the main menu.

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.
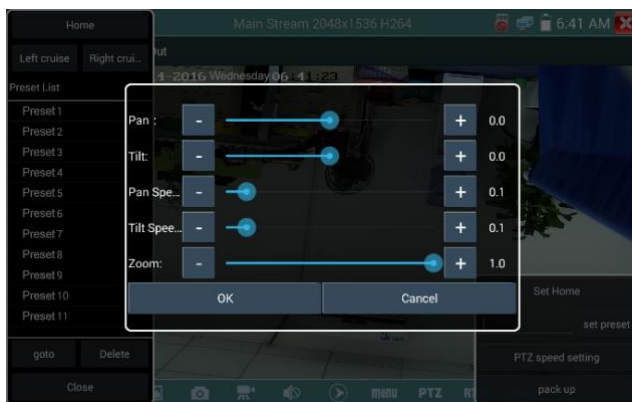
Doc: Click "Create document", can create the testing reports document of camera.

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.

4.5 NON-ONVIF IP camera test

Display image from the 4K H.265 camera by mainstream.

⚠ Note: Currently, the IPC Test App only supports some brands' specific IP cameras, these include specific models made by ACTI, AXIS, Dahua, Samsung and many more. If the camera is not fully integrated, please use the ONVIF or RTSP apps.
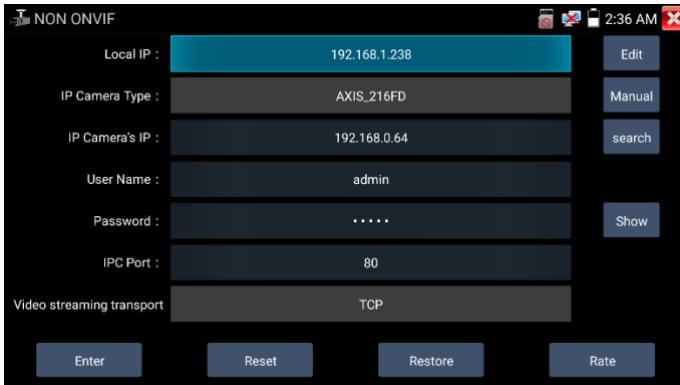
Local IP: This is the tester's IP address. Click "Edit" to enter "IP setting" and change

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 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.

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 prompt "auto match" fail, please switch to manual selection.

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.

IPC Port: When selecting IP camera type, it will default the camera's port number. After all settings are completed, click "Enter" to view the live video.

5. Analog camera test

5.1 CVBS

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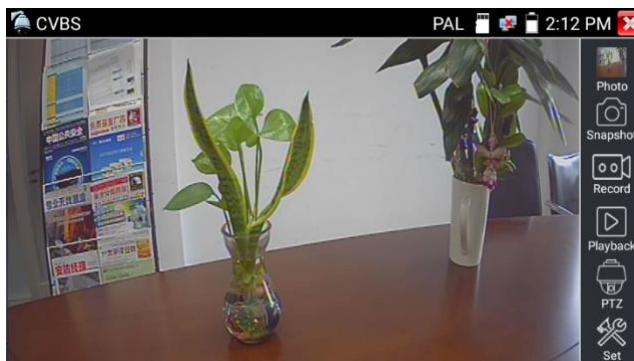
⚠️ Check and set the protocols, address, interface and baud, all must be consistent with the dome camera, then the IPC tester can test. After setting the parameter, the

 tester can control the PTZ and lens.

5.2 Auto HD

Automatically recognize type and resolution of TVI/CVI/AHD camera and display image. Support coaxial PTZ and call OSD menu. Support CVBS and 8MP TVI/CVI/ AHD cameras. Select relative function on the right toolbar to operate, functions including "Photos", "Snapshot", "Record", "Playback", "PTZ", "Set".

Double-taps on the screen to make the image displayed full screen.
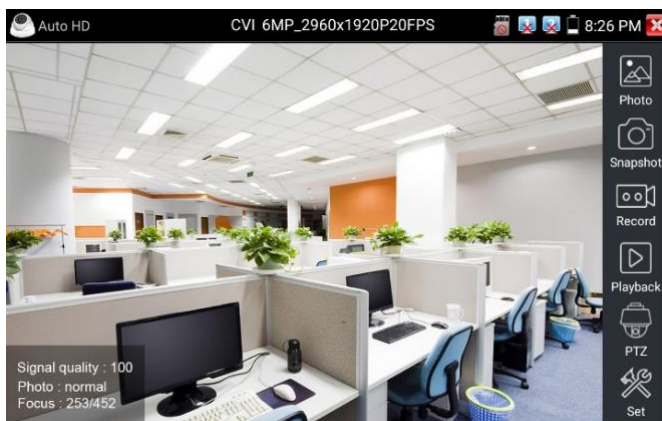
5.3 CVI camera test

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

The tester supports resolution up to 3840 x 2160P 12.5/15 FPS.

（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.

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

Set preset position:

Move the PTZ camera to the preset position, tap it and input preset position number. Tap "Set position" to complete set preset position.

Call preset position:

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

1.2 RS485 control

（**2**）**Coaxial camera menu setting**

Input calling dome camera menu address code, you can press the key "Enter" or click the icon ⬤ to call the dome camera menu.
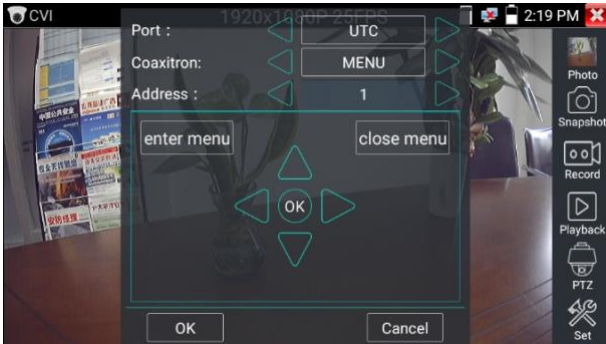
set the parameters by △▽◁ ▷ (OK)

5.4 TVI camera test

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

The tester supports resolution up to 3840 x 2160P 12.5/15 FPS.

Coaxial camera menu settings:

Tap icon "UTC", select "MENU" to enter the dome camera menu.
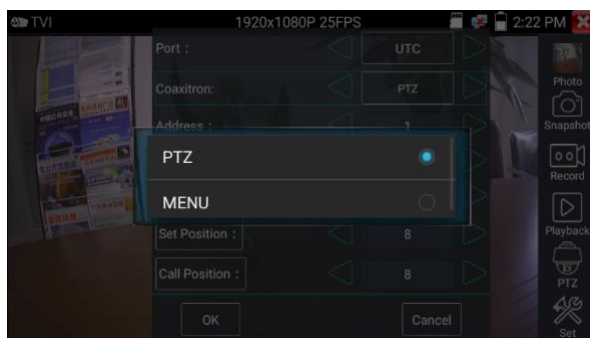
Input calling dome camera menu address code, after finishing the parameter settings, you can press the key "Enter" or click ⬤ icon to call the dome camera menu.
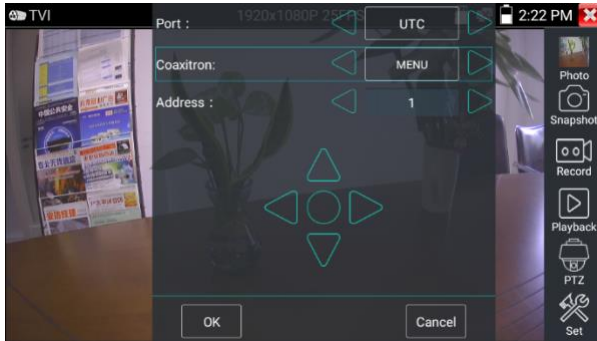
5.5 AHD camera test

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

The tester supports resolution up to 3840 x 2160P 15 FPS.

(1) Coaxial PTZ control

UTC control: Select "PTZ or PTZ-2" (AHD camera has two different order, if the "PTZ" not working, pls go "PTZ-2")

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

6. XVR display

6.1 HDMI IN

When tester receives HDMI input 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 up to 4K 30FPS, 3840x2160P 30FPS, 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 SD card 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.
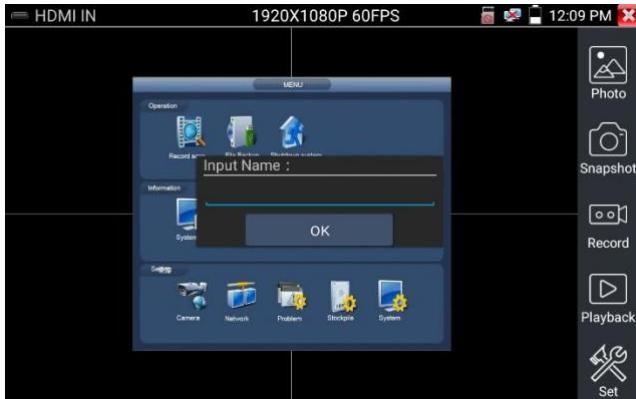
(2) Video record

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 to the SD card.

(3) 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.

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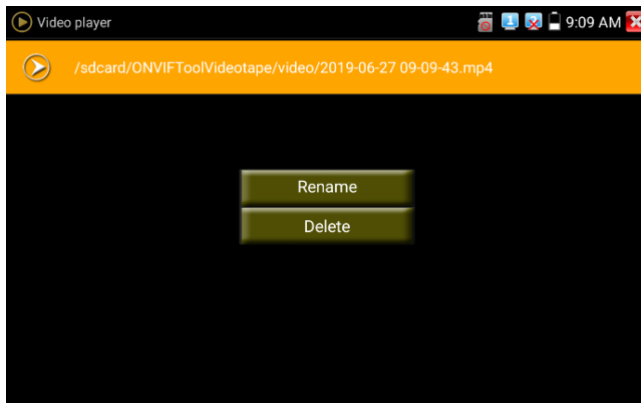
Video files also can play in the main menu "Video Player".

6.2 VGA IN

When tester receives VGA input image, the top tool bar shows the resolution of this image. Tap screen by twice, full image display. Support resolution as bellow：
1920x1200P 60FPS, 1920x1080P 60FPS, 1792x1344P 60FPS, 1680x1050P 60FPS, 1600x1200/900P 60FPS/1440x900P 60FPS, 1360x768P 60FPS, 1280x1024/960/800/768/720P 60FPS, 1152x870P 60FPS, 1024x768P 60FPS, 800x600P 60FPS, 640x480P 60FPS.
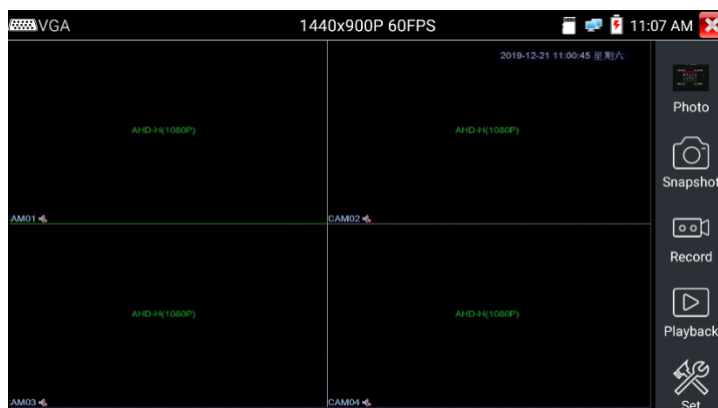
It supports "Snapshot", "Record", "Photos", "Video playback".

7. Other function

7.1 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.
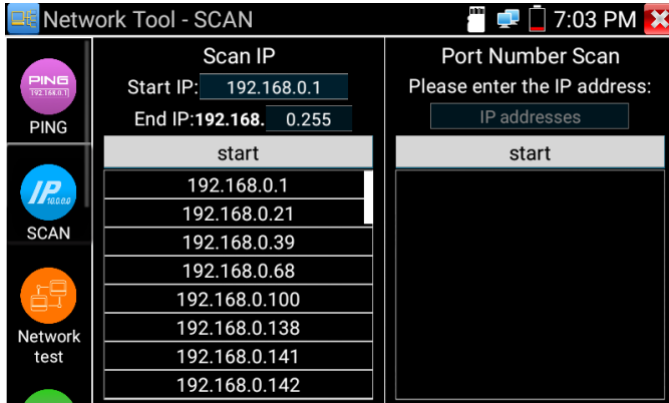
(2) PING Test

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)

To use the Network tester, you will need two IP 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.

(4) Port Flashing

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.
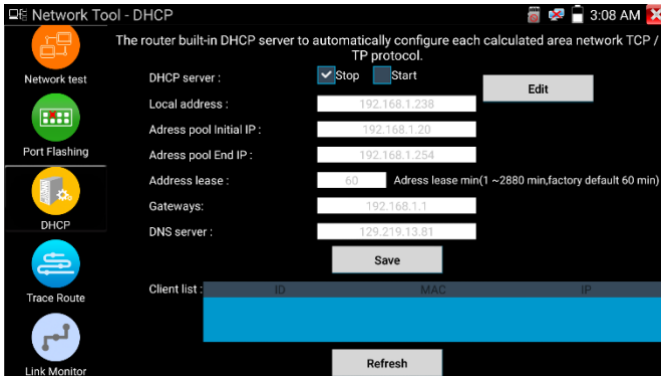
(6) Trace route

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.

(7) Link monitor

This app is used to see if an IP address is occupied by other network devices. This will avoid new address conflicts.

7.2 RJ45 TDR test

Connect cable to tester's LAN port, click icon " [icon] " to enter app.
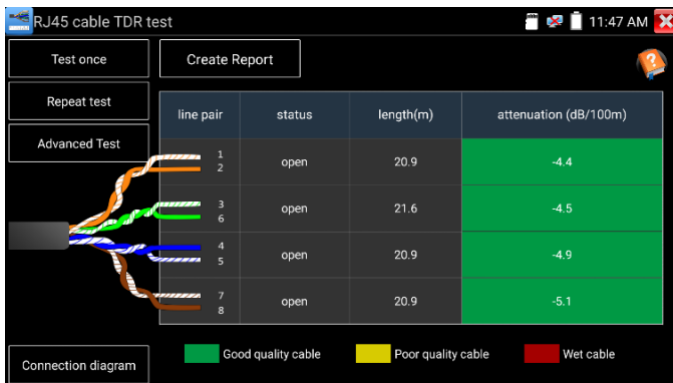
Single test: Test cable status, length and attenuation.

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, if skew value is 0ns, it is the best quality communication, if over 50ns, will cause a Bit Error Rate in the transmission.

Click "Help", check the instruction of all parameters.

7.3 Cable Tester

Click icon to enter.
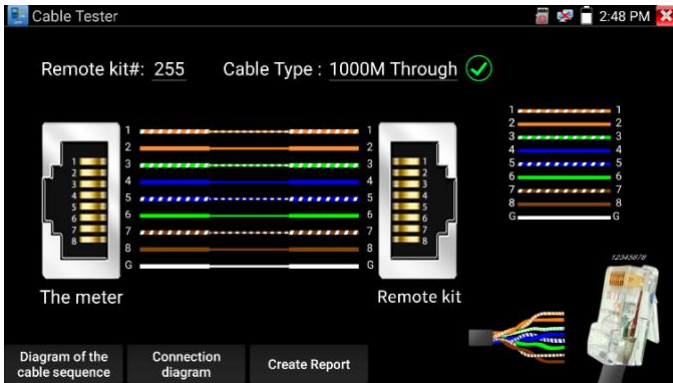
(1) Test LAN cable or telephone cable. Connect cable with the CCTV tester and cable tester. And then the connecting status, cable type and the sequence of wires as well as the serial number of the cable tester kit will be displayed.

(2) The number of the cable tester is 255. If need several different number other types cable testers, should pay the additional cost.

(3) Quickly detect the near-end, mid-end and far-end fault point of RJ45 cable connector.
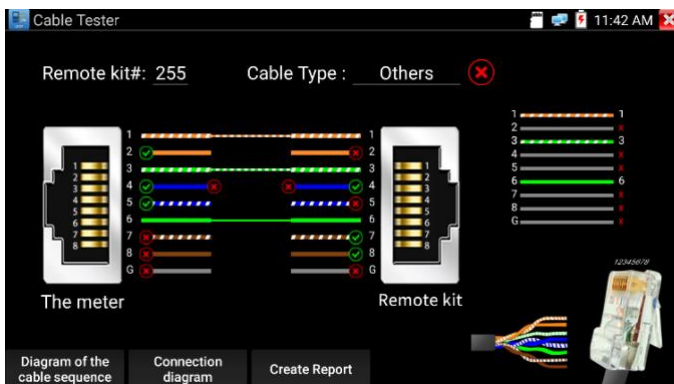
Cable test:

Tap "Diagram of the cable sequence", pop up the connection diagram of Straight-through cable and crossover cable. And can create the testing report.

7.4 PoE / DC12V 3A power output

When the tester is turned on, the DC12V power output functions are automatically turned on.

To use the PoE Power Output function, change the switch "ON" or "OFF".

The IP camera needs to connect the LAN port before you turn on PoE Power. 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 "DC12/3A OUTPUT" port.

2. Don't output this DC12V/3A power to the DC12V/IN port of the IP camera tester to avoid destroy.

3. The IPC tester power output is close to 3A, if the IP camera's power is over 3A, 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. Before turn on PoE power output, please connect the IP camera to the LAN port of

tester.

6. Make sure the tester is full charged or more than 80% charged, otherwise the tester will show "low power", "not able to supply power".

7.5 Update

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

Click the [icon] 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 listed in the interface, click related applications, update to the latest version.
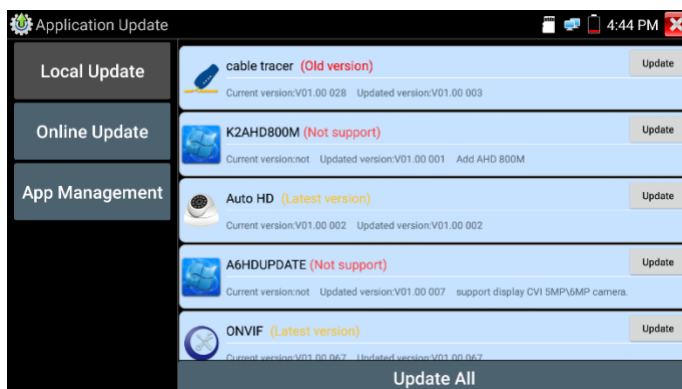
Online update: Connect the Internet to update the apps.

App management: This can uninstall and open APP.

7.6 File explorer

Click "File" on the top bar tool, can select internal or external storage. 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 manage.
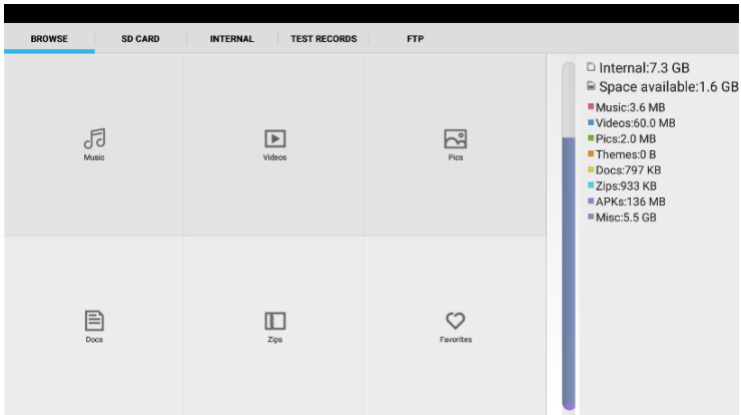
7.7 System Setting
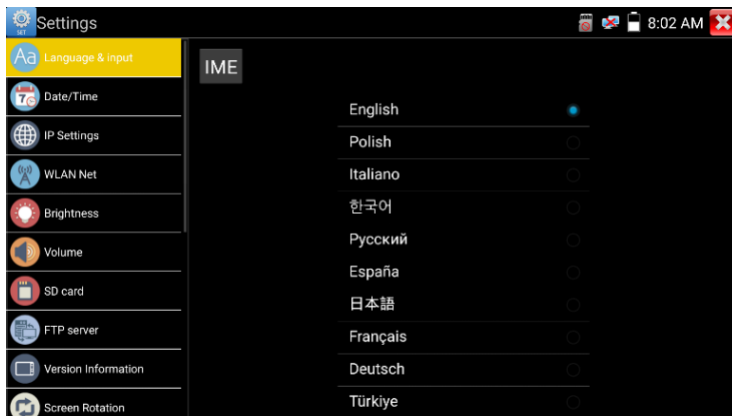
Language: Select your desired language: English, Korean, Russian, Italian, Polish, Spanish, French, Japanese, Deutsch, Turkish, Portuguese, Czech etc.

Typewriting: You can select typewriting or install other typewriting:

Date/Time: Set the Date/time of the IP tester.

IP setting: Manually set the IP address, Subnet 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 IP tester.

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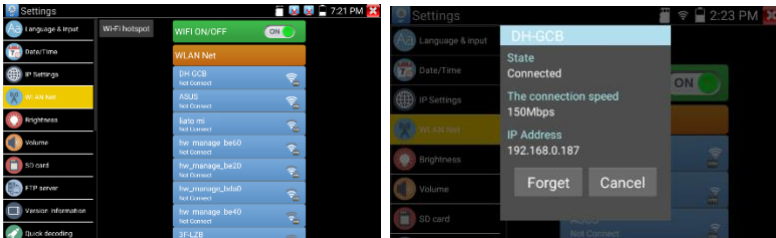
Select and press "WIFI" several seconds, to set static IP address.

Wi-Fi hotspot: Input "SSID" name and "password", and then click "ok" to create Wi-Fi hotspot.
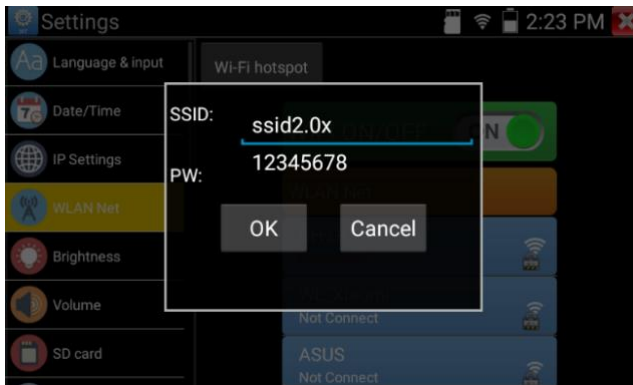
Brightness: Set the desired brightness of the IP tester and adjust the sleep time settings.

Volume: Set volume level

SD Card: Displays SD Card Capacity. You can also format the SD card or umount it

before removing it.

FTP server: Once the IP tester connects to a network, a computer can be used to read the SD card files via FTP.
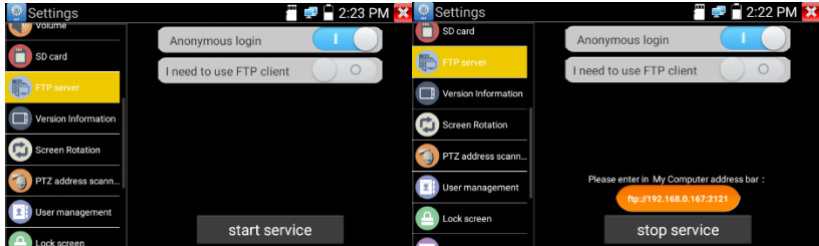
Start the FTP server and then input the tester's FTP address in the PC's address bar. This will enable the PC to read, copy and edit the files from the SD card without the use of SD card reader.

Version information: Shows applications version information, if press any apps icon several seconds to uninstall.

Screen display rotation: Click on "Screen Rotation" to flip the IP tester's display 180 degrees. This function is very convenient for the user to connect the LAN cable on the bottom of the unit without having to flip the unit itself.

PTZ address scan: You can toggle the PTZ Address scan off or on before entering the "PTZ controller" app. This needs to be turned on in order to use the PTZ Scan feature of the PTZ app.

Lock Screen: The meter default is not locked. You can choose password Lock screen, pattern Lock screen or "NO".

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

Power Off: Manually to set the power off after hibernation time (0-23h 59min).

Button mode selection: It can select button mode.

8. Specifications

8.1 General Specifications

Model	INVID-CAMTESTER5
Display	New 5 inch IPS touch screen cctv tester, 1920*1080 resolution
Network port	10/100/1000M auto adjust, RJ45
WIFI	Built in WIFI, speeds 150M, display wireless camera image
H.265 Main stream test	New hardware decoding, 4K H.265/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, and activate camera
Vision Test Tool	Modify IP, user name and password parameters. Display images from camera
Paramont Test Tool	Modify IP, user name and password parameters. Display images from camera
Auto HD	Automatically recognize type and resolution of TVI/CVI/AHD camera and display image. Support coaxial PTZ and call OSD menu
CVI video signal test	1 channel CVI input (BNC interface), resolution support 8MP CVI camera test. 3840 x 2160P 12.5/15fps, 2880x1920P 20fps, 2592x1944P 20fps, 2560x1440p 25/30fps, 1920x1080p 25/30fps, 1280x720p 25/30/50/60fps, UTC control and call OSD menu
TVI video signal test	1 channel TVI input (BNC interface), resolution support 8MP TVI camera test. 3840 x 2160P 12.5/15fps, 2592x1944p12.5/20fps, 2688x1520p 15fps, 2560x1440P 18/25/30fps,

	2048x1536p 18/25/30fps, 1920x1080p 25/30fps, 1280x720p 25/30/50/60fps, UTC control and call OSD menu
AHD video signal test	1 channel AHD input (BNC interface), resolution support 8MP AHD camera test. 3840 x 2160P 15fps, 2592x1944p 12.5/20fps, 2560x1440p 18/25/30fps, 2048x1536p 18/25/30fps, 1920x1080p 25/30fps, 1280x720p 25/30/50/60fps, UTC control and call OSD menu
Analog video test	1 channel BNC Input, NTSC/PAL (Auto adapt)
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	Support 4K 30FPS, 3840x2160P 30FPS, 720x480P/60fps720x576P/60fps, 1280x720P/25/30/50/60fps, 1920x1080P/25/30/50/60fps, 1920x1080I/50/60fps, 800x600P/60fps, 1024x768P/60fps, 1280x1024P/60fps
VGA IN	1 channel VGA Input, support resolution：1920x1200P 60FPS, 1920x1080P 60FPS, 1792x1344P 60FPS, 1680x1050P 60FPS, 1600x1200/900P 60FPS/1440x900P 60FPS, 1360x768P 60FPS, 1280x1024/960/800/768/720P 60FPS, 1152x870P 60FPS, 1024x768P 60FPS, 800x600P 60FPS, 640x480P 60FPS
TesterPlay	Screen projection: tester, mobile phone and PC display at the same time
12V/3A power output	Output DC12V/3A power to camera
PoE power output	48V PoE power output, Max power 25.5W
Audio test	1 channel audio signal input

PTZ control	Support RS485 control, Baud 600-115200bps, Compatible with more than 30 protocols such as PELCO-D/P, Samsung, Panasonic, Lilin, Yaan, etc
Data monitor	Captures and analyzes the command data from controlling device, also can send hexadecimal
UTP Cable test	Test UTP cable connection status and display on the screen. Read the number on the screen
Power	
External power supply	DC 12V 1A
Battery	Built-in 7.4V Lithium ion battery, 3350mAh
Rechargeable	After charging 3-4 hours, normal working time 5-6 hours
Parameter	
Operation setting	OSD menu, select your desired language: English, Korean, Russian, Italian, Polish, Spanish, French, Japanese, Deutsch, Turkish, Portuguese, Czech etc
Auto off	1-30 (mins)
General	
Working Temperature	-10℃---+50℃
Working Humidity	30%-90%
Dimension/Weight	183mm x 110mm x 36.5mm /0.32kg

Note: 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 our technical department.