PSI Displays Ltd

www.psidisplays.co.uk

8 Megapixel AHD TVI CVI camera tester

User Manual

(V1.07)

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1. Safety information

◆ The tester is intended for use in compliance with the local rules of the electrical usage and please avoid to applying to 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.

◆ Don't use the tester where the humidity is high. Once the tester is damp, power off immediately and move away other connected cables.

◆ 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.

2.1 Packing list

1). Tester unit with 8GB Micro SD card

2). DC Adaptor

3) Network cable tester

4) Polymer lithium ion battery (7.4V DC 5000mAh)

5). BNC cable

6). RS485 cable

7). Output Power cable

8). Audio cable

9). Safety cord

10). Tool bag

2.2 Function interface

1		Press more than 2 seconds, turn on or off the device short press to turn on or off the menu display
2		Far focus: Focus the image faraway/ PgUp for Manual APP
3		Near focus: Focus the image nearby
4		TELE: zoom in the image/PgDn for Manual APP
5		WIDE: zoom out the image/Update tester APP
6		Confirm the setting of parameters, open or enlarge the aperture/Home Menu up
7		Return/Close: Return or cancel while setting parameters of the menu, close or decrease the aperture
8		Home Menu down
9		Enter for Home Menu/ Zoom key/ long press to screen shot.
10		Upward, set function or add parameter. Tilt the PTZ upward
11		Rightward, select the parameter whose value will be changed. Add the value of the parameter. Pan the PTZ right
12		Downward, set function or reduce the value of the parameter. Tilt the PTZ

		downward
13		Leftward, select the parameter whose value will be changed
14		Enter for Mouse/Enter for APP Menu
15		Return/Close : Return or cancel while setting parameters of the menu, close or decrease the aperture
16	Nameplate	Product nameplate
17	Indicator	The charge indicator: it lights red while the battery is being charged. As the charging is complete, the indicator turns off automatically
18	Indicator	The RS485 data transmission indicator: it lights red while the data is being transmitted
19	Indicator	The data received indicator: it lights red while the data is being received
20	Indicator	The power indicator: it lights green while the tester is powered on by the adapter

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: 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 restart the instrument when it works abnormally.

3.2 Instrument connection

3.2.1Analog camera connection

(1) Connect the camera's video output to the cctv tester's VIDEO IN. The image will display on the tester after pushing the PTZ icon.

(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)

3.2.2 HD Coaxial camera connection

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

(1) Connect the SDI camera's video output to the cctv tester's "SDI IN" interface, the image will display on the tester. The tester only come with SDI input interface. There is no SDI output interface.

(2) Connect the SDI camera or the speed dome RS485 controller cable to the tester RS485 interface.

3.2.3 HDMI IN

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

3.3 OSD menu

Press the key ⏻ 2 seconds to turn on

Press the key again to turn off

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

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

Main Menu

Floating Menu for Keyboard Introduction

3.3.1 HDMI IN

HDMI in HD signal test, switch to HDMI interface “ ”to enter

When tester receives HDMI in image, the top tool bar shows the resolution of this image. You can select “resolution ”to set resolution in the setting menu . 720×480p /720×576p /1280×720p

/1920×1080p /1024×768p/1280×1024p /1280×900p /1440×900p

(1) Snapshot

Switch to “Snapshot “ when the image displaying, to snapshot the current image onto 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 switch to 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.

If select manual storage, before recording begins ,appears dialog box “Input Name” ,user-defined the files name to store in SD card , tester will hereby store the files in SD card after recording . if select

“Auto-storage ,tester will auto store the files in SD card after recording .

(3)Photo

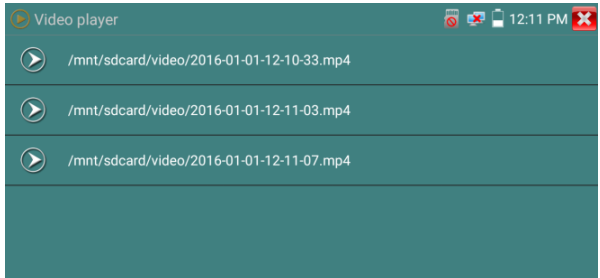
Switch to "photo" function, enter photo browsing interface.

Press the Menu key to select the file to be displayed, which is displayed on the screen. Press the Back key to return to the video monitoring status.

(4) Recorded video playback

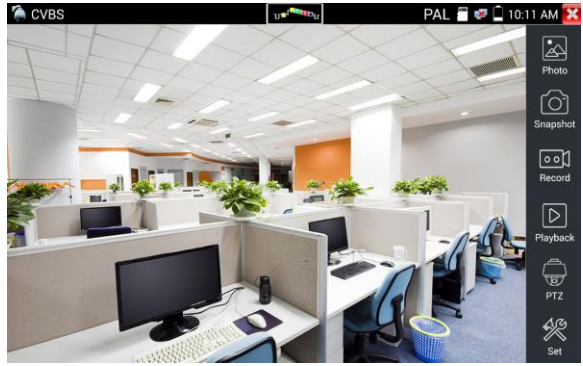
Switch to "record" function, enter video playback interface.

Press the Menu key to select the file, press the confirm button to display, press the Back button to return to the video monitoring status. Video files also can play in the main menu “Video Player".



3.3.2 CVBS Camera Test

Analog camera test and PTZ control, click icon to enter



(1) PTZ controller parameter setting

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

A. **Protocol**

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

B. Port

Use the arrow keys to move the cursor to the “port” selection

Select the communication port for the PTZ camera controlling (RS485)

C. **Baud**

Use the arrow keys to move the cursor to the “Baud” selection, 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 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 pre-set position (Set PS)

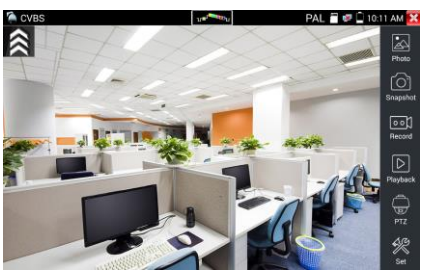
Use the arrow keys to move the cursor to the “Set PS” selection, set and save pre-set position number(1~128).

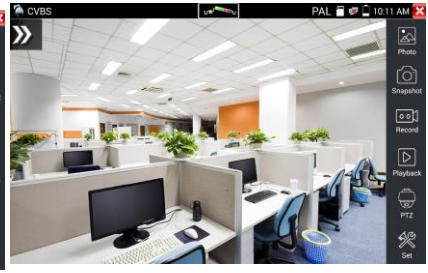
H. Call the pre-set position (Go ps)

Use the arrow keys to move the cursor to the “Set PS” selection, set and save pre-set position number (1~128), click “sure” to save.

Call some special pre-set number, can call the dome camera menu

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





PTZ Control:

Press the key control the PTZ direction of rotation

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

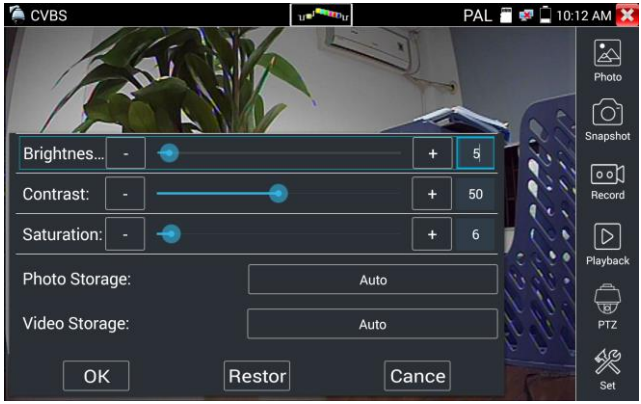
Press the key FAR+ or NEAR- , adjust the focus manually

Press the key TELE+ or WIDE - , manually adjust the zoom

(2) Video and storage setting

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

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



(3) 4 x zoom image display and Video out

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

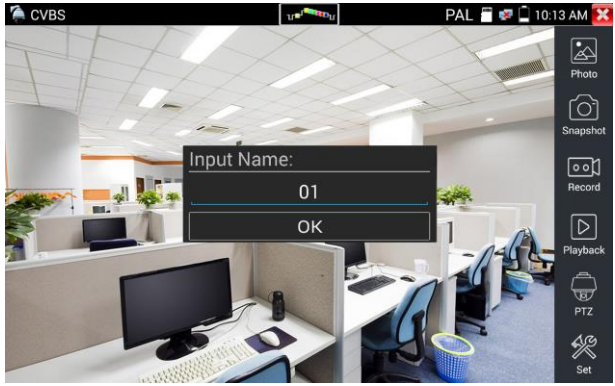
press the key (TELE +) to zoom out , press the key (WIDE -) to zoom in, press upward and downward key to move the image

⚠ For analogue video input, as the resolution is 720*480, it is normal that the zoom in image is not clear.

(4) 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.

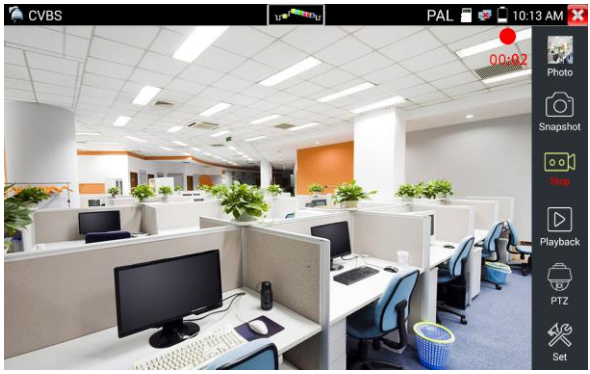
If the unit is set to the manual mode an “Input Name” pop up box will appear and you can enter a title for the snapshot. If the unit is set up to automatically set file names, this box will not pop up.



(5) Video record

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

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



(6)Photo

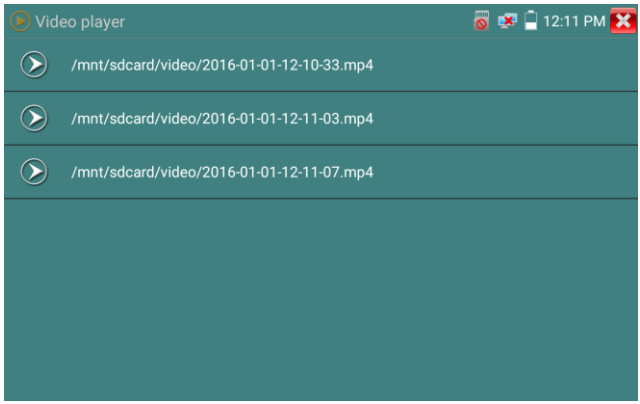
Switch to "photo" function, enter photo browsing interface.

Press the Menu key to select the file to be displayed, which is displayed on the screen. Press the Back key to return to the video monitoring status.

(7) Recorded video playback

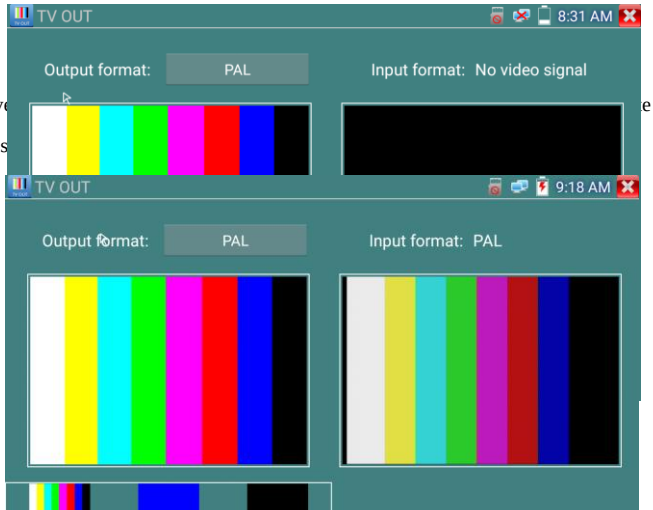
Switch to "record" function, enter video playback interface.

Press the Menu key to select the file, press the confirm button to display, press the Back button to return to the video monitoring status.



3.3.3 Colour-bar generator (TV OUT)

Select enter Colour-bar generator function, The image displayed on the screen is output via Video Out port. Move the cursor to select PAL/NTSC standard output.



Move e image output;

Press

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

Application

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

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

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

3.3.4 SDI Camera Test (*Optional)

SDI camera test, Dome camera test and PTZ control, select icon to enter.

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

The tester supports resolution as follows:

1280x720P 25Hz, 1280x720P 30Hz, 1280x720P 50Hz, 1280x720P 60Hz, 1920x1080P 25Hz

1920x1080P 30Hz, 1920x1080I 50Hz, 1920x1080I 60Hz

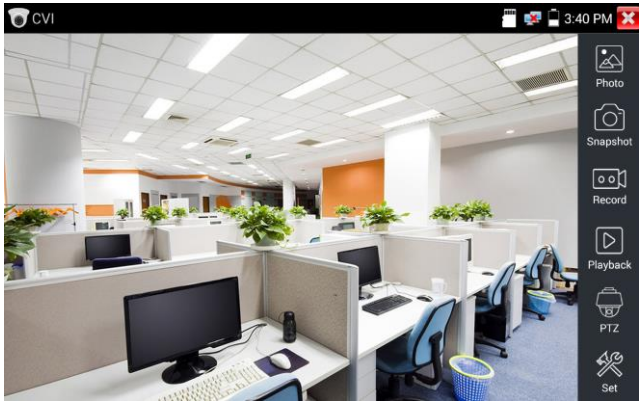
cctv tester's HDMI output port can be use as SDI to HDMI converter, output HD SDI image to HD TV monitor.

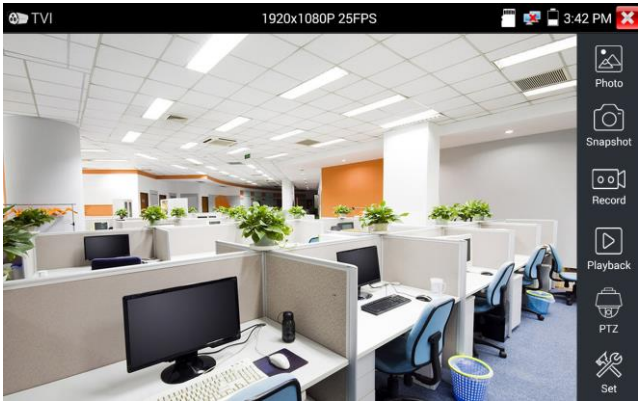
Select relative function on the right side Toolbar to operate, "Snapshot" , "Record", "Photos ", "Video playback", "PTZ control", "Video Brightness and Storage set", the operation is the same to the video monitor function, please refer to the relevant instructions "3.3.1" in the manual.

Click , or Press the Back Button to quit.

3.3.5 CVI / TVI / AHD camera test

HD CVI / TVI / AHD camera, CVI / TVI / AHD dome camera test and PTZ control, please select CVI / TVI / AHD icon to enter





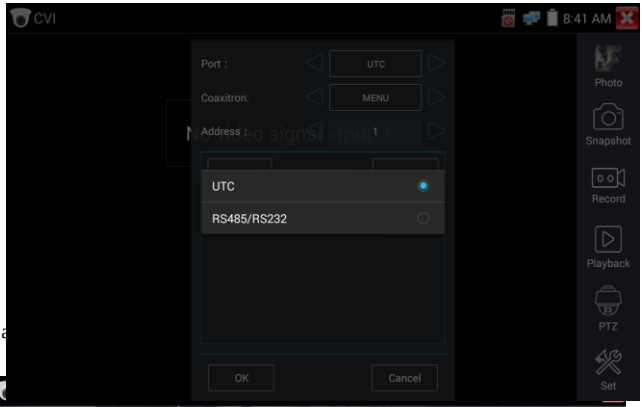
（1）PTZ control

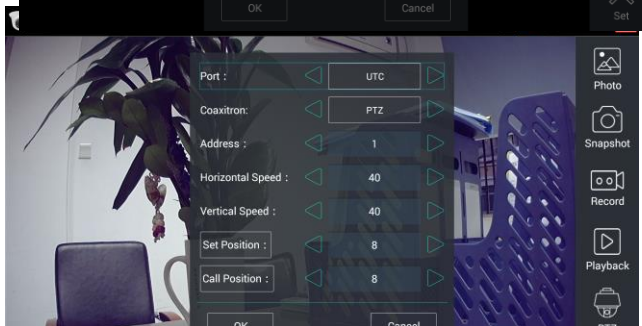
1.1 Coaxial PTZ control

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

“Port”: select coaxial control

Press the a





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

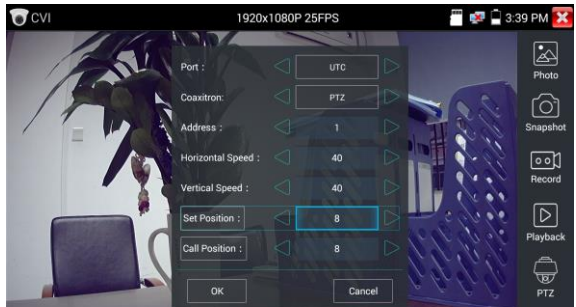
The PTZ address in the tester must be consistent with the dome camera or decoder, then the cctv tester can test .After setting the parameter, the tester can control the PTZ and lens.

To control PTZ by key buttons

- Press arrow keys to control to control the PTZ direction of rotation
- Press the key OPEN CLOSE to switch on or turn off the aperture.
- Press the key FAR+ NEAR- , adjust the focus manually
- Press the key TELE+ WIDE- , manually adjust the zoom

Set preset position

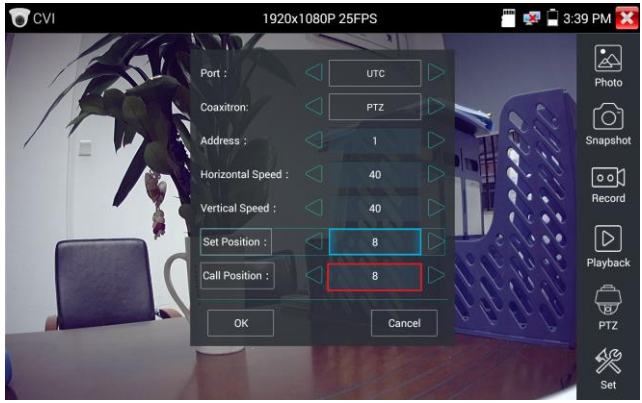
Setup preset position, move the PTZ camera to the preset position, the Tap it and input preset position number. Tap “Set position” to complete set preset position



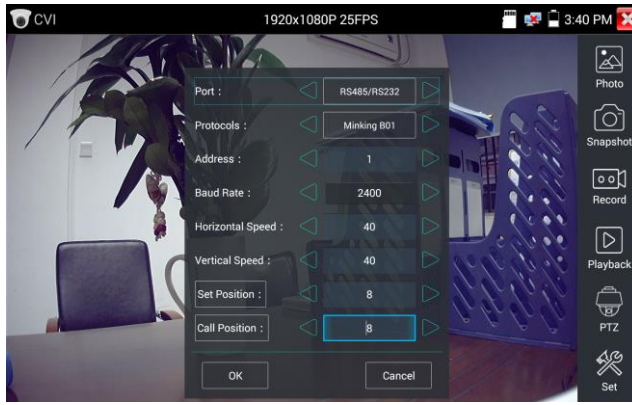
Call pre-set position

Tap the pre-set position:

Tap the pre-set position area, input pre-set position number. Tap “call position” to complete call pre-set position.



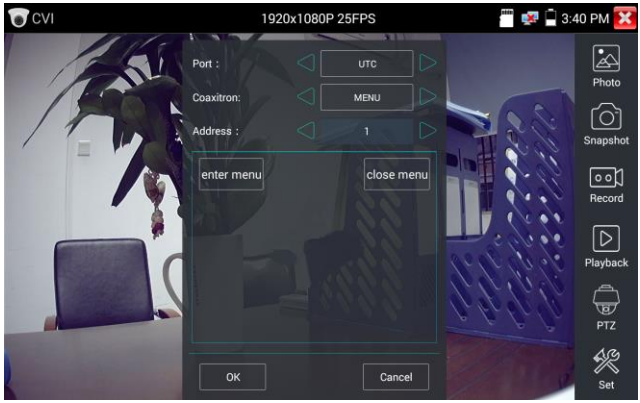
1.2 RS485 control



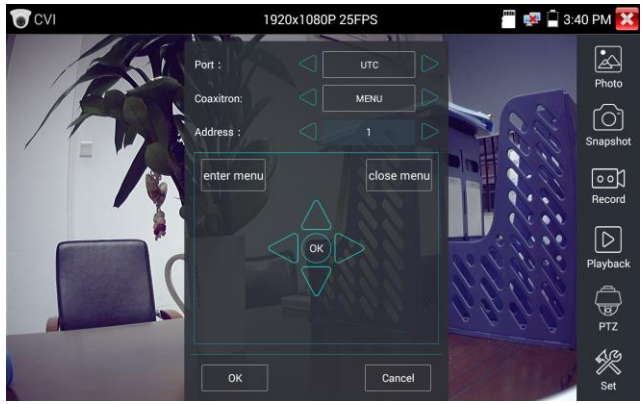
Operation instructions, please refer to “3.3.1 PTZ (1) PTZ control parameters setting”

（2）Coaxial camera menu setting

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



Input calling dome camera menu address code, after finishing the parameter settings, Move the cursor to the icon ,click “enter” key to call the dome camera menu .



Press arrow keys to set

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

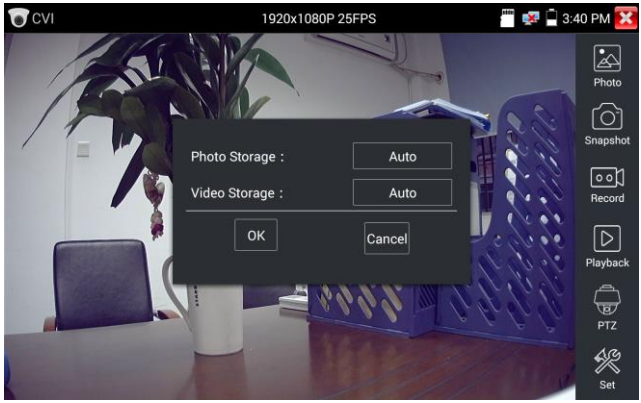
Tap “close menu” or press the key “CLOSE ”to close camera menu.

(4) Save setting

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

Support auto-storage and manual storage.

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

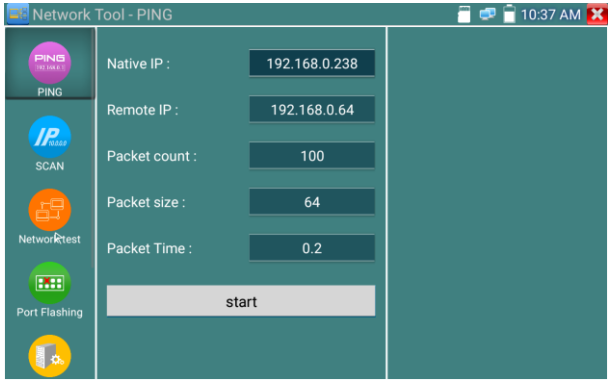


3.3.6 Network tool

（1）PING Test

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

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

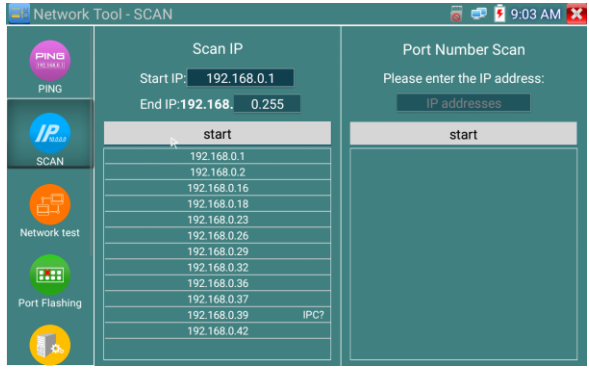


Application: PING testing is the most conventional network debugging tools. It is used for testing if the connected IP camera or other network equipment's Ethernet port is working normally and the IP address is correct.

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

（2）IP address scan

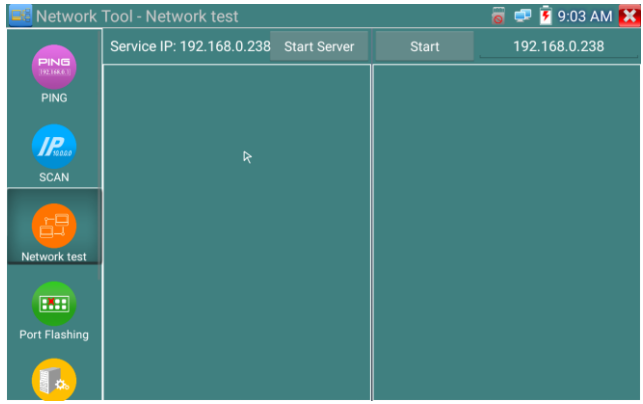
Connect the cable to the LAN port, click icon to enter, Set your IP address search range by changing the Start and End IP addresses. Click the "Start" button to scan the IP address range. You can also input an IP address in the Port Number Scan to scan for open ports.



（3）Network test (Ethernet bandwidth test)

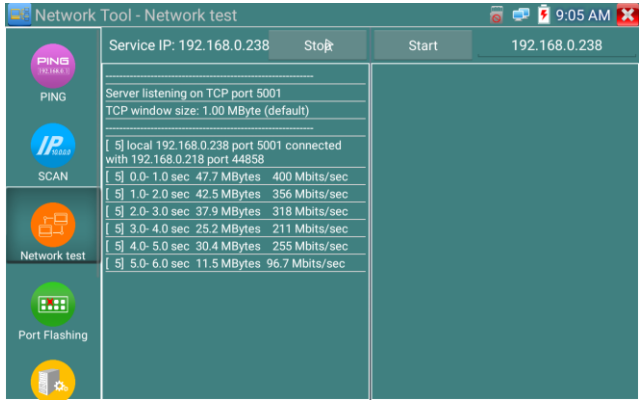
Network test (Ethernet bandwidth test)

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

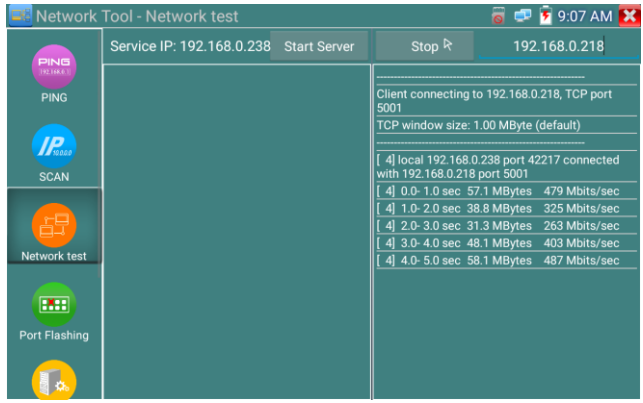


When test, need a tester or a computer installed Network Test Software as the Server, the other tester sends packet test. The two testers must be in the same network segment.

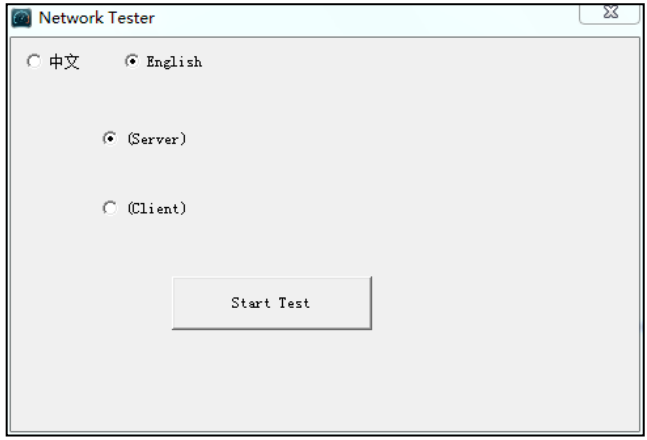
a).Start the server: Click “Start Server” button to use the tester as a Server. It will display its IP address at the top of the screen.



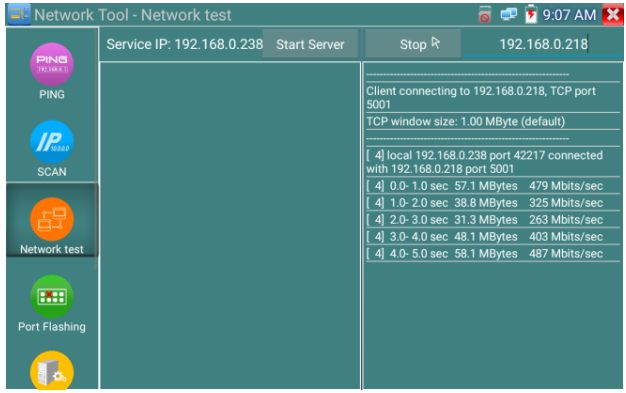
b). Start send packet test: Using the other tester, type in the Server's IP address at the top right corner of the screen. This app is used to send packets for network speed testing. Click the “Start” button to send the packets and start testing.



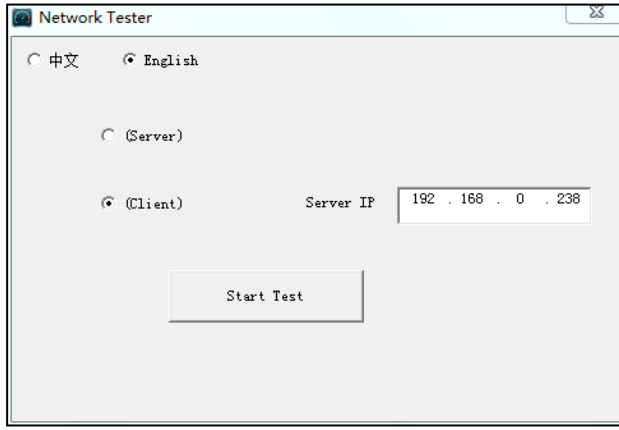
Network bandwidth testing can also be tested with a computer using compatible network bandwidth testing software. Install network bandwidth testing software on a computer, as a test Client or Server, to do the mutual testing with the tester. If use computer as the server, the computer IP address is :192.168.0.218



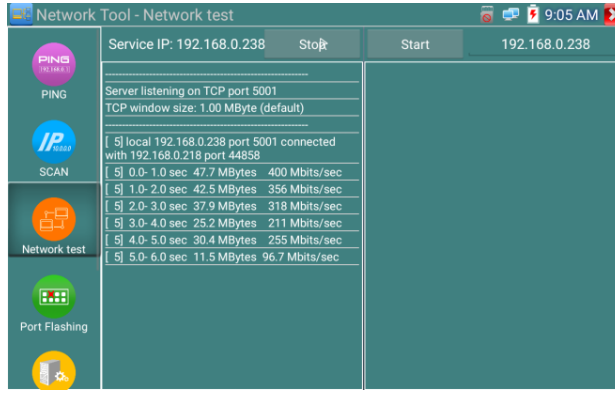
Tester as Client, tester's IP address is:192.168.0.238. The Server and the Client are at the same network segment, but with different IP address. Input Server's IP address 192.168.0.218 in the tester and click "Start" to test network bandwidth.



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



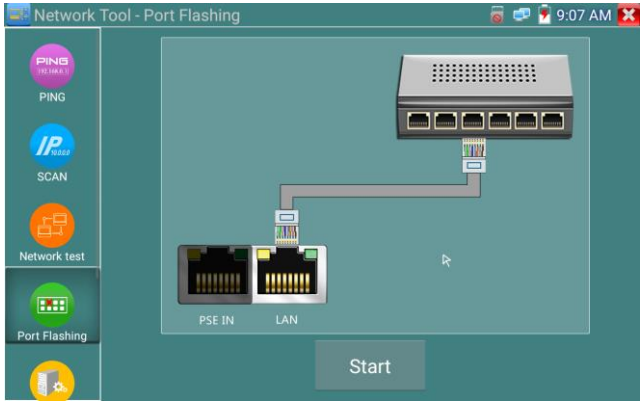
When using the tester as a Server, shows results:



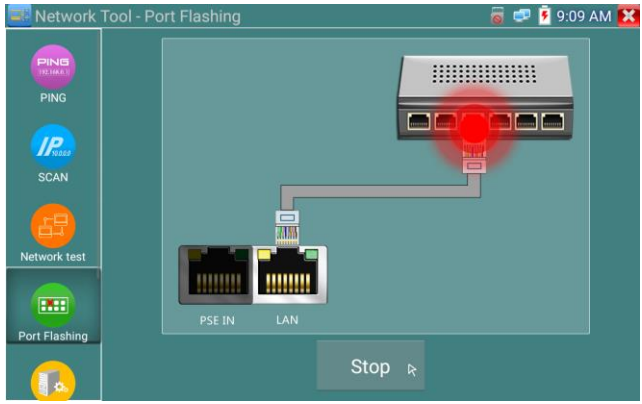
（4）Port Flashing

Connect a network cable to the meter's "LAN" port, click the icon to open the Port Flashing

app. Click “Start”. The tester sends a unique signal to make the connected LAN port of the switch flash.



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

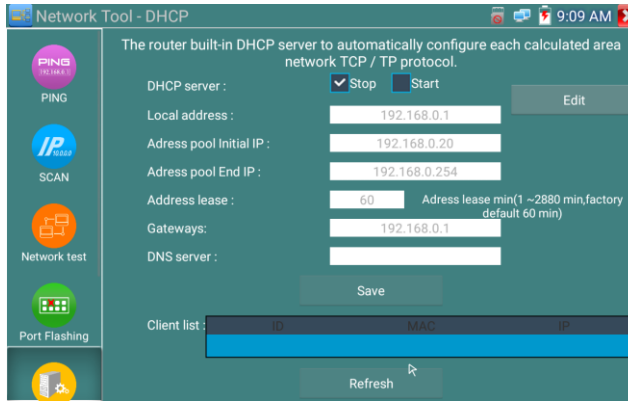


Application:

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

（5）DHCP server

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



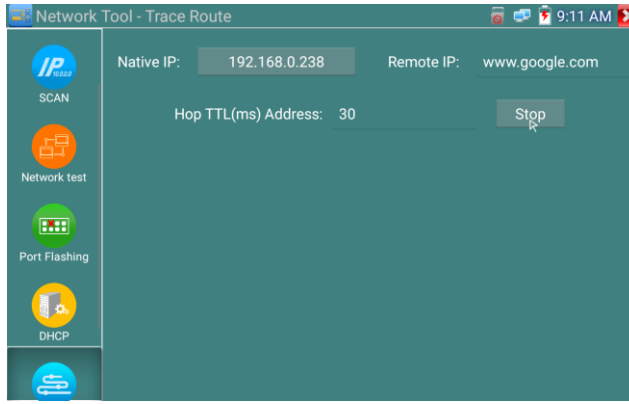
（6）Trace route

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

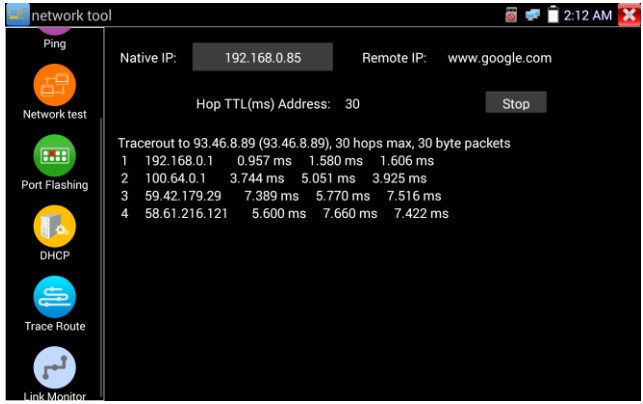
Note: Trace route testing results only for reference, for accurate test route tracking, Pls use professional Ethernet tester.

Click to enter trace route

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



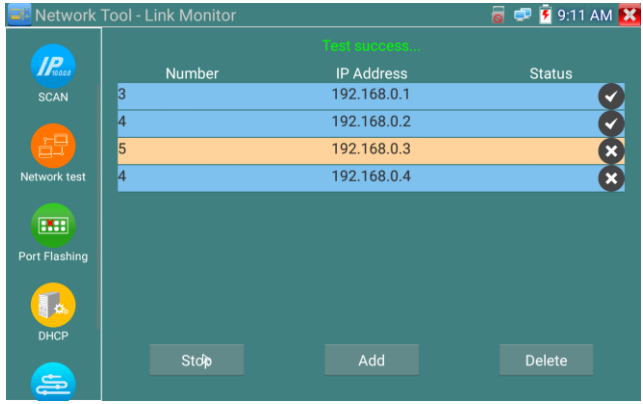
Click “start” to trace the goal address



（7）Link monitor

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

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

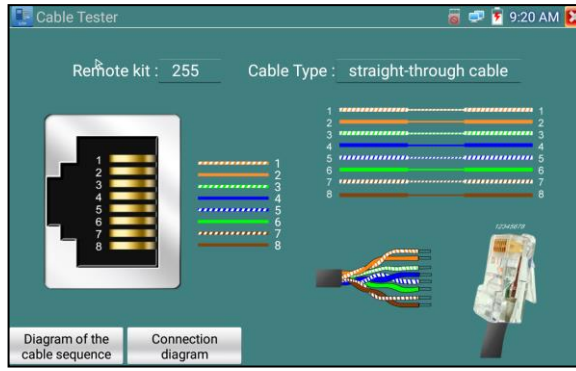


Application:

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

3.3.7 Cable Test

Click icon to enter test LAN cable or telephone cable.



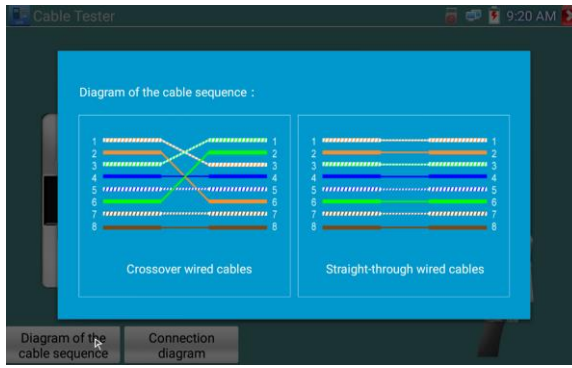
Connect LAN cable or telephone cable with the CCTV tester and cable tester. And then the connecting status, cable type and the sequence of wires as well as the serial number of the cable tester kit will be displayed.

The number of the cable tester is 255.

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

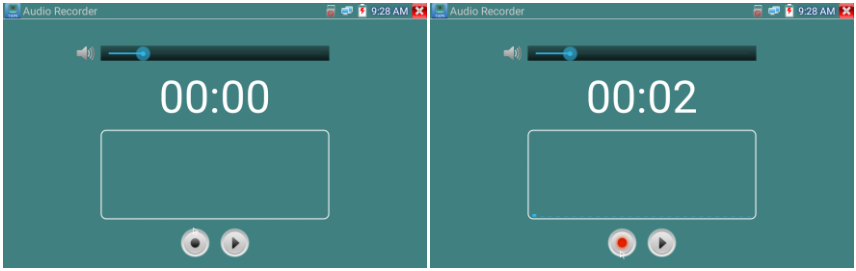
Cable test

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



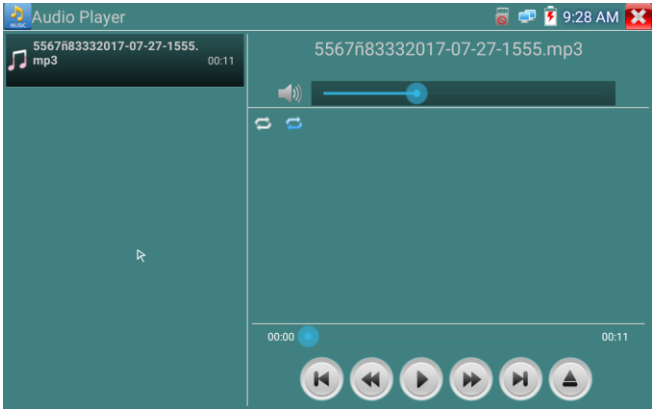
3.3.8 Audio Record

Connect an audio device to the cctv tester's audio input port. Click the icon to enter the Audio Recorder app. Click the red button to stop, and the unit will prompt you to save the recording



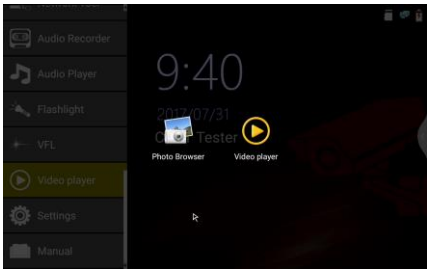
3.3.9 Audio Player

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

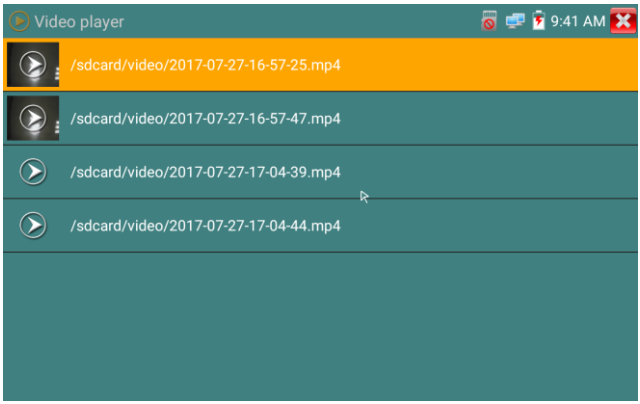


3.3.10 Media Player

Click the icon to enter



The Media player can browse video and image files. It supports the video formats of MP4, H.264, MPEG4, and MKV. The cctv tester recorded files can play directly via the Media player. The Media player will automatically display the video files from the SD card. Press the Menu key to select the file to be played, which is played on the screen. Press the Back key to quit.

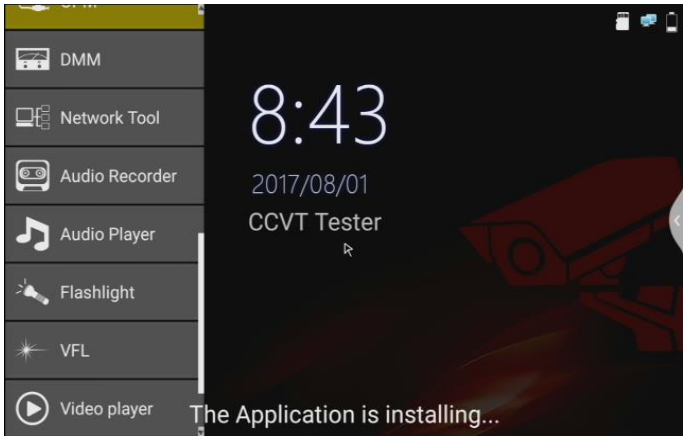


3.3.11 Update

Copy the update files to SD card "update "catalog ,if there no this catalog , please create one.

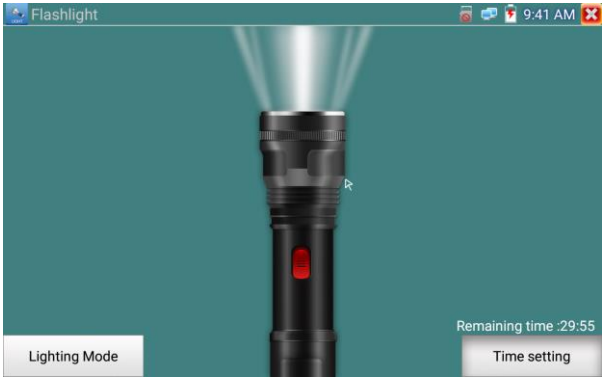
Make sure there are only have update apk files in SD card, long press “WIDE- “ key until the screen prompts “The application is being installed”.

The prompts are missing to indicate that the update is complete.



3.3.12 LED Flashlight

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



While in the flashlight app, click the red button to turn on the LED lamp. Press it again to turn it off. Press the Back button to exit the application, the lamp will stay on. Click the Time Setting button to set a timer that will shut off the lamp.

3.3.13 System Setting

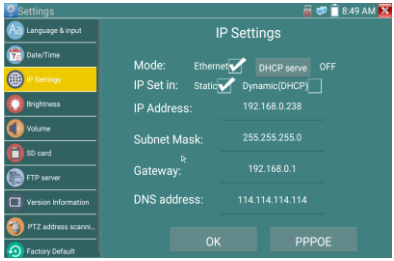
Click icon to enter

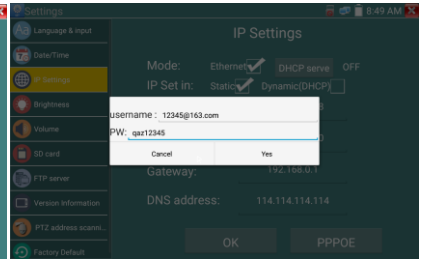
Language: Select your desired language: English, Chinese, Korean, Russian, Italian , Polish ,Spanish, French or Japanese.

Typewriting: You can select typewriting or install other typewriting:

Date/Time: Set the Date/time of the cctv tester

IP setting: Manually set the IP address, Subnet Mask, Default Gateway and DNS address or select "Dynamic allocation" to use DHCP. PPPOE test.



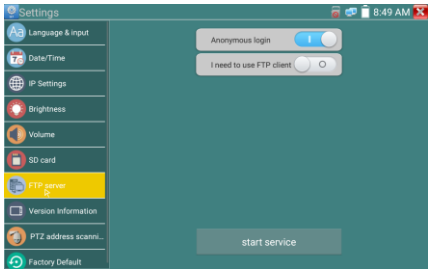


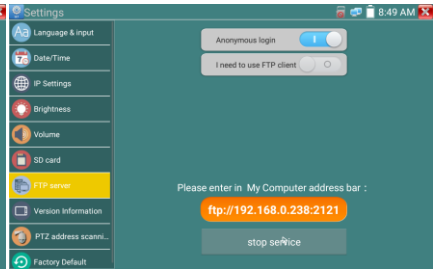
Brightness: Set the desired brightness of the cctv tester and adjust the sleep time settings.

Volume: Set volume level

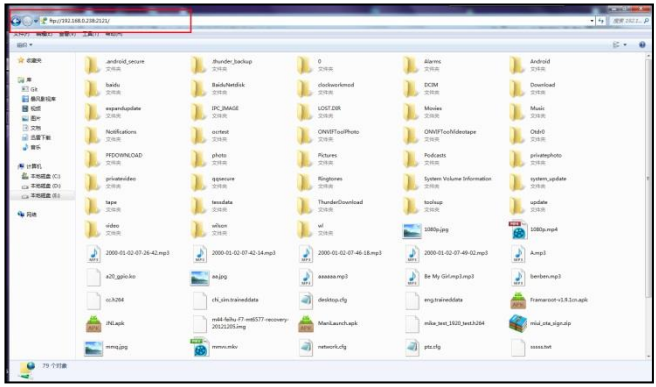
SD Card: Displays SD Card Capacity. You can also format the SD card or unmount it before removing it.

FTP server: Once the cctv 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 uninstal.

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.

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

3. 4 Audio test

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

3.5 HDMI output

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

3.6 DC12V 2A power output

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

Application

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

Notice:

a. Don't input any power into the "DC12/2A OUTPUT" port of the tester.

b. Man-made damage is not within our company's warranty.

c. The cctv tester 's power output capacity is 2A. If the camera uses more than 2A, the tester will automatically enter a protection mode.

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

e. Make sure the tester has a sufficient charge otherwise the tester will not able to provide enough output power.

3.7 USB 5V 2A power output

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

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

4. Specifications

4.1 General Specifications

Model	8 Megapixel AHD TVI CVI camera tester
Display	7-inch CCTV tester with1280x800 resolutions
Network port	10/100M/1000M auto adjust, RJ45
SDI video signal test * (Optional)	1 channel SDI input（BNC interface）supports 720p 25/30/50/60, 1080p 25/30/50/60, 1080i 50/60
CVI video signal test	1 channel CVI input（BNC interface）supports 720p 25/30/50/60fps/ 1080p 25/30fps /2560 x 1440P 25/30 FPS / 3840 x 2160 12.5/15 FPS
TVI video signal test	1 channel TVI input（BNC interface）supports 720p 25/30/50/60fps/ 1080p 25/30fps/ 2048x1536P 18fps/2688 x 1520P 15FPS/ 2560x1440 15/25/30 FPS /2592 x 1944P 12.5/20FPS/ 3840 x 2160 15 FPS
AHD video signal test	1 channel AHD input（BNC interface）supports 720p 25/30fps / 1080p 25/30fps/ 2048x1536P 18/25/30fps/ 2560x1440P 15/25/30fps/2592 x 1944P 12.5/20FPS
CVBS video test	1 channel BNC Input & 1 channel BNC Output , NTSC/PAL (Auto adapt)
Zoom Image	Supports HD analog camera image zooming & movement
Snapshot, Video record and playback	Capture current images and record live video as JPG file. Media player will view photos and playback video
HDMI IN	HDMI IN，Supports 720×480p /720×576p /1280×720p /1920×1080p /1024×768p/1280×1024p /1280×900p /1440×900p
HDMI output	1 channel HDMI output, supports up to 1080p
12V/2A power output	Output DC12V/2A power to camera
USB 5V power output	5V 2A power output only ,NO data
Audio test	1 channel audio signal input and 1 channel audio signal output to connect headphones
PTZ control	SupportRS485 control, Baud 600-115200bps, Compatible with more than 30 protocols such as PELCO-D/P, Samsung, Panasonic, Lilin, Yaan, etc
Color bar generator	Output one channel PAL/NTSC colour bar video signal for testing monitor

	or video cable.(red, green ,blue, white and black colour)
UTP Cable tester	Test UTP cable connection status and display on the screen. Read the number on the screen
Network test	IP address scan, link scan, and Ping test. Quickly search the for IP camera's IP address on your network
Power	
External power supply	DC 12V 2A
Battery	Built-in 7.4V Lithium polymer battery ,5000mAh
Rechargeable	After charging 5 - 6 hours, normal working time up to 10 hours
Parameter	
Operation setting	IPS screen, OSD menu, select your desired language: English, Japanese Chinese, Korean, Russian, Italian or Polish, etc
Auto off	1-30 (mins)
General	
Working Temperature	-10℃ - +50℃
Working Humidity	30% - 90%
Dimension/Weight	255mm x 160mm x 46mm / 0.95Kg